September 12, 2022

Brandon Roberts
Executive Director, Office of Rulemaking, ARM-1
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Re: Recommendation Report – Training Standardization Working Group (TSWG) – Gulfstream GV series

Dear Mr. Roberts,

On behalf of the Aviation Rulemaking Advisory Committee (ARAC), I am pleased to submit the enclosed Recommendation Report from the Training Standardization working group (TSWG).

At the September 8, 2022, ARAC meeting in Washington, DC, Mr. Brian Koester presented an overview of the report which recommends revisions to the FAA guidance to facilitate the execution of standardized curricula for the Gulfstream GV series of aircraft. The aircraft-specific standardized curricula incorporates the maneuvers, procedures, and functions to be performed during training and checking.

ARAC members who attended the September 8 meeting, in-person and virtually, accepted the report, as presented. With that, I would welcome the agency's timely review and actions to implement the working group's recommendations.

I want to thank the members of TSWG for their thorough and diligent work in response to the agency's tasking – especially for this first aircraft series. I am hopeful that, once implemented, the result will both enhance training and checking and also promote safer operational practices in part 135 operations through a common and consistent methodology for training and evaluating.

Sincerely,

David Oord
ARAC Chair

Enclosure: Recommendation Report – Training Standardization Working Group (TSWG) – Gulfstream GV series

FAA Aviation Rulemaking Advisory Committee

Training Standardization Working Group (TSWG) Recommendation Report

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1 Executive Summary

1.1 Summary

The Standardized Curriculum Concept supports the overarching goals to enhance training and checking and promote safer operational practices in part 135 operations through a common and consistent methodology for training and evaluating. This supports the National Transportation Safety Board Most Wanted List initiative to improve the safety of part 135 flight operations.

The TSWG is comprised of representatives from the aviation industry, including training centers, aircraft manufacturers, operators and industry organizations, serving as members of the group and report to ARAC. This recommendation report includes the results of the following TSWG actions:

- Identified the Gulfstream GV series, including the GIV-X, GIV-X (G350), GIV-X (G450), GV, GV-SP, GV-SP (G500), GV-SP (550) variants, aircraft-specific standardized curricula, which incorporate the maneuvers, procedures and functions to be performed during training and checking.

- Recommended revision to Federal Aviation Administration (FAA) guidance to facilitate the execution of standardized curricula.

2 Background

2.1 The Task and Tasking

The FAA established the Air Carrier Training Aviation Rulemaking Committee (ACT ARC) in 2014 to provide a forum for the U.S. aviation community to discuss, prioritize, and provide recommendations to the FAA about operations conducted under parts 121, 135, and 142, addressing air carrier training.

The ACT ARC produced several part 135-specific recommendations it believed would achieve standardization (where appropriate) and significant administrative efficiency in check pilot qualification, flight instructor qualification, and part 135 air carrier training curricula delivered by part 142 training centers. The ACT ARC also recommended the FAA establish a Standardized Curriculum Concept for part 135 training provided by part 142 training centers.

On March 19, 2020, the FAA assigned this task to the Aviation Rulemaking Advisory Committee (ARAC), who established a new Training Standardization Working Group (TSWG) for this purpose. The TSWG tasking for standardization includes addressing inefficiencies that exist between part 135 and part 142, such as:

1. *Training, Testing, and Checking: Operators may not receive training that matches its operational environment; instructors and check pilots may focus on multiple operational methods, which decreases the quality of training, and checking.*

2. *Lack of curriculum uniformity and improvements.*

3. *Complicated Approval Process: Multiple Principal Operations Inspectors (POIs) are currently required to review technical elements of the same curriculum.*

4. *Administrative Inefficiencies: Supplemental training for training center instructors and check pilots is required, with individual letters of approvals for each, which leaves an administrative gap with no easy means to verify qualifications. Additionally, part 135 operators must develop their own aircraft-specific fleet curriculum and must reproduce a physical copy of each as part of their training program records.*

Standardized curricula will provide a common method for quality training accessible to any operator that obtains approval to use the curriculum in its FAA-approved training program. The Standardized Curriculum Concept aims to provide an efficient means to approve training curricula offered by part 142 training centers while increasing the consistency of training, testing, and checking delivered to part 135 operators. The use of standardized curricula is strictly voluntary and is one means to comply with the applicable regulatory requirements of parts 135 and 142. The standardized curriculum does not modify existing regulatory requirements for pilot training or qualification.

The Aircraft-Specific Part 135 Standardized Curriculum Model will enhance operator/training center safety programs and create a feedback loop that allows part 135 operators and part 142 training centers to partner in an effort to systematically use safety information to continually review and improve the standardized curriculum, as well as target areas of emphasis to enhance the quality of training provided. This “train as you fly, fly as you train” approach harmonizes with safety management principles, industry best practices, and risk mitigation, raising the level of safety competencies, threat awareness, and feedback for continual evaluation.

This improvement feedback mechanism forms the basis for revising the standardized curriculum, conducting training and administering checking. These three components then work together to allow the part 135 operator to spotlight the quality of the training program rather than the administration of the training program. Likewise, it also allows the part 142 training center to deliver a standardized and consistent training product that has the capability for continual improvement on a national level.

The TSWG will provide advice and recommendations to the ARAC on the most effective ways to standardize part 135 air carrier curricula delivered by training centers. The group is formally tasked with the following:

1. *Recommend a detailed master schedule for the development of part 135 standardized curricula for each aircraft or series of aircraft.*
2. *Develop and recommend a standardized curriculum to qualify training center instructors and evaluators (check pilots) to provide part 135 training, testing, and checking.*
3. *Develop and recommend part 135 standardized curricula for each aircraft or series of aircraft, which includes the maneuvers, procedures, and functions to be performed during training and checking.*
4. *Recommend continuous improvements to each part 135 standardized curriculum for a specific aircraft or series of aircraft.*

5. *Develop reports that contain recommendations for standardized curricula and results of the tasks listed. The group should review relevant materials to assist in achieving their objective, including FAA Advisory Circular 142-1, Standardized Curricula Delivered by Part 142 Training Centers.*

Under the Standardized Curriculum Concept, the TSWG uses formalized stakeholder input to develop and recommend to the ARAC standardized curricula for each aircraft fleet. The ARAC uses the work of the TSWG to make recommendations to the FAA. The FAA reviews the recommendations and, if acceptable, makes draft standardized curricula available for public comment through published notices in the Federal Register. The FAA may task the ARAC, through the TSWG, to use the public comments to refine its recommendations to ARAC. The FAA reviews the recommendations and, if acceptable, publishes the standardized curricula at a national level.

2.2 Participants in the Training Standardization Working Group (TSWG)

Name	Organization
TSWG Members	
Brian Koester, Chair	National Business Aviation Association
Thomas Benvenuto	Solairus Aviation
Stephen Bragg	Executive Jet Management
Greg Brown	Helicopter Association International
Doug Carr	National Business Aviation Association
Fabiano Cypel	Embraer
Jon Dodd	Coalition of Airline Pilots Associations
Steve Hall	FlightSafety International
Aimee Hein	CAE, Inc.
Jens Hennig	General Aviation Manufacturers Association
Todd Lisak	Air Line Pilots Association
Steve Maloney	Sun Air Jets
Allan Mann	Wheels Up, LLC
John McGraw	National Air Transportation Association
Brian Neuhoff	Airbus Helicopters
Janine Schwahn	Summit Aviation, Inc.
Annmarie Stasi	Northwell
Daniel Von Bargen	Jet Aviation Flight Services, Inc.
Mike Walton	Textron
FAA, Other Advisory, and Support Staff	
Josh Tarkington, Project Lead	Training and Simulation Group, AFS-280
Paul Preidecker, Facilitator	Training and Simulation Group, AFS-280
Kristin Tullius, Program Specialist	Training and Simulation Group, AFS-280

2.3 Working Group Activity

The TSWG members agreed to form subgroup teams to research and analyze:

- Curriculum, which includes published guidance, regulations, reference materials, data sources, and airframes practical for standardization.
- Qualifications, to include instructors, pilots, and safety-implications.
- Continuous Improvement methods, which includes data-driven metrics and recommendations.

The TSWG must comply with the procedures adopted by the ARAC as follows:

- Conduct a review and analysis of the assigned tasks and any other related materials or documents.
- Draft and submit a work plan for completion of the task, which includes the rationale to support the plan, for consideration by ARAC.
- Provide a status report at each ARAC meeting.
- Draft and submit the recommendation report based on the review and analysis of the assigned tasks.
- Present the recommendation report at the ARAC meeting.

TSWG was able to comply with the schedule and deadlines as outlined in the FAA Tasking Notice:

> *June 2021 – Deadline to submit the initial recommendation report, which includes the proposed master schedule for standardized curriculum development to ARAC. The deadline to submit the interim report to the FAA is June 30, 2021.*
>
> *December 2021 – Deadline to submit the addendum recommendation report, which includes a standardized curriculum to qualify training center instructors and check pilots to provide part 135 training, testing, and checking to ARAC. The deadline to submit the interim report to the FAA is December 31, 2021.*

The TSWG will submit ad hoc recommendation reports, which includes type-specific standardized curricula packages (SCPs) and continuous improvements to the standardized curricula, via ARAC to the FAA for review and consideration at any time.

3 Historical Information

3.1 Overview

The concept of the standardized curriculum was recommended by industry through the Air Carrier Training Aviation Rulemaking Committee to remedy inefficiencies in the current dynamic between part 135 and part 142. The new standardized curriculum is expected to improve the efficiency of approval processes and increase the consistency of training, testing, and checking delivered to part 135 operators.

FAA Advisory Circular 142-1, Standardized Curricula Delivered by Part 142 Training Centers, provides the framework for implementation of the Standardized Curriculum Concept. Under the concept, the FAA accepts an aircraft-specific standardized curriculum at a national level. A part 142 training center may deliver the nationally accepted standardized curriculum to any part 135 operator that obtains approval to use it.

The part 135 operator's POI reviews the curriculum and grants approval for use of the aircraft-specific part 135 standardized curriculum, without changes, as part of the operator's training program. In discussions with the operator, the POI determines whether use of the aircraft-specific standardized curriculum (which comes with a cadre of qualified instructors and check pilots, along with use of the standardized curriculum) is appropriate for that operator based on the published guidance, rather than reviewing the specific content of individual modules in the aircraft-specific curriculum and the accompanying training center instructor/evaluator documentation. Introducing an aircraft-specific part 135 standardized curriculum for operators, coupled with guidance that enables part 142 training centers to develop a curriculum that would qualify part 142 training center instructors and evaluators to conduct training/checking under that aircraft-specific part 135 standardized curriculum, would address a number of inefficiencies in the current system.

3.2 Defining the Problem

Part 142 training centers generally have clients operating under a variety of 14 CFR parts and develop a core curriculum to meet the needs of their stakeholders. Currently, these core curriculums cannot be used by part 135 operators. Instead, each part 135 operator must have its own training program approved by the operator's POI. The training program can be based on the part 142 training center's core curriculum; however, the operator or POI may require changes so that the resulting curriculum meets all part 135 regulatory requirements. Because some of these curricula were not originally designed for part 135 operators, many adjustments and improvements may be necessary, which results in a lack of curriculum uniformity.

These changes, combined with the time it takes for each POI to conduct an in-depth review of each operator's curriculum, creates strain on the POI, the operator, and the training center. The operator is required to obtain POI approval of the "contract check pilot" to conduct checks under the operator's training curriculum, generally through the center's Training Center Evaluators (TCE). It is important to note that the TCE/contract check pilot is already approved by the TCPM to conduct certification under the core curriculum.

The framework for the aircraft-specific part 135 standardized curriculum model, which also addresses the inefficiencies involved with each operator having approved instructors/contract check pilots, should include a manner by which training center instructors/evaluators can be qualified as instructors/check pilots under part 135. Specific guidance can be developed that would assist training centers to develop a standard non-aircraft-specific training curriculum that satisfies the requirements of § 135.329, 135.345, 135.293, and 135.297 in a manner consistent with the size, scope, and complexity of the operator (in this case, a part 142 training center) and can be approved under part 142. The training center would use this special curriculum to train and qualify its instructors/evaluators to conduct training, testing, and checking under standardized curriculums for part 135 operators.

3.3 Resolution and Benefits

The standardized curriculum may be valuable to the industry due to the expectation it will enhance safety and increase administrative benefits. Within the industry, this curriculum will be especially advantageous to part 142 training centers, part 135 operators that use a part 142 training center, training personnel who develop and deliver training under parts 135 and 142, as well as individual contract pilots.

Enhanced Training, Testing, and Checking.
The use of a common set of Standard Operating Procedures (SOPs) eliminates the situation in which part 142 training center personnel deliver training and checking to numerous part 135 operators with widely varying objectives, standards, and procedures. This approach allows instructors and check pilots to focus on one operational method, which increases their ability to evaluate comprehensively the pilots they are checking.

Leveraging Expertise.
An industry-led group composed of subject matter experts (SMEs) that represent manufacturers, part 135 operators, part 142 training centers, and industry trade organizations develops the standardized curriculum. Any stakeholder can recommend improvement at any time. This means that as risks are identified (i.e., NTSB safety recs), the curriculum can be updated at a global level, with those improvements drilled down to all the operators using the curriculum.

Streamlined Approval Process.
The FAA accepts and publishes the standardized curriculum at a national level. This eliminates the need for multiple POIs to review technical elements of the same curriculum. Instead, POIs evaluate if the curriculum (and associated standards and procedures) fit the needs of the part 135 operator.

Administrative Efficiency.
A part 142 training center qualifies its personnel as instructors and check pilots for the part 135 standardized curriculum. This eliminates the need for individually issued check pilot letters of approval for each part 135 operator. Also, a part 135 standardized curriculum listed in a training center’s Training Specifications (TSpecs) may be referenced in the part 135 operator’s training program as an FAA-published curriculum in accordance with § 135.341, without the need to reproduce a physical copy of the curriculum.

3.4 The Scope of a Standardized Curriculum

An aircraft-specific standardized curriculum is only one segment of the training required to serve as a pilot in part 135 operations. It will not provide part 135 operators with a complete training program, and is only a segment of training in accordance with § 135.324(b). See Figure 2-1 Standardized Curriculum Elements below:

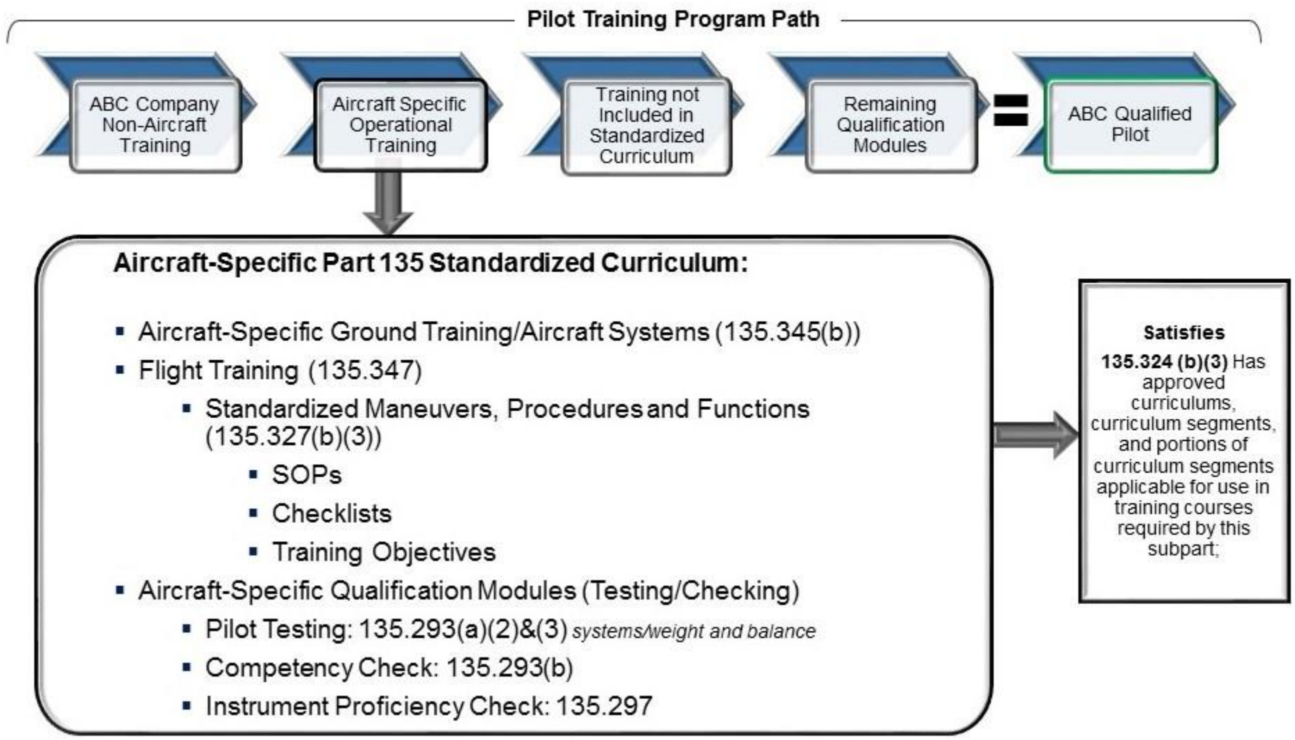


Figure 2-1 Standardized Curriculum Elements

As required for any training conducted in accordance with § 135.324(b), the part 142 training center must qualify its personnel to provide part 135 training, testing, and checking as outlined in AC 142-1 in order to deliver the standardized curriculum. The image above, Figure 2-1, Standardized Curriculum Training Elements, illustrates "the box" in which training, testing, and checking is included in the standardized curriculum. Figure 2-1 also illustrates where the standardized curriculum resides in the path to part 135 pilot qualification. The expanded area, "Aircraft-Specific Operational Training portion of the Pilot Training Program Path", defines the elements within the box of the standardized curriculum, and represents what the ACT ARC recommended.

The Standardized Curriculum Package (SCP) is a package comprised of the training curricula and the supporting courseware, equipment, records, personnel, and facilities necessary to deliver a curriculum or group of curricula for part 135 training. The part 142 training center qualifies its personnel to deliver the part 135 training.

A part 142 training center may deliver the nationally accepted standardized curriculum to any part 135 operator that obtains approval for its use. It is one, voluntary way to comply with existing regulations as well as a way to simplify the approval process for an air carrier's training program.

4 Task Group Assignments and Activities

4.1 Defining the Subgroups and Tasking

The TSWG reviewed the assigned tasking from the original ARAC tasking statement, and created these primary categories to develop a standardized curriculum:

- Curriculum, which includes published guidance, reference materials, data sources, and airframes.
- Qualifications, to include instructors, pilots, and safety-implications.
- Continuous Improvement, which includes data-driven metrics and recommendations related to the multiple standardized curricula that will be developed.

Each category was discussed in detail and aligned with task assignments that were directly supportive of the TSWG's objectives and assigned a number:

TWSG Task Detail Table	
1	Develop TSWG meeting schedule.
2	Identify activities that require SME action-teams/sub-groups.
3	Conduct a targeted review of published FAA guidance, data sources, and other reference materials relevant to the design, development and proposals to support the standardized curricula. Examples for review: ARAC Tasking Notice; FAA Advisory Circular 142-1; FAA Order 8900.1 Inspector Guidance (TCPM and POI); Standardized Curricula Delivered by Part 142 Training Centers; Flight Standardization Board Report (FSBR); relevant supporting data sources; etc.
4	Identify systematic development methodology (i.e., Instructional Systems Design (ISD), etc.).
5	Identify list of aircraft types and variants practical for standardized curriculum development.
6	Prioritize standardized curriculum development based on aircraft types.
7	Identify the 'flagship' (first) aircraft type standardized curriculum.
8	Conduct focused review and analysis of existing qualification training curricula for applicable aircraft types under part 135 operations.
9	Develop Instructor and Check Pilot Qualification Curriculum.
10	Identify sub-curricula for each standardized curricula aircraft type (e.g., CQ, Re-Qual; as needed for future development).
11	Identify supporting data and resources.
12	Conduct a regulatory GAP analysis to include parts 135 and 142, along with the proposed standardized curriculum.
13	Identify methodology for ongoing standardized curriculum maintenance and development (who, how, when/triggers for revisions).
14	Determine data-driven methods and element criteria to identify program effectiveness to make recommendations for continuous improvement.
15	Determine the maximum extent to which standardized curriculum programs can be standardized across aircraft types, based on regulatory analysis, safety implications, and manufacturer (OEM) input.

4.2 Subgroup Action Teams

The working group determined these tasks would be achievable through the formation of specialized breakout groups (Action Teams). Many of these tasks were addressed in the TSWG's initial recommendation report presented to ARAC in June 2021. The remaining tasks are addressed by new Action Teams. Each of these new Action Teams are responsible for research, analysis, and execution of the assigned tasking for their team's respective subject categories:

Instructional System Design (ISD) Action Team	Tasking 3, 4, 10, 15
Standard Operating Procedures (SOP) Action Team	Tasking 15
Gulfstream G-V Action Team	Recommend G-V SCP
Continuous Improvement Action Team	Tasking 13

The Action Teams met weekly or as scheduled. Each Action Team provided updates to the broader TSWG's meetings.

4.2.1 Review and Analysis Results of the Instructional System Design (ISD) Action Team

In developing standardized curricula for each aircraft or series of aircraft three options are available as a starting point. The group could (1) create an original curriculum, (2) use the existing approved curriculum that the group deems the best, or (3) combine several existing training programs by using the best parts of each.

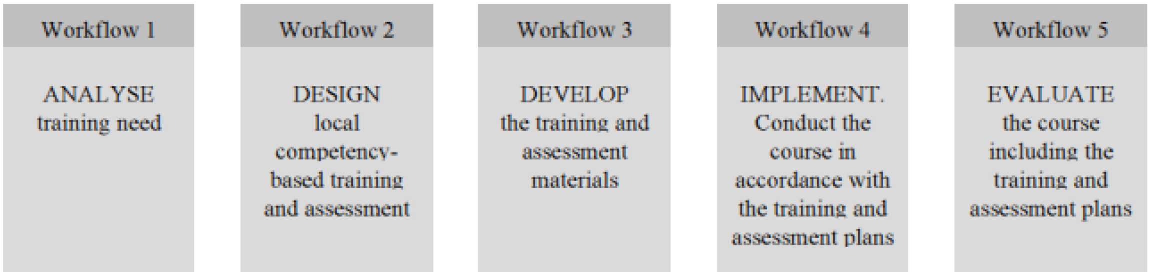
As the group evaluated existing training programs against the regulatory requirements, it was discovered that many programs are designed for use by 142 centers or part 91 operators. Analysis revealed that, in many cases, existing curricula designed for part 135 operators are not compliant with all regulations or present considerable challenges to standardizing for the entire industry.

Consequently, the group determined creating an original curriculum to be the most suitable path forward. Even though it may take more effort than either of the other options, it will ensure the standardized training programs are compliant with applicable regulations and provide an opportunity to improve upon existing programs. To ensure a thorough and systematic approach to building curricula, the group stood up the Instructional System Design (ISD) Action Team.

The ISD Action Team was tasked to:

- Conduct a targeted review of published FAA guidance
- Identify systematic development methodology (i.e., Instructional Systems Design (ISD), etc.).
- Identify sub-curricula for each standardized curricula aircraft type (e.g., CQ, Re-Qual; as needed for future development).
- Determine the maximum extent to which standardized curriculum programs can be translated across aircraft types, based on regulatory analysis, safety implications, and manufacturer (OEM) input.

In order to accomplish their tasks, the ISD Action Team followed the analyze, design, develop, implement and evaluate (ADDIE) framework outlined in ICAO Doc 9868 Procedures for Air Navigation Services – Training.



The ISD Action Team initially focused on Workflow 1. Analyzing the training need involved determining the purpose of training and defining the associated needs and requirements. In this process, the team identified inputs, including operational, regulatory, and technical documents. The inputs, listed in the table below, came in the form of the Federal Aviation Regulations, advisory circulars, and guidance.

FAA Reference Documents
FAA Advisory Circular 00-54 11/25/1988 Pilot Windshear Guide
FAA Advisory Circular 90-100A CHG 2, 04/14/2015 U.S. Terminal and En Route Area Navigation (RNAV) Operations with Change 2
FAA Advisory Circular 90-105A 03/07/2016 Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace
FAA Advisory Circular 90-106B 05/02/2022 Enhanced Flight Vision Systems
FAA Advisory Circular 90-107 02/11/2011 Guidance for Localizer Performance with Vertical Guidance and Localizer Performance without Vertical Guidance Approach Operations in the U.S. National Airspace System
FAA Advisory Circular 90-108 04/21/2015 Use of Suitable Area Navigation (RNAV) Systems on Conventional Routes and Procedures
FAA Advisory Circular 90-117 10/03/2017 Data Link Communications
FAA Advisory Circular 91-74B 10/08/2015 Pilot Guide: Flight In Icing Conditions
FAA Advisory Circular 91-79A CHG 2 02/20/2018 Mitigating the Risks of a Runway Overrun Upon Landing
FAA Advisory Circular 120-35D 03/03/2015 March 18 2013 Flightcrew Member Line-Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation
FAA Advisory Circular 120-55C CHG 1 March 18 2013 Air Carrier Operational Approval and Use of TCAS II
FAA Advisory Circular 120-74B 07/30/2012 Part 91, 121, 125, and 135 Flightcrew Procedures during Taxi
FAA Advisory Circular 120-76D 10/20/2017 Authorization for Use of Electronic Flight Bag
FAA Advisory Circular 120-91A January 13 2020 Airport Obstacle Analysis
FAA Advisory Circular 120-108 01/20/2011 Continuous Descent Final Approach

FAA Advisory Circular 120-109A CHG 1 11/24/2015 Stall Prevention and Recovery Training
FAA Advisory Circular 120-118 07/2/2018 Criteria for Approval/Authorization of All Weather Operations (AWO) for Takeoff, Landing, and Rollout
FAA Advisory Circular 135-17 12/14/1994 Small Aircraft Ground Deicing
FAA Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards with change 1, June 2019
FAA CFR Title 14 Subchapter C Part 25
FAA CFR Title 14 Subchapter D Part 61.66
FAA CFR Title 14 Subchapter F Part 91.176
FAA CFR Title 14 Subchapter G Part 135 subpart G
FAA CFR Title 14 Subchapter G Part 135 subpart H
FAA 8900.1 Vol. 3 Ch. 19 Sec. 5 CHG 702, 04/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec. 6 CHG 702, 04/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec. 7 CHG 702, 10/19/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 8 CHG 702, 4/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 9 CHG 555, 4/21/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 10 CHG 702, 4/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 11 CHG 702, 4/24/2020
FAA 8900.1 Vol. 3 Ch. 54 Sec. 6 CHG 711, 6/20/2020
FAA 8900.1 Vol. 4 Ch. 3 Sec. 6 CHG 627, 10/15/18
FAA-H-8083-16B, Instrument Procedures Handbook 2017
FAA FSB Report G-V Rev 14 05/28/2021
FAA Operational Suitability Report (OSR) Rev.3 08/14/2020 (Operational Credit for EFVS)
FAA Pilot Guide to Takeoff Safety (2004)
FAA InFO 18014, 11/19/2018
FAA SAFO 17010 Incorrect Airport Surface Approaches and Landings
FAA SAFO 19001 Landing Performance Assessments at Time of Arrival
FAA Fact Sheet - Engineered Material Arresting System (EMAS), 12/16/2020

While reviewing the documents, the action team identified the tasks associated with the training, and identified the operational, regulatory and technical training requirements in each of the documents listed, resulting in more than 200 training tasks. The team then examined each task in further detail to identify and categorize Knowledge & Cognitive Learning Objectives, Motor Skill Learning Objectives, and Attitude Learning Objectives resulting in nearly 2,500 learning objectives. These learning objectives are not type specific and may be applicable across fleet types. Each type-specific action team, including the G-V Action Team, shall evaluate the identified learning objectives to determine which should be included in their recommended SCP, as well as adding type specific tasks or learning objectives from the FSB report to the common baseline.

4.2.2 Review and Analysis Results of the Standard Operating Procedures (SOP) Action Team

The Standard Operating Procedures (SOP) Action Team was comprised of operator, training center and FAA subject matter experts with experience on a variety of aircraft and differing operational backgrounds. The team was tasked to document high level callouts and SOPs common across most aircraft fleet types.

Each type-specific action team will use the SOP Action Team's recommendation document as a starting point when developing type-specific call outs and SOPs. Of course, not all aircraft are operated in the same manner. The team recognized that scenarios exist in which type-specific SOP recommendations may vary from or contradict the overarching philosophies outlined in their document in order to ensure the aircraft is operated in the safest possible manner. In all cases, safety will serve as the highest goal.

This action team recognized that it is not possible to create a list of SOPs that is all-inclusive, as aircraft specific and operational factors must also be considered before the TSWG recommends any SOPs for use in the National Airspace System. Their recommendations for the type-specific action teams addressed the following:

- Briefing structure, content, and triggers;
- Call Outs;
- Checklist types, usage, and triggers;
- Maneuvers Training;
- Stabilized Approach Criteria;
- Threat and Error Management; and
- Use of Automation.

4.2.3 Review and Analysis Results of the Gulfstream G-V Action Team

In support of developing an initial training curriculum for the Gulfstream G-V type rating designation, to include the GIV-X, GIV-X (G350), GIV-X (G450), GV, GV-SP, GV-SP (G500), and GV-SP (550) subvariants, the TSWG assembled a type-specific action team comprised of G-V subject matter experts from the manufacturer, operators, training centers, and the FAA.

Gulfstream G-V Action Team Subject Matter Experts	
Bart Goldman, Solairus	Colton Mika, FlightSafety International
Jeff Neubert, Clay Lacy	Jon Wolfe, Gulfstream Aerospace
Justin Maas, Gulfstream Aerospace	Kevin Hancock, FAA
Knut Finnevolden, Talon Air	Mike Emmert, FlightSafety International
Justin Pahl, CAE	Pete Djordjevic, Executive Jet Management
Steve Dennis, CAE	

After reviewing the initial ARAC tasking, the work of the ISD Action Team and the SOP Action Team, the TSWG assigned the G-V Action Team the following tasks:

TWSG Type Specific Action Team Tasking Table	
1	Conduct a review and analysis of the assigned tasks and any other related materials or documents. • Review Training Needs Analysis

	• Review Flight Standardization Board Report • Review relevant OpSpecs/MELs • Review existing 142 training programs
2	Based on the templates and best practices established by the TSWG, develop and recommend the following curricula, including planned hours, for each aircraft type: • Adaptive Recurrent, • Initial Equipment, • Initial New Hire, • Recurrent, • Requalification, • Transition, and • Upgrade.
3	Each Type Specific Action Team will develop the following based on the templates and best practices established by the TSWG, to be used throughout the standardized training program and during normal operations: • SOPs • Call outs
4	Draft and submit the recommendation report based on the assigned tasks.
5	Present the recommendation report at the TSWG meeting.
6	Provide continuous improvement for the standardized curriculum based on recommendations from the TSWG.

The G-V Action Team also used the ISD process outlined in ICAO Doc 9868 Procedures for Air Navigation Services – Training, and their work focused largely on Workflow 2. This included reviewing the work from the ISD and SOP Action Teams.

The team developed training elements specific to the G-V. These elements came from reviewing the Flight Standards Review Board Report (FSBR), special authorizations, Operations Specifications (OpSpecs), common to G-V operators, and operational experience.

In the curriculum development process, the Action Team discussed the details of how the curriculum would be implemented. This led to significant deliberations about the best methods to ensure the SCP included the following training elements:

- Aircraft specific documents;
- Aircraft and system failures;
- Special authorizations;
- Performance planning;
- Flight Profiles and Maneuvers

- Company indoctrination training; and
- Training under parts other than 135.

The information below summarizes the conversations and recommendations from the Action Team on each of these subjects.

4.2.3.1 Aircraft Specific Documents.

The G-V Action Team reviewed training elements required in FAA approved documents, including the Airplane Flight Manual (AFM) and the FSBR, to identify type-specific training needs. After reviewing the training and special emphasis items in the FSBR, the group agreed upon and selected the appropriate tasks and learning objectives.

4.2.3.2 Aircraft and System Failures.

The malfunctions to be trained during adaptive recurrent are those that place a significant demand on a proficient flight crew. To determine which abnormal and emergency scenarios should be covered during training, the G-V Action Team conducted a malfunction equivalency analysis. During this exercise, the SMEs evaluated a list of failure modes and states to determine the response procedure characteristics, cognitive load, workload, and aircraft handling characteristics associated with each failure. This yielded a difficulty rating for each recovery procedure and determined which failures modes require training.

Failure modes were also rated against the immediacy of the response, complexity, degradation of aircraft control, loss of instrumentation, and management of consequences to determine the required level of training media (full flight simulator, flight training devices, or ground school lecture or computer-based training). ICAO Doc 9995 indicates demonstrated proficiency in the management of one malfunction is then considered equivalent to demonstrated proficiency for the other malfunctions in the same group.

The ICAO description of the characteristic "Immediacy" is "System malfunctions requiring immediate and urgent crew intervention or decision." The characteristic "Immediacy" is considered applicable to the abnormal and emergency procedures that require an immediate flight crew intervention or decision to manage the malfunction of a system or an operational event based on the worst scenario. For example, this characteristic is considered applicable to:

- All the emergency procedures associated with a red warning alert that requires immediate actions (e.g., ENGINE FIRE)
- All the emergency or abnormal procedures performed from memory and referred to as "memory items" in the FCOM (e.g., TCAS WARNING).

The ICAO description of the "Complexity" characteristic is "System malfunctions requiring complex procedures." Procedures that with the characteristic of complexity specifically challenge the pilot's competency for situational awareness, problem solving, and decision making. The "Complexity" characteristic is considered applicable to the abnormal and emergency procedures that simultaneously:

- Require an increase in cognitive resources for management of the procedures.

- Increase the flight crew workload.
- Affect the normal aircraft handling characteristics.

The ICAO description of the “Degradation of Aircraft Control” characteristic is “System malfunctions resulting in significant degradation of flight controls in combination with abnormal handling characteristics.” The “Degradation of aircraft control” characteristic is considered applicable to the abnormal and emergency procedures that result in:

- The modification of the normal pitch attitude during approach and landing (e.g. inoperative flaps)
- The reconfiguration of the flight control law (e.g. F/CTL direct law).

The ICAO description of the “Loss of Instrumentation” characteristic is “System failures that require monitoring and management of the flight path using degraded or alternative displays.” The “Loss of instrumentation” characteristic is considered applicable to the abnormal and emergency procedures that result in the temporary or permanent loss of any parameter related to the flight path and displayed on any PFD, HUD, and ND. Therefore, the management of the flight path is assumed to be performed by the use of degraded or alternative displays, either temporarily or permanently. For example, this characteristic is considered applicable when:

- Any of the following indications are lost on any PFD or HUD:
    - Altitude, speed, altitude, vertical speed, heading, radio altimeter, barometer setting, altitude alert
    - Flight Director
    - Deviation scale for approach guidance.
- Any of the following indication are lost on any ND:
    - Heading, FMS trajectory data
    - NAVAIDS.

The ICAO description of the “Management of Consequences” characteristic is “System failures that require extensive management of their consequences (independent of operation or environment).” The “Management of consequences” characteristic is considered applicable to the abnormal and emergency procedures that significantly affect the flight crew standard task sharing, the workload or the decision-making process during an extended period of time, after the management of the malfunction itself (ECAM/QRH actions).

To help operators and training providers in their determination of the characteristics that are applicable to an abnormal or emergency procedure, the G-V Action Team determined the characteristics that are applicable to all the abnormal and emergency procedures. The results of this analysis are included in the recommended curriculum document.

The selection of abnormal and emergency procedures to be trained during the recurrent training of a baseline program is the responsibility of the operators and training providers based on the demanding aspect criteria. Equivalent groups of aircraft system malfunctions can be determined by reference to malfunction characteristics and the underlying elements of crew performance required to manage them. Demonstrated proficiency in the management of one malfunction is then considered equivalent to demonstrated proficiency for the other malfunctions in the same group. Each year's training should challenge pilots to display training characteristics from every group.

4.2.3.3 Special Authorizations.

The G-V Action Team recognized that to be effective, the SCP must consider a process for operators to provide training required by each OpSpec held by the operator. However, not all part 135 certificate holders operating G-V aircraft hold the same OpSpecs, so some elements may need to be optional and made available through specialty curriculum. Even though these specialty curricula may not be applicable to all operators, the information in these specialty curricula can be presented in a standardized manner.

For example, OpSpec B036 Oceanic and Remote Continental Navigation Using Multiple Long-Range Navigation Systems (LRNS) is required for operators that intend to fly in oceanic airspace. While many G-V operators may intend to fly in oceanic airspace, some may not. Those that only intend to fly domestically will not require international procedures training associated with B036. However, operators that hold B036 need a mechanism to provide international procedures training to their G-V pilots. Since many G-V operators fly internationally, that training can be standardized. The same is true for many other OpSpecs.

In some cases, an OpSpecs contain flexibility for the Principal Operations Inspector to grant varying levels of authorization. This is true for many C paragraph OpSpecs that specify a particular height at which pilots should execute a go-around, such as C073, or specify a particular weather minimum, such as C079. In order to ensure operators can meet training requirements for these OpSpecs, the training must be conducted to the lowest altitude or weather minimum, because the guidance requires operators to train to the lowest minimum before they can receive that authorization. Otherwise, there would be no pathway for operators to receive authorization for executing maneuver to the lowest minimum. If an operator is not authorized to the lowest minimum for a procedure, that should be discussed in differences training.

4.2.3.4 Performance Planning.

Regulation § 135.293(a)(3) specifies that no certificate holder may use a pilot, nor may any person serve as a pilot, unless, since the beginning of the 12th calendar month before that service, that pilot has passed a written or oral test, given by the Administrator or an authorized check pilot, on that pilot's knowledge in… for each type of aircraft to be flown by the pilot, the method of determining compliance with weight and balance limitations for takeoff, landing and en route operations." Additionally, § 135.345(b) stipulates initial, transition, and upgrade ground training for pilots must include instruction in performance characteristics and operating limitations, including takeoff weight limitations, for each aircraft type.

Today, many operators use third-party tools, such as mobile applications, to efficiently meet the requirements of § 135.379 (Transport Category Takeoff Limits). To achieve the most effective training and checking, pilots should train on the company specific procedures and methods that will be used during day-to-day operations to determine compliance with weight and balance limitations for takeoff, landing and en route operations.

Traditionally, pilots go to a contract training center for training and checking which includes training and checking for weight and balance principles and methods. Because a part 142 training center may have pilots from several different operations in the same training class, they teach pilots to use the charts and graphs in the AFM to calculate weight and balance and prepare for the requirements of a practical test based on the Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards (ATP and Type Rating ACS), which requires the AFM method of computing weight and balance.

If all Part 135 certificate holders use the same mobile application or the AFM during daily operations, a change to the current process would not be required. However, the G-V Action Team does not feel it is appropriate for this group to recommend or dictate a single vendor for all certificate holders. While the team could recommend all operators use the AFM based on historical practice, the group acknowledges that what is common in the training industry today is not compliant with the requirements of § 135.379. Not only were mobile applications developed for their ease of use, precision, and efficiency, they are necessary for fulfilling the requirements of § 135.379. The team does not believe it is appropriate to prohibit the use of tools of this nature on the flightline as these tools enhance safety and ensure regulatory compliance.

Consequently, the G-V action team believes that each operator should be responsible for training and checking pilots on the use of any third-party tools for calculating weight and balance or performance as a prerequisite for beginning initial training at the contract training center. This ensures the pilots will understand the way they are expected to execute such procedures at their operation. The action team also acknowledges that not all operators will use such performance calculation tools and some may solely use the AFM. In such cases, the operator would not need to train the pilot on performance calculation procedures prior to beginning the initial standardized curriculum.

In such a case, the pilot is trained and checked on weight and balance prior to commencing training at the center. During training, pilots will need to calculate weight and balance. It is expected that training centers will continue to provide background information on weight and balance calculations using AFM charts and graphs both to accommodate pilots operating under parts other than 135 that are attending the same class and to give pilots operating under 14 CFR 135 an appreciation for the differences between AFM produced performance data and engineered performance data. To prepare for simulator flights, pilots will need to calculate weight and balance performance and limitations using the tools approved in their operation, having already completed company-specific indoctrination training. All vendor derived information and charts are based on the same engineering data, so regardless of the method of calculation, the pilot should arrive at the same result.

Pilots should use their company specific methods for calculating limitations for the simulator. If a pilot calculates incorrect performance information, the instructor should notify the pilot and assist the pilot in achieving the correct data. However, because the pilot will have already been trained and checked on § 135.293(a)(1) through (9), incorrect calculations will not result in failed checking. In such cases, any deficiency in operator-specific performance calculations should be reported to the air carrier to address.

4.2.3.5 Flight Profiles and Maneuvers.

The G-V Action Team identified an opportunity to improve traditional performance training and flight profiles by adhering to recommendations from the Transport Aircraft Performance Planning (TAPP) Working Group, which intended to improve understanding of transport airplane performance concepts and requirements. These recommendations are based on the requirements of §135.379, 135.383, 135.385 and 135.387

A Transport Category AFM allows for obstruction protection until the enroute phase is reached. Consequently, a new takeoff profile is necessary to recognize a transition from the second segment to the third and fourth segment will be based on runway analysis. The flight profile recognizes performance planning should connect takeoff requirements in § 135.379 to the enroute performance requirement in § 135.383.

In addition to the conversation about ensuring flight profiles meet regulatory requirements, the G-V Action Team also discussed ensuring the maneuvers in the standardized curriculum align with the ACS.). This may mean subtle changes to training maneuvers. For example, during these conversations it became apparent that the most existing G-V training programs direct pilots to execute steep turns at 250KTS. However, the ATP and Type Rating ACS indicates, the applicant should demonstrate the ability to "establish the manufacturer's recommended airspeed; or if one is not available, an airspeed not to exceed V_A." The action team discovered the Gulfstream operating manual does not recommend a speed for steep turns, so pilots should use V_A, which is 206 KTS at MTOW.

4.2.3.6 Company Indoctrination Training.

Operators must train and check pilots in accordance with § 135.345(b) and § 135.293(a)(3). In operations that use performance calculation tools other than the AFM, operators shall conduct such training and checking during initial indoctrination training, prior to the pilot beginning the initial standardized curriculum.

To facilitate checking pilots' familiarity with performance calculation procedures prior to visiting the contract training center, operators will need to be able to use company check pilots to conduct oral or written testing in accordance with § 135.293(a)(3). Current guidance does not facilitate this practice, as guidance in Order 8900.1, Volume3, Chapter 20, Section 6, paragraph 3-20-6-11b states the following:

> A check pilot may be approved to conduct § 135.293(a)(1) and (4) through (9) written or oral tests if the check pilot is current and qualified; the check pilot is not required to hold the type rating for the specific aircraft.

4.2.3.7 Training Under Parts Other Than 135.

The scope of this recommendation is limited to pilot training and checking for pilots operating under part 135. The G-V Action Team acknowledges that many part 142 training centers conduct training for pilots operating under other parts and do not segregate type-specific classes based on operating part. Consequently, it is common for pilots flying solely under part 91 to attend the same training course as pilots flying under part 135. In some cases, pilots flying solely under other parts may require training elements that are not required of pilots flying under part 135, such as Line Oriented Flight Training.

4.2.4 Review and Analysis Results of the Continuous Improvement Action Team

ARAC Tasked the TSWG with recommending improvements to standardized curricula. In order to be able to make data driven improvements to curricula in the future, the TSWG determined it would be pertinent to analyze the types of data and information that would be helpful when making such recommendations in the future. That way, the TSWG can recommend, and the FAA can implement, any necessary data collection processes and tools from the onset of the program. Consequently, the TSWG created and tasked the Continuous Improvement Action Team (CIAT) with the following:

- Determine data-driven methods and element criteria to identify program effectiveness to make recommendations for continuous improvement, and
- Identify methods for ongoing Standardized Curriculum maintenance and development (who, how, when/triggers for revisions).

The CIAT convened virtually with subject matter experts from the FAA, 142 training centers, part 135 operators, and labor organizations. The action team made a series of recommendations regarding FAA policy and internal TSWG recommendation development. Those recommendations and the TSWG responses are included below.

(a) *The CIAT recommends the TSWG establish a cooperative agreement with the Aviation Safety Information Analysis and Sharing program (ASIAS) to allow for the sharing of safety information between ASIAS and the TSWG for improving training curriculums.*

The TSWG established a cooperative agreement with ASIAS in the form of a memorandum of understanding (MOU). The MOU describes the manner in which the TSWG may request, and ASIAS may provide, information based on deidentified operational data.

(b) *Part 142 Training Centers delivering standardized curriculum should establish a cooperative agreement with ASIAS to share the FAA Standardized Curriculum training event grading data from the elements determined necessary and appropriate by the TSWG.*

This is addressed in 6.5 Recommendation on Grading Criteria.

(c) *Operators participating in standardized curriculum should be encouraged to establish a cooperative agreement with ASIAS to share its operational data (through the operator's approved/accepted voluntary safety reporting systems) with ASIAS.*
   a. *POIs may waive FOQA requirements for operators with aircraft fleet types that are not capable or can be reasonably outfitted with the required equipment to participate in FOQA. POIs should strongly encourage these operators to establish MOUs with their workforce to establish ASAP and SMS reporting for data inclusion to ASIAS.*

This is addressed in 6.6 Recommendation on Data Collection.

This recommendation did not have unanimous consent. All members of the TSWG agree that sharing safety information is important and that as more operators participate in ASIAS, the data and information will be more accurate, thereby improving the ability of the TSWG to adjust standardized curricula. Some members believe that participation in ASIAS should be encouraged and other members believe that participation in ASIAS should be required for operators electing to use the standardized curriculum.

Some members of the TSWG believe that participation in ASIAS should be encouraged for all operators using standardized curricula. Encouraging participation recognizes that the standardized curriculum enhances training and increases the safety of participating operations. It also recognizes that the part 135 industry has many small certificate holders with very little administrative support. While ideally all operators would elect to voluntarily send data to ASIAS and use the standardized curriculum to improve safety within their operations, deterring operators from using the standardized curriculum because they do not have the administrative support to participate in ASIAS eliminates the opportunity for those operators to benefit from the improved safety outcomes of the standardized curriculum's training program. Further, SMS is expected to release a notice of proposed rulemaking that would require part 135 operators to develop and implement an SMS in the near future.

Other members of the TSWG believe operators using the standardized curriculum should be required to participate in ASIAS. Specifically, Air Line Pilots Association made the following statement:

> ALPA is opposed to the use of "encouraged" in the following language in the Continuous Improvement of Standardized Curriculum (SC) recommendation:
>
> > "Operators participating in SC should be encouraged to establish a Cooperative Agreement with ASIAS to share its operational data (through the operator's approved/accepted voluntary safety reporting systems) with ASIAS."
>
> While participation by Part 135 air carriers in SC training conducted by Part 142 training centers is optional, the air carriers that opt in must be required to meet all of the elements of the SC program including data collection which is necessary to ensure the continuous improvement of the SC training.

Operational data must be collected to correlate pilot training under the SC with their performance during initial Operating Experience (OE), when conducted, and line operations as well as subsequent training. The operational and subsequent training data should continue to be collected in recurrent, through and including upgrade and/or aircraft transition in order to identify any needed improvements to the SC. This operational data is important to continuously improve the program. Guidelines on what data is collected and in what format is needed to ensure standardization among 142 training centers and air carriers who opt in to SC, allowing effective analysis and improvements of SC.

In addition, to ensure accurate conclusions from the data and trust of those conclusions, the following must be required for those who opt into the voluntary SC training.

Ensuring all relevant data is provided to ASIAS on an individual's performance during SC initial training without any misleading data is essential to avoid erroneous conclusions (e.g. delays during training, etc.). Therefore, something similar to an event review committee (ERC) that includes all stakeholders (i.e. four party agreement--representatives from the training center, air carrier, FAA, and pilots receiving the SC instruction) should be established by the training center for the SC training. A committee should also be established by the air carrier for the operational data review prior to it being sent to ASIAS. Only data that is agreed to by all the stakeholders should be included in the data forwarded to ASIAS for analysis at the TSWG direction.

(d) ASIAS should send de-identified results of FOQA, SOQA, ASRS, ASAP, ATSAP, and other voluntary-based flight operation programs reporting into the TSWG analysis request.

This recommendation is addressed by the existing MOU between ASIAS and the TSWG.

(e) The standardized four-point grading system recommended in ACT ARC 16-1 Recommendation (g), Data Collection, should be implemented across all participating training providers and utilized for training and checking events.

This recommendation is captured in 6.5 Recommendation on Grading Criteria.

(f) The TSWG will establish and maintain an industry review board consisting of Subject Matter Experts (SMEs) who will review the available ASIAS analysis and/or reports at a minimum of every 12 calendar months, and present to the ISD action team the top areas identified as requiring a focus in designing and/or revising curriculum objectives.

When the review board determines changes are necessary to be implemented into the training program, they will notify the Continuous Improvement and ISD action teams to build a representative panel to address the design and determine appropriate benchmarks for tracking the implemented change.

The TSWG will implement this process as part of the change management protocol moving forward.

(g) *The TSWG review board consisting of SMEs (reference recommendation (f), above) will review the globally mandated and recommended changes from the FAA, NTSB, and ASIAS.*

The TSWG will implement this process as part of the change management protocol moving forward.

(h) *The Continuous Improvement Action Team recommends each training program establish and maintain a review panel consisting of SMEs who will review the fleet's mandated changes and recommendations from the AEG, NTSB, OEM, ASIAS, and FAA (e.g., ADs).*

The TSWG will maintain type specific action teams, such as the G-V Action Team, to review each fleet's mandated changes and recommend improvements.

(i) *In support of Recommendations (b) through (h), the Continuous Improvement Action Team recommends maintaining an ISD team.*

The TSWG will reconvene the ISD action team as required.

(j) *Pilots beginning a training event should complete a simulator-based, non-jeopardy "Initial Validation" (IV) of standard flight maneuvers and profiles. The IV should be at least one flight segment, including a takeoff and landing that allows the evaluator to observe the pilot performing the duties and responsibilities associated with the conduct of a revenue flight. The flight segment should incorporate a departure procedure to join a published civil airway and/or transition from a published civil airway to an arrival route.*

When the pilot completes the proficiency measurement to the standard(s) determined appropriate, the IV tasks will be credited toward the competency check required by 14 CFR § 135.293(b). If the pilot is unable to meet the established IV standard, the pilot's training and checking event will continue through the traditional training curriculum with a final checking event.

The Continuous Improvement Action Team will collaborate with the ISD team to determine the specific maneuvers to be graded and validated during the proficiency measurement. The grading from recommendation (e) will be used to evaluate the proficiency of the pilot completing the maneuvers.

The ISD and Continuous Improvement Action Teams will determine which elements are available to be trained to proficiency within the proficiency measurement, and how many *opportunities are available to the pilot to complete the maneuver/skill to proficiency for the element to be considered acceptable.*

This recommendation is implemented as Initial Observation via 6.5 Recommendation on Grading Criteria. It is further addressed in Appendix A, Section 5.1.6. Adaptive Recurrent Training Curriculum.

(k) *It is recognized the TSWG may collect more data than initially used in the creation of a SC, and more data may be required in the future. To have the ability to accommodate future states of training requirements, technologies, and available information, the TSWG should create and maintain guidance outlining a set of parameters associated with pilot training and checking events (i.e., intervals, prior and continuing experience, efficiencies in meeting standards/proficiency, etc.). These parameters should include the relevant Part 135 Pilot Flying and Pilot Monitoring tasks/elements identified in the Part 135 Standardized Curriculum Training and Checking Requirements Matrix as accepted or approved training and checking.*

Once developed, the Training Centers should collect and submit the appropriate training and checking data to ASIAS.

This is addressed in Recommendation 6.6 on Data Collection.

(l) *TSWG will review a general aviation operational trend analysis from ASIAS prior to revising the training curriculums. Using the FAA's current SMS Risk Matrix, the TSWG will score the identified trends by risk level and severity outcomes.*

It is recommended that the TSWG create and maintain guidance (reference Recommendation (k)) to ensure the operational analysis review is conducted within the following parameters:

- *Acceptance of the FAA's SMS definitions for risk level and severity, or defining appropriate definitions of risk and severity for the purpose of curriculum focus and design,*
- *Prioritization of the trends, and*
- *Recognition of pertinent NTSB recommendations and/or other industry recommendations.*

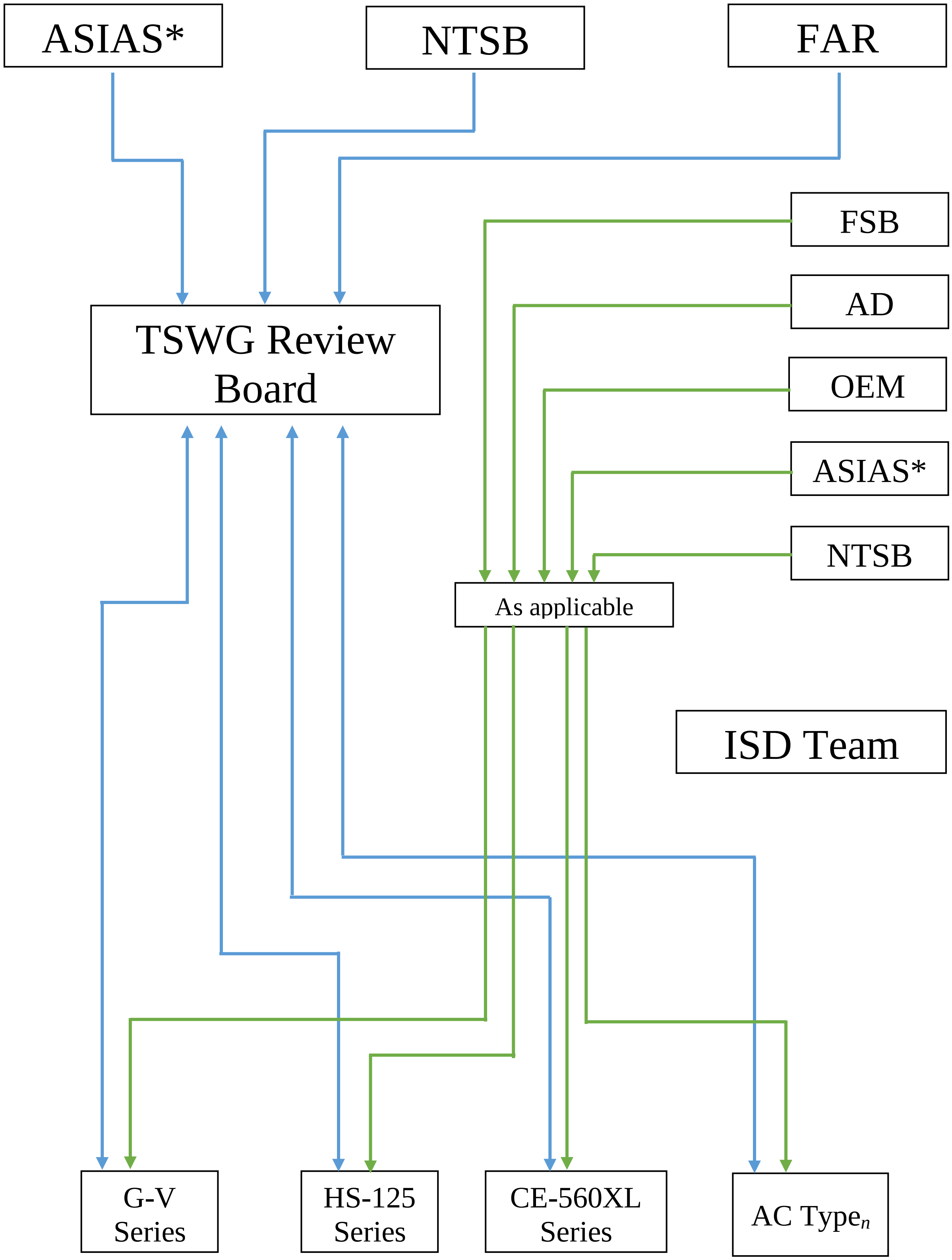
This recommendation is addressed, at least in part, by the existing MOU between ASIAS and the TSWG. It will be further addressed through internal TSWG change management processes.

(m) *At the earliest of 1) 12 calendar months after the implementation of the first curriculum, or 2) the first operational analysis (recommendation (d), above), the TSWG should analyze the outcome of the simulator-based proficiency measurement (recommendation (g), above), and compare the results to the participating operator's 135.299 line check results.*

If there are no observable deviations from the outcomes, the TSWG requests an audience to present the data to the FAA for consideration to approve an avenue for operators *participating in Standardized Curriculum to complete the 14 CFR § 135.299 PIC Line Check(s) in the flight simulator during the proficiency measurement.*

This recommendation did not have unanimous consent, and the TSWG will revisit this recommendation internally in accordance with the timeline of the recommendation.

The graphic below depicts the flow of information envisioned by the Continuous Improvement Action Team.



*Data collected will address Global (all training/operations) trends and filtered to identify aircraft-specific (training/operations) trends.

5. Implementation Options

The Training Standardization Working Group recommends several policy revisions in order to implement the standardized curriculum. The working group recognizes that writing and implementing new guidance will take time. The FAA is left with three paths for rolling out the initial curriculum. In the first pathway, the FAA may publish the standardized training curriculum as recommended and modified in accordance with public comments. The second pathway requires the FAA to publish the standardized curriculum in accordance with current guidance and adjust it over time after posting new guidance in accordance with section 6 Recommendations. In the third option, the FAA could wait until after publishing all new guidance to authorize industry use of a standardized curriculum.

In option one, the FAA would publish the standardized curriculum after the public comment period. While the FAA will require the time to develop new guidance or modify existing guidance, the TSWG makes no recommendation to change regulations. However, the TSWG recommends several changes to the guidance in Order 8900.1. Under this option, the standardized curriculum is an FAA-authorized program, and, as such, once the FAA publishes the curriculum, the industry can seek authorization to use it. Option one allows the FAA ample time to revise existing guidance without delaying implementation of the standardized curriculum or requiring the FAA or industry to modify the program as revisions roll out. This is the preferred option

Option two allows the FAA to publish and authorize the use of the standardized curriculum without delay. It recognizes that although the FAA will publish the standardized curriculum in the Dynamic Regulatory System, the guidance in Order 8900.1 will supersede the curriculum. However, this will require the FAA and operators to modify the standardized curriculum over time and may diminish or remove some benefits of the program until all recommended guidance revisions become effective.

The third option is to wait until the FAA has written, reviewed, and published all recommended guidance changes before authorizing part 142 training centers or part 135 operators to use a standardized curriculum. The industry recommended the standardized curriculum concept in ACT ARC Recommendation 15-9 and the FAA asked the ARAC to recommend type-specific standardized curricula because standardizing training for the part 135 industry provides many safety and administrative benefits. Because of these benefits, the TSWG believes further delays to the implementation of standardized curricula should be minimized and this pathway should be avoided.

6 Recommendations

6.1 Recommendation on Training Curricula

> *In accordance with the tasking, the Training Standardization Working Group recommends the curriculum in Appendices A through E for adoption and implementation as the standardized training program for pilots operating G-V aircraft under 14 CFR part 135.*

These recommendations were created with type specific experts from operators, training providers, and the manufacturer. For further details on the process used by these experts, see Section 4.

These recommendations describe the content of training programs. They do not necessarily provide the order in which each item must be trained.

The ARAC tasked the TSWG to develop and recommend part 135 standardized curricula for each aircraft or series of aircraft, including the maneuvers, procedures, and functions to be performed during training and checking. Additionally, the FAA order 8900.1 Volume 3, Chapter 54, Section 3 lists the following components to the standardized curriculum:

a) Applicability. In Appendix A, the G-V Action team identifies the aircraft to which the curriculum applies and defines what part 135 training and checking requirements the curriculum satisfies.

b) Prerequisites. In Appendix A, the G-V Action Team recommends the requirements to enroll in the curriculum.

c) Aircraft-Specific Curricula. In Appendix A, the aircraft-specific curricula details what the curriculum should include. Specifically, the G-V Action Team recommends three courses:

   1) Course 1 meets the training requirements for initial new hires, initial equipment training, requalification for pilots more than 35 months out of currency, transition training, and upgrade for pilots not previously qualified on type.

   2) Course 2 meets the requirements for recurrency, requalification for pilots less than 35 months out of currency, and upgrade training for pilots previously qualified on type.

   3) Course 3 was initially recommended as Scenario Enhanced Recurrent Training by the Air Carrier Training Aviation Rulemaking Committee's Recommendation 16-1, contained in Appendix F, to meet the requirements of recurrent training for pilots previously qualified on type and duty position. Because many certificate holders and training centers today already use scenarios to enhance training, it was renamed Adaptive Recurrent Training to reflect the way the curriculum is intended to adapt to the needs of each pilot.

   The details included in Appendix A and C are included as a sample to demonstrate one option for facilitating this course. Course 3 is included as a proof-of-concept and, while included with the recommendation for awareness, is not intended for implementation. The FAA and TSWG agree on the benefits of a data driven recurrent training course that replaces the traditional train-train-check model with real world scenarios developed to incorporate training on special emphasis items. The FAA and TSWG agree to further examine the policy required to implement a course meeting the intent of

Recommendation 16-1 under a new action team, and provide recommendations to ARAC no later than March of 2023.

4) The standardized curriculum will include core curriculum elements and specialty curriculum elements. Specialty curriculum elements may not apply to all operators. Specialty curricula will be used to address training requirements associated with OpSpecs. While all operators of a particular aircraft type may not need a certain OpSpec, those who do need the OpSpec will need a pathway for training. Appendix D contains the recommended curricula for CPDLC. See section 4.2.3.3 Special Authorizations for more details. The TSWG will recommend additional specialty curricula in future recommendation reports.

d) Instructor and Check Pilot Qualification Considerations. The G-V Action Team did not identify any aircraft- or curriculum-specific training items that a training center should address for instructor and check pilot qualification. Each instructor and check pilot should be familiar with the information in the appendices.

e) Learning Objectives. In Appendix C, E and F the G-V Action Team recommends learning objectives that provide baseline objectives for each curriculum segment.

Depending on the nature of the course (i.e., ground training or flight training), objectives may encompass knowledge, skills, or other attitudes, in accordance with ICAO Doc 9868 Procedures for Air Navigation Services – Training.

The Working Group acknowledges the importance of each learning objective and that it is important for training center experts to have the flexibility needed to design plans of action to deliver effective and efficient training.

f) Aircraft Configuration. In Appendixes A and E, the G-V Action Team addresses known differences to the aircraft configuration and identifies what training considerations are appropriate when using FSTDs that have differences.

g) SCP Profile Content. The SCP profile shall be developed by the training center to assist operators in assessing whether the SCP is appropriate for the operator. The SCP profile provides a summary of the SCP and includes information such as FSTD equipment configuration. The SCP profile is not included in this recommendation.

h) Maneuvers, Procedures and Functions. In Appendix A and B, the G-V Action Team recommendations fulfill documentation requirements of § 135.327(b)(3) by including event profiles and operational procedures for all tasks and identifies any seat- and task-dependent training unique to the aircraft.

i) SOPs. In Appendix B, the G-V Action Team recommends standardized SOPs. SOPs may be a subset of maneuvers, procedures, and functions. SOPs support the items that are not necessarily included in all maneuvers, procedures, and functions depictions but are applicable to the operations conducted.

The Training Standardization Working Group recommends using the manufacturer check lists, some of which are included in Appendix B for reference.

j) Qualification Standards. In Appendix A, the TSWG recommends part 135 pilot qualification standards appropriate for the aircraft. Qualification standards are published with the standardized curriculum. The standard prescribed in part 135, which requires that the pilot be the obvious master of the aircraft with the successful outcome never in doubt, is higher than that found in part 61. Therefore, qualification standards address the higher standard as it applies in part 135. The TSWG develops part 135 qualification standards based on the standards prescribed by part 135 considering:
   - Maneuvers, procedures, and functions documentation;
   - Flight Standardization Board Report (FSBR);
   - Part 135 regulatory requirements;
   - OpSpec authorizations; and
   - Current FAA practical test standards (PTS)/Airman Certification Standards (ACS) (e.g., the current edition of FAA-S-ACS-11, Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards).

k) Planned Hours. In Appendix A, the G-V Action Team recommends a range for curricula training planned hours.

l) Grading Criteria. In the recommendation report and Appendix A, the G-V action team recommends a grading scale and supporting descriptive criteria for pilot training.

m) Recordkeeping. In Appendix A, the G-V Action Team identifies unique recordkeeping considerations for users of the standardized curriculum.

The table below highlights some of the differences between traditional instruction delivered to part 135 certificate holders by part 142 training centers.

Summary of Part 135 training requirements vs Standardized Curricula (SC) differences		
	Traditional Part 135 Training	Recommended Standardized Curriculum
Ground training	Per 8900.1 Vol. 3, Ch 19, Sec 5- ● 22 knowledge areas listed with 11 sub-areas[1]	Per TSWG's Recommendation: ● 24 knowledge modules listed with detailed learning objectives for each

[1] § 135.345

Initial New Hire Ground Training	Per 8900.1 Vol. 3, Ch 19, Sec 5- Flightcrew Ground Training Hours National Norms: ● 75 Hours	Per TSWG's Recommendation: • 61.5 Hours, plus knowledge exam • 10 Hours System Integration Training (SIT)
Initial Equipment Ground Training	Per 8900.1 Vol. 3, Ch 19, Sec 5- Flightcrew Ground Training Hours National Norms: ● 64 Hours	Per TSWG's Recommendation: • 61.5 Hours, plus knowledge exam • 10 Hours System Integration Training (SIT)
Transition Ground Training	Per 8900.1 Vol. 3, Ch 19, Sec 5- Flightcrew Ground Training Hours National Norms: ● 64 Hours	Per TSWG's Recommendation: • 61.5 Hours, plus knowledge exam • 10 Hours System Integration Training (SIT)
Upgrade Ground Training	Per 8900.1 Vol. 3, Ch 19, Sec 5- Flightcrew Ground Training Hours National Norms: ● 16 Hours	Per TSWG's Recommendation: • 15.5 Hours plus knowledge exam
Recurrent Ground training	Per 8900.1 Vol. 3, Ch 19, Sec 10- Flightcrew Recurrent Ground Training National Norms (Thresholds) ● Two Pilots - 16 Hours ● One Pilot - 8 Hours	Per TSWG's Recommendation: • 15.5 Hours plus knowledge exam
Initial New Hire Flight Training	Per 8900.1 Vol. 3, Ch 19, Sec 6- Flight Training Hours (National Norms) pilots—FSTD: ● Two Pilots PIC & SIC - 24	Per TSWG's Recommendation: ● Two Pilots PIC & SIC - 24 (28 with optional LOFT)

	● One Pilot PIC & SIC- 12	● One Pilot PIC & SIC - - 14 (18 with optional LOFT)
Initial Equipment Flight Training	Per 8900.1 Vol. 3, Ch 19, Sec 6- Flight Training Hours (National Norms) Two pilots—FSTD: ● Two Pilots PIC & SIC- 20 ● One Pilot PIC & SIC- 10	Per TSWG's Recommendation: ● Two Pilots PIC & SIC - 24 (28 with optional LOFT) ● One Pilot PIC & SIC - - 14 (18 with optional LOFT)
Transition Flight Training	Per 8900.1 Vol. 3, Ch 19, Sec 6- Flight Training Hours (National Norms) Two pilots—FSTD: ● Two Pilots PIC & SIC- 20 ● One Pilot PIC & SIC- 8	Per TSWG's Recommendation: ● Two Pilots PIC & SIC - 24 (28 with optional LOFT) ● One Pilot PIC & SIC - - 14 (18 with optional LOFT)
Upgrade Flight Training	Per 8900.1 Vol. 3, Ch 19, Sec 5- ● Two Pilots - 8 Hours ● One Pilot - 6 Hours	Per TSWG's Recommendation: ● PIC – 12 Hours ● SIC – 12 Hours
Recurrent Flight training	Per 8900.1 Vol. 3, Ch 19, Sec 10- Recurrent Flight Training (National Norms) Two pilots—FSTD ● PIC - 4 Hours ● SIC - 4 Hours	Per TSWG's Recommendation: ● PIC – 12 Hours ● SIC – 12 Hours
Flight Training Profiles	Uses consistent training profiles for all departments.	Emphasizes the need to determine the flight profile based on performance planning and the conditions of the flight

Performance planning	Emphasizes AFM calculations	Emphasizes performance planning methods pilots will use during operations
Evaluation standards	● ATP & Type rating ACS	● ATP & Type rating ACS for qualification and compliance with FAA Form 8410 ● 4-point grading scale for feedback to TSWG ● Additional SIC qualification elements

6.2 Recommendation on Performance Planning

The G-V action team recommends that each operator provide pilot training, in accordance with § 135.345(b), and checking, in accordance with § 135.293(a)(3), on the use of any third-party tools for calculating weight and balance or performance prior to beginning initial training at the contract training center.

In order to ensure pilots receive the best possible training, the G-V action team recommends training and checking pilots on the same procedures and methods they will use to calculate weight and balance, to include determining compliance with § 135.379(a) through (d), during normal operations. This means pilots should be trained and checked using the same mobile application or the same charts and graphs that are used during revenue flights.

Additional context is included in section 4.2.3.4 Performance Planning.

6.3 Recommendation on Expanding Company Check Pilot Authority

The G-V Action Team recommends the FAA create new guidance to allow a company check pilot to conduct checks of § 135.293(a)(1) and (3) through (9).

This will ensure tests are facilitated by check pilots who are familiar with the company specific procedures and methods for determining compliance with weight and balance limitations for takeoff, landing and en route operations.

Additional context is included in section 4.2.3.6 Company Indoctrination Training.

6.4 Recommendation on Training Under Parts Other Than 135

The G-V Action Team recommends the FAA permit, as non-jeopardy events, training and checking elements for pilot classmates that will not operate under part 135.

The G-V Action Team recommends that training elements required for pilots training under other operating parts not be required of pilots attending training to meet part 135 requirements. However, the addition of training elements required for pilots flying under parts other than 135 should not render a training program non-compliant with the SCP.

Additional context is included in section 4.2.3.7 Non-Part 135 Pilot Training and Checking.

6.5 Recommendation on Grading Criteria

> *The Training Standardization Working Group recommends that the standardized four-point grading system recommended in ACT ARC 16-1 Recommendation (g), Data Collection, should be implemented across all participating training providers and utilized for training and checking events. The deidentified information should be provided to the TSWG for review as part of the change management process for revising/updating and continuously improving the standardized curriculum.*

Standardized data submissions are critical for analysis. Further, it allows for faster trend identification and response time when presenting an analysis to the TSWG.

Current training practices provide a grade (rating) of pilot performance completing specific operations tasks and/or flight elements, however each training provider has established and implemented a grading scale, and rubric, for its training program. Current checking practices rate a crewmember as either Satisfactory (S) or as Unsatisfactory (U) during a checking event, which does not provide data related to the performance of the pilot during the task/element.

A standardized grading scale and rubric used to evaluate a pilot's performance during maneuvers and checking will provide a clear picture of the pilot's strengths and weaknesses throughout training and qualification events. Further, when combined with the performance of all other pilots using the standardized training curriculum, it will provide insight into the effectiveness of previous training sessions.

Such insight should create a feedback loop that allows part 135 operators, part 142 training centers, and the FAA to partner in an effort to systematically analyze meaningful data which improves the standardized curriculum, as well as targeting areas of emphasis to enhance the quality of training provided.

Therefore, training centers should adopt the following rubric for grading criteria which will provide uniform, de-identified data submissions from the training and checking elements.

Grade/Score	Checking Equivalent	Grading Criteria
Best Score	S	a) The task is completed to the standard error-free the first time performed. b) Crew Resource Management (CRM) / Single Pilot Resource (SRM) skills and behaviors meet standard throughout the task.

		c) Threats are quickly identified, and individual response is appropriate. d) The individual is able to demonstrate error-free mastery of the aircraft, with the successful outcome of each task is never in doubt.
Second Best Score	S	a) Individual is proficient and performs efficiently and skillfully throughout the task. b) CRM/SRM skills and behaviors meet standards throughout the task. c) Threats are identified and individual response is appropriate. d) Errors are recognized and self-corrected immediately. (Minor, non-critical deviations may occur infrequently.) e) The individual is able to demonstrate mastery of the aircraft, with the successful outcome of each task never in doubt.
Third Best Score	U	a) Individual does not demonstrate proficiency in the task. b) CRM/SRM skills and behaviors are ineffective at any point during the task. c) Threats are slow to be identified and/or individual response is not appropriate. d) Critical errors are not recognized in a timely manner or resolved by the individual. e) Verbal instructor/evaluator intervention was needed. f) The instructor/evaluator is of the opinion that additional training will enable the individual to meet the applicable completion standards.
Fourth Best Score	U	a) Individual does not demonstrate proficiency in the task. b) CRM/SRM skills and behaviors are ineffective throughout the task. c) Threats are not identified, or individual response is not appropriate. d) Critical errors are not recognized or resolved by the individual. e) Instructor/evaluator intervention was necessary to prevent excessive deviation from the standard. f) The individual's performance is clearly unsatisfactory due to basic deficiencies, such as lack of skill, knowledge, or ability, and/or because of improper attitude with respect to successfully performing a task.

Note: Task refers to the maneuver, element, or event trained/evaluated (as appropriate).

This recommended grading scale should be applied during initial observation of the pilot as well as at the conclusion of the event. Information derived from aggregated and deidentified granular grading data provided to the TSWG will facilitate continuous improvement of the training program.

As is the case today, only Satisfactory or Unsatisfactory scores should be recorded in the Form 8410 and kept with the pilot's record.

Additional context is included in section 4.2.4 Review and Analysis Results of the Continuous Improvement Action Team.

6.6 Recommendation on Data Collection

> *The Training Standardization Working Group recommends that industry wide training and operational data be collected, aggregated, and deidentified by the FAA, then provided to the TSWG for continuous improvement of standardized curricula.*

Improvement of the standardized curriculum is critical to the safety of pilots and passengers. Improvements to the program should be driven by industry operating and training data. Such data will help the TSWG understand where training and preparation for flight operations excels and where it lags. In turn, this will help the TSWG understand which elements of the training program may require additional emphasis or improvement.

The FAA already collects and protects operational information through the ASIAS program. The intent of ASIAS is to improve safety through the sharing of that information, which can be used to enhance standardized curricula. The TSWG has an MOU in place with ASIAS that honors the protections currently provided to ASIAS participants yet allows the TSWG, and consequently part 135 training programs, to benefit from that information.

To have the ability to accommodate future states of training requirements, technologies, and available information, in addition to information currently available through ASIAS, the TSWG recommends that, where possible, the FAA aggregate, deidentify, and analyze safety information related to the parameters included in the relevant part 135 Pilot Flying and Pilot Monitoring tasks/elements identified in the part 135 standardized curriculum learning objectives and checking requirements matrix.

In addition to information from operators, information from training providers will be imperative to ensuring necessary improvements to standardized curricula. All training and checking element data should also be deidentified and submitted directly from the part 142 training centers to the ASIAS program.

The information from training and flight operations will help the TSWG identify trends and develop training curriculum models which reinforce, strengthen, and proactively address identified operational risks specific to each aircraft and the environmental factors associated with operations in the NAS, such as climb via instruction, SID altitude awareness, and effective adherence to stabilized approach criteria. Additional factors from the FAA and industry group may be implemented in the analysis, such as high-utilization airport trends, development and implementation of new SID, approach, or enroute procedures.

To make these improvements, the TSWG recommends collecting the following information:

(1) Mean, Median, Mode, and Range of intervals (in months) between training events per program
   a. 135.293 Only
   b. 135.297 Only
   c. 135.293 and 135.297

(2) Number of active training qualifications maintained per pilot – i.e.,
   a. Pilot training in one type only
   b. Pilot training in two aircraft types,
   c. Pilot training more than two aircraft types

(3) Mean, Median, Mode, and Range of training events (in type) since initial type rating (in specific aircraft type):
   a. Less than 1 year
   b. 1 year to 3 years
   c. 3 years to 5 years
   d. 5 years to 10 years
   e. More than 10 years

(4) Mean, Median, Mode, and Range of total training time (in hours) during initial and recurrent training events (in type) for both Left Seat (PF and PM) and Right Seat (PF and PM)

(5) Mean, Median, Mode, and Range of:
   a. Number of attempts to complete a maneuver/element to proficiency standard (along with the documented maneuver/element)

(6) Mean, Median, Mode, and Range of grades assigned to maneuvers/elements during each training session
   a. Respective of PF elements
   b. Respective of PM elements

(7) Mean, Median, Mode, and Range of "grades" assigned to maneuvers/element during check event
   a. Respective of PF elements
   b. Respective of PM elements

(8) Total number of pass/fail events per aircraft per checking event
   a. 135.293 Only (PIC and SIC)
   b. 135.297 (PIC)
   c. 135.293 and 135.297 (PIC and SIC)

(9) Mean, Median, Mode, and Range of "unsatisfactory" evaluations related to total number of training events (in type)
   a. i.e., Rate of unsat evaluations per 1000 or 10,000 evaluations
      i. Respective of PF elements
      ii. Respective of PM elements

(10) For 14 CFR 135.299 evaluations conducted in the simulator:
   a. The objective number of flight maneuvers and/or aircraft management events conducted outside the ACS

b. The quality (how far beyond standard) of maneuvers conducted outside the ACS as conducted by the PIC and SIC (or PF and PM) candidate
c. Judgment and CRM evaluations related to operational scenarios

(11) Maneuver/element proficiency retention between training events
   a. Respective of PF elements
   b. Respective of PM elements
(12) Maneuver/element proficiency retention as pilot experience (in type) grows
   a. Respective of PF elements
   b. Respective of PM elements
(13) Maneuver/element proficiency retention (in type) when pilot maintains multiple, active qualifications
   a. Respective of PF elements
   b. Respective of PM elements
(14) Identify and proactively address the likelihood and severity of operational risk associated with each "phase of flight" based on trends in pilot training and checking events
   a. Respective of PF elements
   b. Respective of PM elements

Additional context is included in section 4.2.4 Review and Analysis Results of the Continuous Improvement Action Team.

Appendix A – Curriculum Document

G-V Standardized Curriculum

STANDARDIZED CURRICULUM
SAFETY • CONSISTENCY

Table of Contents

1.0 MAINTAINING TRAINING SYLLABI

Parts 135 operators should maintain training syllabi (e.g., initial, upgrade, or recurrent) and other appropriate materials including operational practices and procedures. Training for other personnel must be included where appropriate (e.g., operational control personnel or maintenance). A part 135 standardized curriculum listed in TSpecs may be referenced in the part 135 operator's training program as an FAA-published curriculum in accordance with § 135.341 without the need to reproduce a physical copy of the curriculum.

2.0 APPLICABLE REGULATIONS AND GUIDANCE

FAA Reference Documents
FAA Advisory Circular 00-54 11/25/1988 Pilot Windshear Guide
FAA Advisory Circular 90-100A CHG 2, 04/14/2015 U.S. Terminal and En Route Area Navigation (RNAV) Operations with Change 2
FAA Advisory Circular 90-105A 03/07/2016 Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System and in Oceanic and Remote Continental Airspace
FAA Advisory Circular 90-106B 05/02/2022 Enhanced Flight Vision Systems
FAA Advisory Circular 90-107 02/11/2011 Guidance for Localizer Performance with Vertical Guidance and Localizer Performance without Vertical Guidance Approach Operations in the U.S. National Airspace System
FAA Advisory Circular 90-108 04/21/2015 Use of Suitable Area Navigation (RNAV) Systems on Conventional Routes and Procedures
FAA Advisory Circular 90-117 10/03/2017 Data Link Communications
FAA Advisory Circular 91-74B 10/08/2015 Pilot Guide: Flight In Icing Conditions
FAA Advisory Circular 91-79A CHG 2 02/20/2018 Mitigating the Risks of a Runway Overrun Upon Landing
FAA Advisory Circular 120-35D 03/03/2015 March 18 2013 Flightcrew Member Line-Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation
FAA Advisory Circular 120-55C CHG 1 March 18 2013 Air Carrier Operational Approval and Use of TCAS II
FAA Advisory Circular 120-74B 07/30/2012 Part 91, 121, 125, and 135 Flightcrew Procedures during Taxi
FAA Advisory Circular 120-76D 10/20/2017 Authorization for Use of Electronic Flight Bag
FAA Advisory Circular 120-91A January 13 2020 Airport Obstacle Analysis
FAA Advisory Circular 120-108 01/20/2011 Continuous Descent Final Approach
FAA Advisory Circular 120-109A CHG 1 11/24/2015 Stall Prevention and Recovery Training
FAA Advisory Circular 120-118 07/2/2018 Criteria for Approval/Authorization of All Weather Operations (AWO) for Takeoff, Landing, and Rollout
FAA Advisory Circular 135-17 12/14/1994 Small Aircraft Ground Deicing
FAA Airline Transport Pilot and Type Rating for Airplane Airman Certification Standards with change 1, June 2019
FAA CFR Title 14 Subchapter C Part 25
FAA CFR Title 14 Subchapter D Part 61.66
FAA CFR Title 14 Subchapter F Part 91.176

FAA CFR Title 14 Subchapter G Part 135 subpart G
FAA CFR Title 14 Subchapter G Part 135 subpart H
FAA 8900.1 Vol. 3 Ch. 19 Sec. 5 CHG 702, 04/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec. 6 CHG 702, 04/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec. 7 CHG 702, 10/19/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 8 CHG 702, 4/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 9 CHG 555, 4/21/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 10 CHG 702, 4/24/2020
FAA 8900.1 Vol. 3 Ch. 19 Sec 11 CHG 702, 4/24/2020
FAA 8900.1 Vol. 3 Ch. 54 Sec. 6 CHG 711, 6/20/2020
FAA 8900.1 Vol. 4 Ch. 3 Sec. 6 CHG 627, 10/15/18
FAA-H-8083-16B, Instrument Procedures Handbook 2017
FAA FSB Report G-V Rev 14 05/28/2021
FAA Operational Suitability Report (OSR) Rev.3 08/14/2020 (Operational Credit for EFVS)
FAA Pilot Guide to Takeoff Safety (2004)
FAA InFO 18014, 11/19/2018
FAA SAFO 17010 Incorrect Airport Surface Approaches and Landings
FAA SAFO 19001 Landing Performance Assessments at Time of Arrival
FAA Fact Sheet - Engineered Material Arresting System (EMAS), 12/16/2020

3.0 BASE AIRCRAFT

This document sets forth the recommended Training Curricula for G-V series aircraft, including the GIV-X, GV, and GV-SP variants. The curricula satisfy the aircraft-specific training, testing, and checking requirements of 135.293, 135.297, 135.345, 135.347, and 135.351. A training provider must identify in their standardized curriculum package which aircraft in the series is the base aircraft represented by the flight training equipment to be used, and identify which variants can be trained using the appropriate differences course(s) from the standardized curriculum.

4.0 AIRCRAFT CONFIGURATION

This recommended standardized training curriculum addresses the G-V aircraft, including the GIV-X, GV, and GV-SP variants. Appendix E contains detailed differences training and learning objectives based on the G-V Flight Standards Board Report.

5.0 CURRICULA

The purpose of the training program is to standardize part 135 air carrier curricula delivered by part 142 training centers to meet the training requirements of part 135 subpart H. This training specification is the mechanism with which the TSWG will formalize stakeholder input for each aircraft type, prior to developing a standardized curricula document for each aircraft fleet. Upon completion of a fleet specific standardized curricula document, the TSWG will recommend that curricula document to the ARAC. The ARAC will either return the document to the TSWG for revision or recommend the document to the FAA for review. When the ARAC recommends a standardized curricula document to the FAA, the FAA will review the recommendations and, if acceptable, publish the standardized curricula at a national level.

The final output of the TSWG design process is a curriculum document for review by the ARAC. The remaining components of the training program are the responsibility of the operator and part 142 training provider.

In scope:

- Part 135 Curriculum Document

Out of scope:

- Air Carrier Indoc subjects – 135.345(a)(1) and (a)(4)-(8)
- Company Qualification Modules – 135.293(a)(1)&(4)-(8) and 135.299
- Company Specialty Curriculum Modules
- Courseware (including ground and simulator lesson plans)
- Facilities
- Flight Training Equipment
- General Emergency Training - 135.331
- Hazardous Materials Training (Recognition or Will-Carry) - 135.505
- Personnel
- Records

5.1 Standardized Curriculum Interface with the Overall Pilot Training Curriculums

The Standardized Curriculum does not include training subjects outside of the aircraft specific training curriculum, such as Basic Indoctrination, Emergency training or other curriculum segments in the certificate holder's FAA Approved Training Program.
The standardized curriculum contains three course footprints which are used to satisfy multiple curriculums described below.

- Course 1 is a long course
- Course 2 is a short course
- Course 3 is an adaptive recurrent training course proof-of-concept, per recommendation 6.1(c)(3).

5.1.1 Initial New-Hire Training Curriculum (INH)

This training category is for personnel who have no previous experience with the Certificate Holder (CH) (e.g., newly hired personnel). However, it also applies to personnel employed by the CH who have not previously held a flightcrew member duty position with that CH. Initial new-hire training includes basic indoctrination training and training for a specific duty position and aircraft type. Except for a basic indoctrination curriculum segment, the regulatory requirements for initial new-hire and initial equipment training are the same. Since initial new-hire training is usually the employee's first exposure to specific certificate holder's methods, systems, and procedures, it must be the most comprehensive of the categories of training.

For this reason, initial new-hire training is a distinct, separate category of training and should not be confused with initial equipment training. As defined by 8900.1, initial equipment training is a separate category of training.

Prerequisites and SC enrollment:

The pilots will complete all certificate holder basic Indoc training curriculum segments prior to enrollment in the standardized curriculum. The pilot must have completed the certificate holder 135.293(a)(1), and (3)-(8).

For a PIC training course and qualification, the pilot must possess:

1. Unrestricted ATP, or
2. Commercial, Instrument, Multi Engine not limited to centerline thrust, and successfully have passed the ATP Knowledge Test and meet the eligibility requirements of 61.153.

The PIC Curriculum leads to a PIC 135.293 Competency Check and PIC 135.297 Proficiency Check, and additionally is eligible for an ATP and/or PIC Type Rating in accordance with 61.157(f).

For a SIC Curriculum and qualification, the pilot must possess:

1. ATP, or
2. Commercial, Instrument and Multi Engine not limited to centerline thrust

The SIC Curriculum leads to an IFR SIC 135.293 Competency Check and is eligible for an SIC Type Rating in accordance with 61.55(e).

SC Training Footprint:
See Standardized Curriculum Aircraft/Simulator Training Matrix.

5.1.2 Initial Equipment Training Curriculum (IE)

This category of training is for personnel who have been previously trained and qualified for a flightcrew member duty position by the certificate holder (i.e., not new hires) and who are being reassigned to a different flightcrew member duty position on a different aircraft type, and the flightcrew member has not been previously trained and qualified by the certificate holder for that flightcrew member duty position and aircraft type. For example, an SIC on a Cessna 400 series is reassigned as a PIC on a G-V.

Prerequisites and SC enrollment:

The pilots will complete all certificate holder training curriculum segments prior to enrollment in standardized curriculum. The pilot must have a current 135.293(a)(1), and (3)-(8) for the certificate holder.

For a PIC training course and qualification, the pilot must possess:

1. Unrestricted ATP, or
2. Commercial, Instrument, Multi Engine not limited to centerline thrust, and successfully have passed the ATP Knowledge Test and meet the eligibility requirements of 61.153.

The PIC Curriculum leads to a PIC 135.293 and PIC 135.297 Proficiency Check, and additionally is eligible for an ATP and/or PIC Type Rating in accordance with 61.157(f).
For a SIC Curriculum and qualification, the pilot must possess:

1. ATP, or
2. Commercial, Instrument and Multi Engine not limited to centerline thrust

The SIC Curriculum leads to a IFR SIC 135.293 and is eligible for an SIC Type Rating in accordance with 61.55(e).

SC Training Footprint:
See Standardized Curriculum Aircraft/Simulator Training Matrix.

5.1.3 Transition Training Curriculum (TRA)

This category of training is for a flightcrew member who has been previously trained and qualified for a specific flightcrew member duty position by the certificate holder and who is being reassigned to the same flightcrew member duty position on a different aircraft type. For example, an SIC on a H800 is reassigned as an SIC on a G-V.

Prerequisites and SC enrollment:

The pilots will complete all certificate holder training curriculum segments prior to enrollment in the standardized curriculum. The pilot must have a current 135.293(a)(1), and (3)-(8) for the certificate holder.

For a PIC training course and qualification, the pilot must possess:

1. Unrestricted ATP, or
2. Commercial, Instrument, Multi Engine not limited to centerline thrust, and successfully have passed the ATP Knowledge Test and meet the eligibility requirements of 61.153.

The PIC Curriculum leads to a PIC 135.293 and PIC 135.297 Proficiency Check, and additionally is eligible for an ATP and/or PIC Type Rating in accordance with 61.157(f).

For a SIC Curriculum and qualification, the pilot must possess:

1. ATP, or
2. Commercial, Instrument and Multi Engine not limited to centerline thrust

The SIC Curriculum leads to a IFR SIC 135.293 and is eligible for an SIC Type Rating in accordance with 61.55(e).

SC Training Footprint:
See Standardized Curriculum Aircraft/Simulator Training Matrix.

5.1.4 Upgrade Training Curriculum (UPGD)

This category of training is for a flightcrew member who has been previously trained and qualified as an SIC by the certificate holder and is being reassigned as a PIC to the same aircraft type for which the flightcrew member was previously trained and qualified. For example, an SIC on a G-V is reassigned as a PIC on a G-V.

Prerequisites and SC enrollment:

The pilots will complete all certificate holder training curriculum segments prior to enrollment in the standardized curriculum. The pilot must have a current 135.293(a)(1), and (3)-(8) for the certificate holder.

For a PIC training course and qualification, the pilot must possess:

1. Unrestricted ATP, or
2. Commercial, Instrument, Multi Engine not limited to centerline thrust, and successfully have passed the ATP Knowledge Test and meet the eligibility requirements of 61.153.

The PIC Curriculum leads to a PIC 135.293 and PIC 135.297 Proficiency Check, and additionally is eligible for an ATP and/or PIC Type Rating in accordance with 61.157(f).

SC Training Footprint:
See Standardized Curriculum Aircraft/Simulator Training Matrix.

5.1.5 Recurrent Training Curriculum (REC)

This category of training is for a flightcrew member who has been trained and qualified by the certificate holder, who will continue to serve in the same duty position and aircraft type, and who must receive recurring training and/or checking within an appropriate eligibility period. Pilots that are not within the eligibility period for recurrent require a requalification curriculum.

Prerequisites and SC enrollment:

The pilots will complete all certificate holder training curriculum segments prior to enrollment in SC.

The pilot must have a current 135.293(a)(1), and (3)-(8) for the certificate holder.

The PIC pilot is within 135.293 & 135.297 currency, or

The SIC pilot is within 135.293.

The PIC Curriculum leads to a PIC 135.293 and PIC 135.297 Proficiency Check.

The SIC Curriculum leads to a IFR SIC 135.293 Competency Check.

SC Training Footprint:
Course 2 - Short Footprint or Course 3 – Adaptive Recurrent Training

5.1.6 Adaptive Recurrent Training Curriculum (ART)

Per ACT ARC Recommendation 16-1 and TSWG recommendation 6.1(c)(3), the objective of the adaptive recurrent curriculum concept is to improve the overall quality of the pilot's training experience and allow the check airman to evaluate the crewmember's skills in a realistic operating environment. Each training event should adapt to the needs of the pilots.

This category of training is for a flightcrew member who has been trained and qualified under the standardized curriculum, who will continue to serve in the same duty position and aircraft type, and who must receive recurring training and/or checking within an appropriate eligibility period. Pilots that are not within the eligibility period for recurrent require a requalification curriculum.

Adaptive recurrent training includes planned eight hours of ground school to cover the items in 135.351(b)(2). In order to allow the instructor to plan the ground school time effectively in advance of the day of ground school, the training center will administer the 135.351(b)(1) quiz prior to ground school commencing. The instructor can then focus the eight hours of ground school on the items in which the students answer incorrectly and required by 135.351.

Simulator events consist of staged training and checking and must be constructed using scenarios to ensure that both pilots complete all required events. Scenarios will be developed in coordination with feedback from the certificate holder’s training program manager to ensure the scenarios reflect the certificate holder’s operating environment and individual special emphasis items. Scenarios should be scaled to the complexity of the aircraft and the operating environment. Each scenario will include any required training elements in the curriculum (i.e., special emphasis items added by the Training Standardization Working Group) and the opportunity for retraining or re-checking any events that were unsatisfactory. Any time not spent checking will focus on training for Abnormal and Emergency Procedures that may not be scheduled to be checked, such as: TCAS, EGPWS, Operations in Icing Conditions, Smoke Removal, Emergency Descent, etc.

Adaptive Recurrent training allows pilots to display competency throughout the event through a staged checking process. During the course of the staged check, the check airman will grade all required events as the flights progress each sim session. The staged check is administered against the airman certification standards and no training may occur during checking events. The crewmembers will conduct structured briefings at the beginning of each sim session and detailed debriefings at the end of each sim session to make sure each crewmember is fully aware of the events successfully completed.

During a staged check, the crewmember will receive credit for and must complete all proficiency and competency check requirements under 135.293(a)(2)(3) & (b) and 135.297, as applicable to the duty position. All necessary checks will be complete at the end of the multiple-day scenario and the result will be reported to the crewmember or certificate holder as satisfactory or unsatisfactory.

The first simulator training event will be “initial observation.” Initial observation is a check during which a check pilot focuses on normal operations, but may include some abnormalities as time permits. All checking items will be graded on the granular four-point grading scale the first time they are performed. Initial observation performance scores will be combined with those of other participants to establish the effectiveness of the training program itself and identify areas for further improvement. All Items Conducted to ATP ACS standards will be recorded on the FAA Form 8410 as satisfactory. Any tasks that do not meet ATP ACS standard will not be recorded on the 8410 and must be retrained and rechecked. Instead, unsatisfactory events will be graded on the four-point scale, and the granular grading information will be aggregated, deidentified, and provided to the TSWG for the purpose of improving the curriculum. The following guidelines shall be used for determining whether the outcome of the staged check is satisfactory or unsatisfactory:

- If in the judgment of the check airman, the crewmember does not meet the standards for any event, the crewmember fails that event.
- Each event can be checked one additional time by the end of the scenario, after retraining occurs.
- Once the event is assessed as unsatisfactory by the check airman, the crewmember will not be checked on the event again until he or she has completed retraining at which time the event can be re-checked.
- A maximum of three events can be retrained/re-checked during the course of the scenario.
- As soon as the staged check becomes unsatisfactory, the crewmember will be transitioned from Adaptive Recurrent training and checking to traditional maneuver-based recurrent training. In accordance with § 135.301(b), the check will be recorded as unsatisfactory on the 8410, and the pilot will be held from line service until the maneuver-based recurrent training and checking is satisfactorily completed.
- The crewmember will have to complete a stand-alone 135 check at the end of the traditional maneuver-based recurrent training in order to successfully complete the recurrent training curriculum.

Adaptive Recurrent training allows pilots to display competency throughout the checking event. A clear determination of when the pilot is undergoing training or checking must be made prior to beginning any maneuver. Items which are performed to less than the required proficiency standard must be retrained and rechecked before completion of the training event. Instructors may use the final simulator session for rechecking any items that were previously performed to less than standard.

Note: The final sim session should be used for retraining and rechecking any items that were not yet performed to the ATP ACS. If the pilot performed no maneuvers or few maneuvers unsatisfactorily throughout the training event, extra time may remain during the final sim session. This time may be used to train special emphasis items requested by the pilot or operator.

Prerequisites and SC enrollment:

The pilots will complete all certificate holder training curriculum segments prior to enrollment in SC.

The pilot must have a minimum of 1 year and 100 hours of time in type for fixed wing or 50 hours of time in type for rotor wing.

The pilot must have familiarity with the crew resource management (CRM) concepts in 14 CFR 135.330.

The pilot must have a current 135.293(a)(1), and (3)-(8) for the certificate holder.

The PIC pilot is within 135.293 & 135.297 currency, or
The SIC pilot is within 135.293 currency.

The PIC Curriculum leads to a PIC 135.293 and PIC 135.297 Proficiency Check.
The SIC Curriculum leads to a IFR SIC 135.293 Competency Check.

SC Training Footprint:
Course 3 – Adaptive recurrent training footprint.

5.1.7 Requalification Training Curriculum (REQ)

This category of training is for a flightcrew member who has been trained and qualified by the certificate holder or standardized curriculum but has become unqualified to serve in a particular flightcrew member duty position on an aircraft type due to not having received recurrent ground or flight training and/or a required proficiency check, flight check, line check, or competency check within the appropriate eligibility period. Requalification training is also applicable in the following situations:

- PICs who are being reassigned as SICs on the same aircraft type.

Prerequisites and SC enrollment:

The certificate holder will complete all training curriculum segments prior to enrollment in standardized curriculum. The pilot must have a current 135.293(a)(1), and (3)-(8) for the certificate holder.

The PIC Curriculum leads to a PIC 135.293 and PIC 135.297 Proficiency Check.

The SIC Curriculum leads to a IFR SIC 135.293 Competency Check.

SC Training Footprint:
See Standardized Curriculum Aircraft/Simulator Training Matrix.

5.1.8 Standardized Curriculum Aircraft/Simulator Training Matrix

	Pilot is:	AIRCRAFT GROUND TRAINING SEGMENT	AIRCRAFT FLIGHT TRAINING SEGMENT	AIRCRAFT QUALIFICATION SEGMENT	SC Course Footprint
1	SC 135 current in type and duty position.	NA	NA	NA	No Flight Training Required

2	**SC 135 current in type and duty position and is upgrading from SIC to PIC duty position.**	All recurrent ground training elements. 16 training hours.	All recurrent Flight training elements. 12 training hours plus qualification segment.	135.293a2 & b 135.297* *PIC only	2
3	**Non-SC 135 current in type and duty position, OR 61.58 current in type and duty position.**	All recurrent ground training elements. 16 training hours.	All recurrent Flight training elements. 12 training hours plus qualification segment.	135.293a2 & b 135.297* *PIC only	2
4	**Previously qualified in SC and is outside of eligibility period for recurrent, OR is changing duty position from PIC to SIC and is:**				
4a	<= 35 months past due month	All recurrent ground training elements. 16 training hours.	All recurrent Flight training elements. 12 training hours plus qualification segment.	135.293a2 & b 135.297* *PIC only	2
4b	> 35 months past due month	– SAME AS INITIAL EQUIPMENT TRAINING AND QUALIFICATION			1
5	**Other**	– SAME AS INITIAL EQUIPMENT TRAINING AND QUALIFICATION			1

Notes:
135.299 Qualification is operator specific and not included in this table.

6.0 COURSE CONTENTS

Each instructor, supervisor or check pilot will certify the proficiency and knowledge of each crewmember upon completion of required training or checking in accordance with § 135.323(c). This certification may occur at any time when the instructor believes that the individual has reached the required level of proficiency during his or her scheduled training, provided that all elements and events of the approved training program have been successfully trained.

6.1 Course 1 Training Hours Summary:

COURSE SEGMENTS	PLANNED TRAINING HOURS
Aircraft Ground:	**61.5**
Aircraft General	1.0

Aircraft Manuals	1.0
Auxilary Power Unit	1.0
Electrical System	4.0
Avionics and Communications	19.0
Powerplant	2.5
Oil System	0.5
Thrust Reverse	0.5
Fire and Smoke Detection, Protection and Suppression	1.5
Hydraulic System	2.0
Flight Controls	2.0
Landing Gear and Brakes	2.0
Ice Protection	1.5
Flight Planning and Performance	8.0
Flight Profiles and Maneuvers	2.0
CRM	4.0
Weight and Balance	2.0
Windshear	0.5
MEL and CDL	0.5
Pitot-static System	0.5
Pneumatic and Environmental Systems	3.0
Oxygen	0.5
Lighting	0.5
Preflight	1.5
Systems Integration	10.0
Total:	71.5

COURSE SEGMENTS	PLANNED TRAINING HOURS
Flight Training:	
Two Pilots - Simulator	24/28.0
One Pilot – Simulator / Aircraft	14/18.0
Briefing	18/20.0

COURSE SEGMENTS	PLANNED QUALIFICATION HOURS
Qualification:	
Oral Examination	4.0
Two Pilots - Simulator	5.0
One Pilot – Simulator / Aircraft	2.5

6.2 Course 2 Training Hours Summary:

COURSE SEGMENTS	PLANNED TRAINING HOURS
Aircraft Ground:	**15.5**
Aircraft Manuals	0.25
MEL and CDL	0.25

CRM	1.00
Aircraft General	0.75
Weight and Balance	1.00
Flight Planning and Performance	1.00
Flight Profiles and Maneuvers	0.50
Avionics and Communications	2.00
Windshear	0.25
Lighting	0.25
Auxiliary Power Unit	0.25
Electrical System	1.00
Powerplant	1.00
Oil System	0.25
Thrust Reverse	0.50
Fuel System	0.50
Hydraulic System	0.50
Landing Gear and Brakes	0.50
Fire and Smoke Detection, Protection and Suppression	0.50
Flight Controls	0.75
Pneumatic and Environmental Systems	1.50
Pitot-static System	0.25
Ice Protection	0.50
Oxygen	0.25
Total:	16.0

COURSE SEGMENTS	PLANNED TRAINING HOURS
Flight Training:	
Two Pilots - Simulator	12.0
One Pilot – Simulator / Aircraft	12.0
Briefing	6.0

COURSE SEGMENTS	PLANNED QUALIFICATION HOURS
Qualification:	
Oral Examination	4.0
Two Pilots - Simulator	5.0
One Pilot – Simulator / Aircraft	2.5

6.3 Course 3 Training Hours Summary:

COURSE SEGMENTS	PLANNED TRAINING HOURS
Aircraft Ground:	**8.0**
Aircraft General	As required
Aircraft Manuals	As required
Auxiliary Power Unit	As required
Avionics and Communications	As required
CRM	As required

Electrical System	As required
Fire and Smoke Detection, Protection and Suppression	As required
Flight Controls	As required
Flight Planning and Performance	As required
Flight Profiles and Maneuvers	As required
Fuel System	As required
Hydraulic System	As required
Ice Protection	As required
Landing Gear and Brakes	As required
Lighting	As required
MEL and CDL	As required
Oil System	As required
Oxygen	As required
Pitot-static System	As required
Pneumatic and Environmental Systems	As required
Powerplant	As required
Preflight	As required
Thrust Reverse	As required
Weight and Balance	As required
Windshear	As required
Total:	8.0

COURSE SEGMENTS	PLANNED TRAINING HOURS
Flight Training:	
Two Pilots - Simulator	8.0
One Pilot – Simulator / Aircraft	4.0
Briefing	8.0

COURSE SEGMENTS	PLANNED QUALIFICATION HOURS
Qualification:	
Oral Examination	4.0
Two Pilots - Simulator	8.0
One Pilot – Simulator / Aircraft	4.0

6.4 Operational Procedures

Procedures to be used for curriculum development and implementation by training centers will be those outlined in the recommended G-V Standardized Maneuvers and Call Outs.

6.5 Pilot Flying (PF) and Pilot Monitoring (PM) Duties

Crewmembers should be able to perform either PF or PM duties, unless otherwise limited by the operator’s policies or aircraft characteristics (e.g., single HUD).

6.6 Training Environment

Ground curriculum instruction may take place in any combination of four operational environments, as approved by the relevant CMO. In accordance with guidance in the 0rder 8900.1, a ground school instructor will always be available while distance learning is taking place. Creation of courseware to support the curriculum operating environment is the responsibility of the training provider.

1. Asynchronous distance learning with validation exam upon arrival at the center
2. Synchronous distance learning with validation exam upon arrival at the center
3. On site computer-based training with ground school completion exam
4. On site instructor led training with ground school completion exam

Air carriers operating under part 135 and adopting the standardized curriculum may conduct the ground curriculum segment in any operational environment for which the training provider is approved. Flight training curriculum segments will be conducted using regionally relevant airports appropriate to the flight training equipment in use. Training will take place during marginal VMC and IMC conditions, icing and non-icing conditions. Training will include operations in temperatures/elevations sufficient to reduce aircraft performance. Approach training relevant to all installed equipment will be conducted and simulator plans of action will be drafted by each training provider as appropriate to the FTE in use.

6.7 Non-Routine Situations Necessary for Training

The malfunctions to be trained are those that place a significant demand on a proficient flight crew. To determine which abnormal and emergency scenarios should be covered during training, the G-V Action Team conducted a malfunction equivalency analysis. In accordance with ICAO Doc 9995, equivalent groups of aircraft system malfunctions are determined by reference to malfunction characteristics and the underlying elements of crew performance required to manage them. Demonstrated proficiency in the management of one malfunction is considered equivalent to demonstrated proficiency for the other malfunctions with the same characteristics.

The following table lists the results of the malfunction equivalency analysis. The table displays groups of aircraft system malfunctions by reference to malfunction characteristics and the underlying elements of crew performance required to manage them. For each procedure, five columns indicate if a characteristic is considered applicable:

- A column with the letter “I” identifies the “Immediacy” characteristic
- A column with the letter “C” identifies the “Complexity” characteristic.
- A column with the letter “D” identifies the “Degradation of aircraft control” characteristic
- A column with the letter “L” identifies the “Loss of instrumentation” characteristic
- A column with the letter “M” identifies the “Management of consequences” characteristic

A “Yes” indicates when a characteristic is considered applicable to a procedure.
A “No” indicates when a characteristic is considered not applicable to a procedure.

Demonstrated proficiency in the management of one malfunction is then considered equivalent to demonstrated proficiency for the other malfunctions in the same group.

The selection of abnormal and emergency procedures to be trained during the recurrent training of a baseline program is the responsibility of the operators and training providers based on the demanding aspect criteria. Each year's training should challenge the pilots to respond to a malfunction from each group.

Procedures	**I**	**C**	**D**	**L**	**M**
AC Electrical Power System Fault	No	No	No	No	No
Anti-Skid Failure	No	No	No	No	No
Anti-Skid Off Braking	No	No	No	No	No
APU Inflight Operation - Alternate Electrical Power Source	No	No	No	No	No
Attempted Landing Gear Retraction with Safety Pins Installed	No	No	No	No	No
Blocked Total Air Temperature (TAT) Probe	No	No	No	No	No
Brake System Overheat Indication	No	No	No	No	No
FADEC Alternate Control Mode	No	No	No	No	No
Flap Control Unit (FCU) Failure	No	No	No	No	No
Landing Gear Failure to Retract	No	No	No	No	No
Landing Gear Retraction Following Alternate Extension	No	No	No	No	No
Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating	No	No	No	No	No
Left Hydraulic System (L SYS) Failure - Loss of Pressure Only	No	No	No	No	No
Nose Weight-On-Wheels (WOW) Fails to Shift to AIR Mode After Takeoff	No	No	No	No	No
Operation With An Air Data System (ADS) Failed	No	No	No	No	No
Planned Airplane Evacuation	No	No	No	No	No
Right Hydraulic System (R SYS) Failure - Loss of Pressure and / or Fluid	No	No	No	No	No
SAV (Starter Air Valve) Maintenance Message Displayed In Flight	No	No	No	No	No
Simultaneous Display of "Uncommanded Flaps" and "Uncommanded Stabilizer" CAS Messages	No	No	No	No	No
Unsafe Landing Gear Indication	No	No	No	No	No
Weight-On-Wheels (WOW) Fails to Shift to GROUND Mode After Touchdown	No	No	No	No	No
[redacted]					
Autothrottle Malfunction	Yes	No	No	No	No
Engine Failure Below V1	Yes	No	No	No	No
Ground Spoiler Failure On Landing	Yes	No	No	No	No
Rejected Takeoff	Yes	No	No	No	No
Weight-On-Wheels (WOW) Fails to Shift to AIR Mode After Takeoff	Yes	No	No	No	No
[redacted]					
Nose Wheel Steering (NWS) Failure	Yes	No	Yes	No	No
Uncommanded Nose Wheel Steering	Yes	No	Yes	No	No

Aileron HOPS Activation	Yes	No	Yes	No	Yes
Elevator HOPS Activation	Yes	No	Yes	No	Yes
Rudder HOPS Activation	Yes	No	Yes	No	Yes
Runaway Pitch Trim	Yes	No	Yes	No	Yes
Dual Engine Failure - Mid-Altitude	Yes	Yes	Yes	Yes	Yes
Dual Engine Flameout	Yes	Yes	Yes	Yes	Yes
Dual Engine Out Landing Procedure	Yes	Yes	Yes	Yes	Yes
Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Unavailable	Yes	Yes	Yes	No	Yes
Engine Failure Above V1	Yes	Yes	Yes	No	Yes
Flight Control Runaway To Hardover Position	Yes	Yes	Yes	No	Yes
Frozen Aileron Trim	Yes	Yes	Yes	No	Yes
Frozen Pitch Trim	Yes	Yes	Yes	No	Yes
Inadvertent Engine (One or Both) Shut Down	Yes	Yes	Yes	No	Yes
Jammed Ailerons	Yes	Yes	Yes	No	Yes
Jammed Elevator	Yes	Yes	Yes	No	Yes
Jammed Rudder	Yes	Yes	Yes	No	Yes
Jammed Spoilers	Yes	Yes	Yes	No	Yes
Jammed Stabilizer	Yes	Yes	Yes	No	Yes
Right Engine Failure and Complete Left / AUX Hydraulic Failure	Yes	Yes	Yes	No	Yes
Thrust Reverser Unlock or Deploy During Flight	Yes	Yes	Yes	No	Yes
Thrust Reverser Unlock or Deploy During Takeoff	Yes	Yes	Yes	No	Yes
Total Loss of Brakes	Yes	Yes	Yes	No	Yes
Uncommanded Flap Movement	Yes	Yes	Yes	No	Yes
Uncommanded Stabilizer Movement	Yes	Yes	Yes	No	Yes
Braking Using PARK / EMERG BRAKE	No	No	Yes	No	Yes
All Gear Up Landing Procedure	No	Yes	Yes	No	Yes
One (1) Engine Inoperative Go-Around Procedure	No	Yes	Yes	No	Yes
One Main Gear Only Down and Locked	No	Yes	Yes	No	Yes
Both Main Gear Retracted, Nose Gear Down and Locked	No	Yes	No	No	Yes
Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available	No	Yes	No	No	Yes
Engine Shutdown in Flight	No	Yes	No	No	Yes
Landing Gear Failure to Extend	No	Yes	No	No	Yes
Landing With The Standby Electrical Power System (HMG) Operating On Single Hydraulic System	No	Yes	No	No	Yes

Left Hydraulic System (L SYS) Failure - Loss of Pressure and Fluid	No	Yes	No	No	Yes
Manual Airstart - Starter Assist	No	Yes	No	No	Yes
Manual Airstart - Windmilling	No	Yes	No	No	Yes
Normal Airstart - Automatic	No	Yes	No	No	Yes
Nose Gear Retracted, Both Main Gear Down and Locked	No	Yes	No	No	Yes
One (1) Engine Inoperative Landing Procedure	No	Yes	No	No	Yes
One Main Gear and Nose Gear Down and Locked Opposite Main Gear Retracted	No	Yes	No	No	Yes
Flaps Operation With Loss of Normal Hydraulics	No	Yes	No	No	No
Display Unit (DU) Failure	No	No	No	Yes	No
Head-Up Display (HUD) Malfunctions	No	No	No	Yes	No
Primary Flight Display (PFD) Malfunction	Yes	No	No	Yes	No
Dual Generator Failure	Yes	Yes	No	Yes	Yes
Operation on Airplane Batteries Only	Yes	Yes	No	Yes	Yes
Operation on Emergency Power Only	Yes	Yes	No	Yes	Yes
Suspected Erroneous / Unreliable Airspeed Indications	Yes	Yes	No	Yes	Yes
Aft Equipment Hot	Yes	Yes	No	No	Yes
Aft Floor Hot	Yes	Yes	No	No	Yes
Emergency Descent Procedure	Yes	Yes	No	No	Yes
Engine Fire In Flight	Yes	Yes	No	No	Yes
Engine Hot	Yes	Yes	No	No	Yes
Immediate Return For Landing	Yes	Yes	No	No	Yes
Left Engine Failure and Right Hydraulic Failure	Yes	Yes	No	No	Yes
Pylon Hot	Yes	Yes	No	No	Yes
Stall Barrier Malfunction	Yes	Yes	No	No	Yes
Automatic Emergency Descent Mode (EDM)	Yes	No	No	No	Yes
Autopilot (AP) Failure	Yes	No	No	No	Yes
Autopilot Malfunction	Yes	No	No	No	Yes
Engine Vibration	Yes	No	No	No	Yes
Failure of Flap /Stabilizer Synchronization	No	Yes	Yes	No	No
Inadvertent Powered Disconnect Lever Activation (SN 5001 thru 5389 without ASC 099)	No	Yes	Yes	No	No
Wheel Brake Failure Due to Hydraulic System Failure	No	No	No	No	Yes
Yaw Damper Failure	No	No	No	No	Yes

Zero Flaps or Partial Flaps Landings	No	No	Yes	No	No

6.8 Operational/Simulated Systems Requirements

The training program must contain a flight check in the aircraft or a check in the simulator or training device to the level of proficiency of a pilot in command or second in command, as applicable, in at least the maneuvers and procedures that are capable of being performed in an aircraft simulator or training device.

Flight training and part-task training conducted under the curriculums in this chapter will be accomplished in one of the following FAA-approved devices:

- G-V Flight Simulation Training Device (FSTD)
- Other training device, mockup, system trainer, procedures trainer, simulator or training aid

Note: A current copy of the Statement of Qualification for each FAA-approved FSTD should be available from the 142 Training Center.

7.0 TYPES OF INSTRUMENT PROCEDURES, CONDITIONS, AND MINIMA TO BE ADDRESSED

Maneuvers and procedures trained should be tailored to the types of instrument procedures used by the operator, the environment in which they are flown, the airborne and ground equipment required for each type of operation, and any special considerations that may apply. Operating policies, procedures, and documentation applicable to the operator should be used. Training and evaluation should ensure that procedures can be safely flown considering the following factors:

1) Types of instrument procedures used (standard and special, lowest straight-in, or circling minima, if applicable);
2) The operator's manuals, charts, and checklists;
3) Aircraft type(s) model and/or series flown;
4) Flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;
5) NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);
6) Flightcrew procedures used (e.g., PF/PM duties or call-outs);
7) Airport and runway characteristics typically experienced;
8) Nearby critical terrain or obstruction environment;
9) Relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions as allowed by the flight training equipment used (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and
10) When multiple types of equipment, flight guidance, and/or systems are used (e.g., FD, SVGS, HUD, autoland, RA), training programs should address each combination of

equipment and category of minima. For example, if the operator is authorized to conduct SA CAT I approaches using HUD and CAT II approaches using autoland, training should address each authorized combination separately.

7.1 Guidance for RNAV and ILS Instrument Approaches

Note: No special crew qualifications, other than those necessary for Area Navigation (RNAV) and Instrument Landing System (ILS) Instrument approaches, are currently specified for WAAS operations. If RNAV approaches are already integrated into a current training program, operators are not required to have a separate program to incorporate localizer performance with vertical guidance (LPV) and LP specific training elements from AC 90-107.
In the absence of a training program, operators should use this guidance to develop their training curriculum and document the training as outlined in subparagraph 9b.

7.2 WAAS Training Documentation

Parts 135 operators' applications for operational approval to use WAAS without restrictions or limitations on Instrument Approach Procedures (IAPs) should include documentation of the Wide Area Augmentation System (WAAS)-related training provided to flight crews, dispatchers and maintenance personnel, as appropriate.

7.3 Continuous Descent Final Approach (CDFA) Pilot Knowledge and Training

Pilots should be familiar with the information in AC 120-108 prior to conducting the operations discussed herein. For parts 135 operators, the approved operating procedures and training program should address the elements listed in AC 120-108. A review of applicable portions of the Pilot Knowledge Requirements and Training section in AC 90-100 is also recommended.

7.4 CAT I Qualification

Training, testing, checking, and evaluation for CAT I are basic to qualification for instrument flight rules (IFR) operations and should be accomplished in conjunction with basic aircraft type, model and/or series qualification. Training, testing, and evaluation should ensure each pilot has the necessary knowledge and skill appropriate to the type of qualification being completed. If CAT I Landing Minima with Reduced Lighting (Runway Visual Range (RVR) 1800) authorization is sought, flight crews must demonstrate proficiency in approaches to authorized minima using the FD, AP, or HUD as applicable.

8.0 REQUIRED NAVIGATION PERFORMANCE (RNP) TRAINING

Parts 135 operators should have a training program addressing the operational practices, procedures and training items related to Required Navigation Performance (RNP) operations (e.g., initial, upgrade, or recurrent training for flight crew, operational control personnel, and maintenance personnel).
Note: A separate training program is not required if RNP training is integrated in the current training program. However, the applicant must identify the elements required training elements from AC 90-105 within the existing training program.

9.0 DATA LINK COMMUNICATIONS

Part 135 operators should have a training program addressing the operational practices, procedures, and training items related to data link communication operations (e.g., initial, upgrade, or recurrent training for pilots, operational control personnel, and maintenance personnel). If criteria for training or checking are other than as specified in AC 90-117, the criteria may be found in Flight Standardization Board (FSB) reports applicable to a particular aircraft type.

Note: A separate training program is not required if data link communication training is integrated in the current training program. However, the applicant must identify the training elements from AC 90-117 within the existing training program.

Parts 135 operators should ensure their process contains training for pilots on equipment requirements, normal and non-normal operations and procedures, and limits of their data link communication capability. Pilots must receive data communications training specific to the avionics suite they will be operating. A common type rating does not guarantee the pilot has received training on the data communications equipment installed on a particular aircraft.

Operators should include the following objectives to ensure appropriate pilot data link communications qualification: (1) Provide necessary pilot knowledge of data link performance-based communication and surveillance concepts, systems, procedures, and skills to properly respond to data link communication clearances and advisories; and (2) Identify human factor issues specific to pilot operation and interaction with the communication software, hardware, and operating environment (e.g., head-down time, situational awareness, or loss of pilot response time in the Required Communication Performance (RCP) specification).

10.0 TESTING AND CHECKING

The training program must contain a flight check in the aircraft or a check in the simulator or training device to the level of proficiency of a pilot in command or second in command, as applicable, in at least the maneuvers and procedures that are capable of being performed in an aircraft simulator or training device.

Testing and checking conducted under the training curriculums in this chapter will be accomplished in an FAA-approved FSTD.

10.1 Added Type Rating Practical Test 61.157

The objective of the added type rating practical test is to ensure the pilot is eligible to receive a G-V type rating on his or her ATP Certificate.

The pilot must successfully complete the added type rating practical test qualification segment and receive a G-V type rating.

The added type rating practical test may be administered by an FAA Inspector or a contract training provider Training Center Evaluator.

10.2 Pilot Testing 135.293

The objective of the pilot testing qualification segment is to test the pilot's knowledge of general operating subjects and aircraft-specific systems, procedures and limitations, as well as ensure the pilot possesses the skills necessary to perform the maneuvers and procedures for the operations authorized and appropriate to the category, class and type of aircraft involved.

10.2.1 Aircraft Knowledge Test Modules 135.293(a)(2) & (3)

The scope of the oral/written portion of the aircraft knowledge test is defined by regulation. The items that will be evaluated during the oral portion of the practical test/proficiency check are specified in the 14 CFR parts and the Airline Transport Pilot (ATP) and Aircraft Type Rating Practical Test Standards for Airplane (ATP PTS). The aircraft knowledge testing modules may be administered by a Standardized Curriculum Check Pilot or FAA Inspector.

Once every 12 calendar months, each pilot qualified in an aircraft type is required to pass a written or oral test on that pilot's knowledge in aircraft-specific areas.

10.2.2 Aircraft Competency Check Modules 135.293(b)

Every twelve months, a pilot qualified in an aircraft type is required to complete an aircraft competency check in that type of aircraft. The aircraft competency check may include any of the maneuvers and procedures currently required for the original issuance of the particular pilot certificate required for the operations authorized and appropriate to the category, class and type of aircraft involved. The aircraft competency check qualification modules may be administered by a Contract Provider Check Airman or FAA Inspector.

Note: The instrument proficiency check required by 135.297 may be substituted for the aircraft competency check for the type of aircraft used in the check in accordance with 135.293(c).

10.3 Instrument Proficiency Check 135.297

The objective of the instrument proficiency check qualification segment is to ensure the pilot possesses the knowledge and skills necessary to perform the duties and responsibilities of a PIC under IFR.

The pilot must have completed an instrument proficiency check within the preceding six months to continue IFR revenue operations. If the pilot is assigned to more than one type of aircraft, that pilot must take the instrument proficiency check in each type of aircraft to which that pilot is assigned, in rotation, but not more than one flight check is required during each six-month period.

The instrument proficiency check qualification modules may be administered by a Standardized Curriculum Check Pilot or FAA Inspector.

10.4 Seat Dependent Checking

To ensure pilots are qualified for the flightcrew assignment and duty position each pilot will be assigned in the aircraft, pilots should demonstrate proficiency during qualification checking modules as follows:

1. A PIC who is only assigned PF from the left seat will undergo qualification checks from the left seat.
2. A SIC who is only assigned to the right seat will undergo qualification checks from the right seat.
3. A PIC who is assigned to left and right seat duty positions will demonstrate all PF duties from the left seat during qualification and train rejected takeoff, V1 cut, single engine approach to miss, and single engine landing from the right seat.
4. A SIC who is assigned to the left and right seat will demonstrate PF duties during qualification events from the left seat and demonstrate proficiency in all maneuvers required of a PIC.

Note: A SIC qualified to operate in both seats may document training in both (e.g. Nosewheel Steering Tiller – left seat) but is only required to demonstrate proficiency in the left seat.

10.5 PIC Qualification Checking Modules

The qualification segments in this curriculum include the testing and checking modules used to determine successful completion of the applicable curriculum. The pilot must complete the training set forth in the curriculum within the required eligibility period in order to be eligible for a qualification segment.

Tasks	**135.297(c)/135.293(a)(2), (b)** **PIC Qualification**
Checking Module: Preflight Inspection	Per ATP and Type Rating ACS
Checking Module: Start Procedures	Per ATP and Type Rating ACS
Checking Module: Taxiing/Runway Operations	Per ATP and Type Rating ACS
Checking Module: Pretakeoff Checks	Per ATP and Type Rating ACS
Checking Module: Normal Takeoff	Per ATP and Type Rating ACS
Checking Module: Crosswind Takeoff	Per ATP and Type Rating ACS
Checking Module: Instrument Takeoff	Per ATP and Type Rating ACS
Checking Module: Takeoff with Powerplant Failure	Per ATP and Type Rating ACS
Checking Module: Rejected Takeoff	Per ATP and Type Rating ACS
Checking Module: Area Departure	Per ATP and Type Rating ACS
Checking Module: Steep Turns	Per ATP and Type Rating ACS
Checking Module: Stall Prevention (Approaches to Stalls)	Per ATP and Type Rating ACS

Checking Module: Powerplant Failure	Per ATP and Type Rating ACS
Checking Module: Area Arrival	Per ATP and Type Rating ACS
Checking Module: Holding	Per ATP and Type Rating ACS
Checking Module: Normal ILS Approach	Per ATP and Type Rating ACS
Checking Module: Engine-out ILS	Per ATP and Type Rating ACS
Checking Module: Coupled Approach	Per ATP and Type Rating ACS
Checking Module: Nonprecision Approach	Per ATP and Type Rating ACS
Checking Module: Second Nonprecision Approach	Per ATP and Type Rating ACS
Checking Module: Missed Approach from an ILS	Per ATP and Type Rating ACS
Checking Module: Second Missed Approach	Per ATP and Type Rating ACS
Checking Module: Circling Approach	Per ATP and Type Rating ACS
Checking Module: EFVS Approach	Per ATP and Type Rating ACS
Checking Module: Normal Landing	Per ATP and Type Rating ACS
Checking Module: Crosswind Landing	Per ATP and Type Rating ACS
Checking Module: Landing from an ILS	Per ATP and Type Rating ACS
Checking Module: Landing with an Engine Out	Per ATP and Type Rating ACS
Checking Module: Circling Approach to Landing	Per ATP and Type Rating ACS
Checking Module: Rejected Landing	Per ATP and Type Rating ACS
Checking Module: No-flap Approach to Landing	Per ATP and Type Rating ACS
Checking Module: EFVS Landing	Per ATP and Type Rating ACS
Checking Module: System Malfunction	Per ATP and Type Rating ACS
Checking Module: Maneuver by Partial Panel	Per ATP and Type Rating ACS
Checking Module: Unusual Attitude Recovery	Per ATP and Type Rating ACS

10.6 SIC Qualification Checking Modules

The qualification segments in this curriculum include the testing and checking modules used to determine successful completion of the applicable curriculum. The pilot must complete the training set forth in the curriculum within the required eligibility period in order to be eligible for a qualification segment.

Tasks	SIC Qualification 135.293(a)(2) and (b)	SIC Qualifications Checking Modules added by TSWG Recommendation:
Checking Module: Preflight Inspection	Per ATP and Type Rating ACS	
Checking Module: Start Procedures	Per ATP and Type Rating ACS	
Checking Module: Taxiing/Runway Operations	Per ATP and Type Rating ACS	
Checking Module: Pretakeoff Checks	Per ATP and Type Rating ACS	
Checking Module: Normal Takeoff	Per ATP and Type Rating ACS	
Checking Module: Crosswind Takeoff	Per ATP and Type Rating ACS	
Checking Module: Instrument Takeoff	Per ATP and Type Rating ACS	X
Checking Module: Takeoff with Powerplant Failure	Per ATP and Type Rating ACS	
Checking Module: Rejected Takeoff	Per ATP and Type Rating ACS	X
Checking Module: Area Departure	Per ATP and Type Rating ACS	X
Checking Module: Steep Turns	NA	

Checking Module: Stall Prevention (Approaches to Stalls)	Per ATP and Type Rating ACS	X
Checking Module: Powerplant Failure	Per ATP and Type Rating ACS	X
Checking Module: Area Arrival	Per ATP and Type Rating ACS	X
Checking Module: Holding	Per ATP and Type Rating ACS	X
Checking Module: Normal ILS Approach	Per ATP and Type Rating ACS	
Checking Module: Engine-out ILS	Per ATP and Type Rating ACS	X
Checking Module: Coupled Approach	Per ATP and Type Rating ACS	X
Checking Module: Nonprecision Approach	Per ATP and Type Rating ACS	
Checking Module: Second Nonprecision Approach	NA	
Checking Module: Missed Approach from an ILS	Per ATP and Type Rating ACS	X
Checking Module: Second Missed Approach	NA	
Checking Module: Circling Approach	Per ATP and Type Rating ACS	X
Checking Module: EFVS Approach	Per ATP and Type Rating ACS	
Checking Module: Normal Landing	Per ATP and Type Rating ACS	
Checking Module: Crosswind Landing	Per ATP and Type Rating ACS	
Checking Module: Landing from an ILS	Per ATP and Type Rating ACS	X

Checking Module: Landing with an Engine Out	Per ATP and Type Rating ACS	
Checking Module: Circling Approach to Landing	Per ATP and Type Rating ACS	X
Checking Module: Rejected Landing	Per ATP and Type Rating ACS	X
Checking Module: No-flap Approach to Landing	NA	
Checking Module: EFVS Landing	Per ATP and Type Rating ACS	
Checking Module: System Malfunction	Per ATP and Type Rating ACS	
Checking Module: Maneuver by Partial Panel	Per ATP and Type Rating ACS	
Checking Module: Unusual Attitude Recovery	Per ATP and Type Rating ACS	

11.0 TRAINING SEGMENTS

The objective of this curriculum is to provide adequate training to enable a pilot to understand the specific airplane systems and performance parameters.

11.1 Ground Training Segment

The primary objective of aircraft ground training is to provide pilots with the necessary knowledge for understanding the basic functions of aircraft systems, the use of the individual system components and the integration of aircraft systems and operational procedures.

Instruction on each aircraft system must be given in sufficient detail to ensure the pilot clearly understands system components, limitations, relevant controls, actuators, annunciators, and procedures for various system configurations. The pilot will also become familiar with the normal, abnormal and emergency operations of each aircraft system.

11.2 Systems Integration

Systems integration training provides the pilot with training on how aircraft systems interrelate with respect to normal, abnormal, and emergency procedures. System integration training includes flightcrew interaction in the use of checklists, CRM, and other operational procedures.

Effective systems integration training serves as a logical bridge between conventional ground training instructional delivery methods and flight training. This training allows students to

become familiar with the flight deck layout, checklists, operator procedures, and other areas that are best learned before they conduct actual flight maneuvers and procedures.
Pilots will perform the tasks listed in the SIT modules under the observation of an instructor or check pilot. Each pilot must demonstrate the associated learning objectives to the listed task expectation rating.

Task Expectation Rating	Description
Low	Trainee may require a significant level of instructor intervention (e.g., demonstrations, explanations, repetitions). Applicable to the first introduction of a task, maneuver or procedure, or where a task is a "train only" item.
Medium	The trainee may require a moderate level of instructor intervention or input. Some limited assistance is required. (e.g. coaching, instructing, prompting) to correct errors or improve task performance.
High	Minor instructional inputs, coaching or prompting is sometimes required to enhance task performance. Applicable where the trainee should be able to demonstrate the expected level of task maneuver or procedure proficiency with minimal or no instructor input.
Per ATP and Type Rating ACS	The ATP and Type Rating ACS will be used for evaluation purposes for checking and testing during any qualification segment.

Note: Applied CRM is monitored/practiced in each System Integration Lesson/Flight Simulator/Aircraft Module. Areas of applied CRM include checklist utilization, briefings, decision making, stress management, communications, use of automation, and situational awareness.

11.3 Flight Training Segment

The primary objective of flight training is to provide an opportunity for pilots to acquire the skills and knowledge necessary to perform to the ATP and Type Rating ACS. This provides for demonstration, instruction and practice of maneuvers and procedures (training events) pertinent to the pilot duty position in the G-V.

The training flight will emphasize cold and hot weather operations in accordance with the AFM and AOM.

General briefing notes should include: Standards, expectations, SOPs, Crew interactions, overview of events, location of start point, applicable systems, weather, and common errors.

Pilots will perform the tasks listed in in the flight training modules under the observation of an instructor or check pilot. Each pilot must demonstrate the associated learning objectives to the listed task expectation rating.

Task Expectation Rating	Description

Low	Trainee may require a significant level of instructor intervention (e.g. demonstrations, explanations, repetitions). Applicable to the first introduction of a task, maneuver or procedure, or where a task is a "train only" item.
Medium	The trainee may require a moderate level of instructor intervention or input. Some limited assistance is required. (e.g., coaching, instructing, prompting) to correct errors or improve task performance.
High	Minor instructional inputs, coaching or prompting is sometimes required to enhance task performance. Applicable where the trainee should be able to demonstrate the expected level of task maneuver or procedure proficiency with minimal or no instructor input.
Per ATP and Type Rating ACS	The ATP and Type Rating ACS will be used for evaluation purposes for checking and testing during any qualification segment.

General debriefing notes should include: Facilitated, ask the crew how they did, preview of the next day, how it was graded.

Note: For those curriculums that lead to the issuance of a type rating or an ATP, at least one enroute segment must be flown prior to the proficiency check. This segment must include a takeoff and departure from one airport with an arrival and a landing at a second airport. This segment must be flown in real time without repositioning. Normal and abnormal procedures may be accomplished during the enroute segment. This module may be used to accomplish the enroute segment.

Note: Applied CRM is monitored/practiced in each System Integration Lesson/Flight Simulator/Aircraft Module. Areas of applied CRM include checklist utilization, briefings, decision making, stress management, communications, use of automation, and situational awareness.

11.4 Seat Dependent Training

Pilots must receive training in seat dependent tasks in accordance with the FSB requirements as follows:

a) HUD/HGS (left and/or right seat) when installed; initial, differences, upgrade, transition, and recurrent training. See Appendix 4.
b) Passenger oxygen system activation (right seat); initial training.
c) Manual landing gear extension (right seat); initial and recurrent training.
d) Nosewheel steering (left seat); initial, transition, upgrade, and recurrent training.
e) EFVS (left and/or right seat) when installed.

Note: A SIC qualified to operate in both seats will document training in both (e.g., Nosewheel Steering Tiller – left seat) but is only required to demonstrate proficiency in the left seat.

Note: A PIC who is assigned to left and right seat duty positions will demonstrate all PF duties from the left seat during qualification and train rejected takeoff, V1 cut, single engine approach to miss, and single engine landing from the right seat.

11.5 Training Course Outlines

The curricula outlines include the planned training hours that will be applied to each curriculum segment. Planned hours for flight training modules do not include preflight/post-flight briefings.

11.5.1 Course 1 Outline			
Ground School Day 1	**Planned Hours**	**Ground**	**Systems Integration**
Aircraft General	1.0	7.0	0.0
Aircraft Manuals	1.0		
Auxiliary Power Unit	1.0		
Electrical System	4.0		
Ground School Day 2	**Planned Hours**	**Ground**	**Systems Integration**
Avionics and Communications	8.0	8.0	0.0
Ground School Day 3	**Planned Hours**	**Ground**	**Systems Integration**
Avionics and Communications	8.0	8.0	0.0
Ground School Day 4	**Planned Hours**	**Ground**	**Systems Integration**
Avionics and Communications	3.0	8.0	0.0
Powerplant	2.5		
Oil System	0.5		
Thrust Reverse	0.5		
Fire and Smoke Detection, Protection and Suppression	1.5		
Ground School Day 5	**Planned Hours**	**Ground**	**Systems Integration**
Hydraulic System	2.0	7.5	0.0
Flight Controls	2.0		
Landing Gear and Brakes	2.0		
Ice Protection	1.5		
Ground School Day 6	**Planned Hours**	**Ground**	**Systems Integration**
Flight Planning and Performance	8.0	8.0	0.0
Ground School Day 7	**Planned Hours**	**Ground**	**Systems Integration**

Flight Profiles and Maneuvers	2.0	8.00	0.0	
CRM	4.0			
Weight and Balance	2.0			
Ground School Day 8	**Planned Hours**	**Ground**	**Systems Integration**	
Windshear	0.5	8.0	0.0	
MEL and CDL	0.5			
Pitot-static System	0.5			
Pneumatic and Environmental Systems	3.0			
Oxygen	0.5			
Lighting	0.5			
Preflight	1.5			
Ground School Completion Exam	1.0			
Day 9	**Planned Hours**	**Ground**	**Systems Integration**	
SIT 1*	2.0	0.0	2.0	
Day 10	**Planned Hours**	**Ground**	**Systems Integration**	
SIT 2*	4.0	0.0	4.0	
Day 11	**Planned Hours**	**Ground**	**Systems Integration**	
SIT 3*	4.0	0.0	4.0	
Simulator Session 1		**Brief**	**Crew**	**Single**
Preflight Inspection (Cockpit)		3.0	4.0	4.0 (2.0 hours of PF and 2.0 Hours of PM flight training)
Powerplant Start - Normal				
Use of Checklists				
Taxiing/Runway Operations				
Before Takeoff Checks				
Normal Takeoff and Climb				
Departure Procedure				
Steep Turns				
Stall Prevention, Partial Flap Configuration				
Stall Prevention, Clean Configuration - Low Altitude				
Stall Prevention, Landing Configuration				
Stick Pusher Demonstration				
Recovery from Nose Low Attitudes				
Recovery from Nose High Attitudes				
Arrival Procedures				

Precision Approach				
Precision Approach - Backup Instrumentation				
Missed Approach from a Precision Approach				
Normal Approach and Landing				
Landing from a Precision Approach				
Go-around/Rejected Landing				
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS				
Normal/Abnormal/Emergency Procedures/Operations: Stall Warning/Avoidance Devices				
After Landing Procedures				
Parking and Securing				
Simulator Session 2		**Brief**	**Crew**	**Single**
Powerplant Start - Normal		3.0	4.0	2.0
Powerplant Start - Abnormal				
Use of Checklists				
Taxiing/Runway Operations				
Before Takeoff Checks				
Crosswind Takeoff				
Departure Procedure				
TCAS (Collision Avoidance Maneuver)				
Powerplant Failure (Including Shutdown/Restart)				
Procedures and Maneuvering with an Engine Out while executing the duties of a Pilot-in-Command (SIC Only)				
Holding				
Nonprecision Approach				
Nonprecision Approach - Manually Flown with Course Reversal				
Visual Approach				
Published Missed Approach				
Crosswind Landing				
Normal/Abnormal/Emergency Procedures/Operations: Powerplant				
Normal/Abnormal/Emergency Procedures/Operations: Auxiliary Power Unit (APU)				
Normal/Abnormal/Emergency Procedures/Operations: Fuel System				
Normal/Abnormal/Emergency Procedures/Operations: Electrical System				

Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Simulator Session 3	**Brief**	**Crew**	**Single**
Taxiing/Runway Operations	3.0	4.0	2.0
Before Takeoff Checks			
Crosswind Takeoff			
Instrument Takeoff			
Rejected Takeoff			
Powerplant Failure During Takeoff			
Departure Procedure			
Powerplant Failure (Including Shutdown/Restart)			
Arrival Procedures			
Holding			
Precision Approach			
Precision Approach, One Engine Inoperative - Manually Flown			
Nonprecision Approach - Backup Instrumentation			
Nonprecision Approach - Manually Flown with Course Reversal			
Missed Approach with One Engine Inoperative			
Visual Approach			
Normal Approach and Landing			
Crosswind Landing			
Landing from a Precision Approach			
Approach and Landing with a Powerplant Failure			
Normal/Abnormal/Emergency Procedures/Operations: Powerplant			
Normal/Abnormal/Emergency Procedures/Operations: Anti-ice and Deice Systems			
Normal/Abnormal/Emergency Procedures/Operations: Airframe Icing			
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS			
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Normal/Abnormal/Emergency Procedures/Operations: Pitot-Static System			
Normal/Abnormal/Emergency Procedures/Operations: In-flight Fire Drills			
Normal/Abnormal/Emergency Procedures/Operations: Smoke Control/Removal			
Normal/Abnormal/Emergency Procedures/Operations: Emergency Evacuation			

Simulator Session 4		**Brief**	**Crew**	**Single**
Taxiing/Runway Operations		3.0	4.0	2.0
Before Takeoff Checks				
Crosswind Takeoff				
Windshear on Takeoff				
Departure Procedure				
Steep Turns				
Recovery from Nose Low Attitudes				
Recovery from Nose High Attitudes				
Stall Prevention, Clean Configuration - High Altitude				
Stall Recovery with Idle Thrust				
TCAS (Collision Avoidance Maneuver)				
Visual Approach				
Nonprecision Approach				
Circling Approach				
Missed Approach				
Landing From a Circling Approach				
Crosswind Landing				
Go-around/Rejected Landing				
Landing from a No Flap or Nonstandard Flap Approach				
Windshear on Landing				
Normal/Abnormal/Emergency Procedures/Operations: Flap System				
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director				
Normal/Abnormal/Emergency Procedures/Operations: Hydraulic System				
Normal/Abnormal/Emergency Procedures/Operations: Flight Control System				
Normal/Abnormal/Emergency Procedures/Operations: Landing Gear and Brakes				
Normal/Abnormal/Emergency Procedures/Operations: Ground Proximity Warning System, WX Radar, Radio Altimeter, Transponder				
Normal/Abnormal/Emergency Procedures/Operations: Environmental/Air Conditioning System				
Normal/Abnormal/Emergency Procedures/Operations: Pressurization System				
Normal/Abnormal/Emergency Procedures/Operations: Decompression				

Normal/Abnormal/Emergency Procedures/Operations: Emergency Descent (Maximum Rate)				
After Landing Procedures				
Parking and Securing				
Simulator Session 5		**Brief**	**Crew**	**Single**
Preflight Inspection (Cockpit)		3.0	4.0	2.0
Powerplant Start - Normal				
Powerplant Start - Abnormal				
Taxiing/Runway Operations				
Before Takeoff Checks				
Instrument Takeoff				
Powerplant Failure During Takeoff				
Rejected Takeoff				
Departure Procedure				
Powerplant Failure (Including Shutdown/Restart)				
Stall Prevention, Clean Configuration - Low Altitude				
Stall Prevention, Partial Flap Configuration				
Stall Prevention, Landing Configuration				
Precision Approach				
Precision Approach, One Engine Inoperative - Manually Flown				
Missed Approach from a Precision Approach				
Missed Approach with One Engine Inoperative				
Missed Approach				
Visual Approach				
Crosswind Landing				
Landing from a Precision Approach				
Approach and Landing with a Powerplant Failure				
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director				
Normal/Abnormal/Emergency Procedures/Operations: Powerplant				
Normal/Abnormal/Emergency Procedures/Operations: In-flight Fire Drills				
Normal/Abnormal/Emergency Procedures/Operations: Flight Control System				
Normal/Abnormal/Emergency Procedures/Operations: Smoke Control/Removal				
Normal/Abnormal/Emergency Procedures/Operations: Emergency Evacuation				
Normal/Abnormal/Emergency Procedures/Operations: Pitot-Static System				

Simulator Session 6		**Brief**	**Crew**	**Single**
Preflight Inspection		3.0	4.0	2.0
Start Procedures				
Taxiing/Runway Operations				
Pretakeoff Checks				
Normal Takeoff				
Crosswind Takeoff				
Instrument Takeoff				
Takeoff with Powerplant Failure				
Rejected Takeoff				
Area Departure				
Steep Turns *(PIC only)*				
Stall Prevention (Approaches to Stalls)				
Powerplant Failure				
Area Arrival				
Holding				
Normal ILS Approach				
Engine-out ILS				
Coupled Approach				
Nonprecision Approach				
Second Nonprecision Approach *(PIC only)*				
Missed Approach from an ILS				
Second Missed Approach *(PIC only)*				
Circling Approach				
EFVS Approach				
Normal Landing				
Crosswind Landing				
Landing from an ILS				
Landing with an Engine Out				
Circling Approach to Landing				
Rejected Landing				
No-flap Approach to Landing *(PIC only)*				
EFVS Landing				
System Malfunction				
Maneuver by Partial Panel				
Unusual Attitude Recovery				
Simulator Session 7 (Optional LOFT)		**Brief**	**Crew**	**Single**
LOS scenario(s) shall be constructed in accordance with AC 120-35D (Flightcrew Member Line-Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation).		2.0	4.0	4.0

11.5.2 Course 2 Outline				
Ground School Day 1	**Planned Hours**	**Ground**	**Systems Integration**	
Aircraft Manuals	0.25	8.0	0.0	
MEL and CDL	0.25			
CRM	1.00			
Aircraft General	0.75			
Weight and Balance	1.00			
Flight Planning and Performance	1.00			
Flight Profiles and Maneuvers	0.50			
Avionics and Communications	1.50			
Windshear	0.25			
Lighting	0.25			
Auxiliary Power Unit	0.25			
Electrical System	1.00			
Ground School Day 2	**Planned Hours**	**Ground**	**Systems Integration**	
Avionics and Communications	0.50	8.0	0.0	
Powerplant	1.00			
Oil System	0.25			
Thrust Reverse	0.50			
Fuel System	0.50			
Hydraulic System	0.50			
Landing Gear and Brakes	0.50			
Fire and Smoke Detection, Protection and Suppression	0.50			
Flight Controls	0.75			
Pneumatic and Environmental Systems	1.50			
Pitot-static System	0.25			
Ice Protection	0.50			
Oxygen	0.25			
Ground School Completion Exam	0.50			
Simulator Session 1		**Brief**	**Crew**	**Single**
Preflight Inspection (Cockpit)		2.0	4.0	4.0
Powerplant Start - Normal				
Use of Checklists				
Taxiing/Runway Operations				
Before Takeoff Checks				
Normal Takeoff and Climb				
Windshear on Takeoff				

Departure Procedure			
Steep Turns			
Stall Prevention, Clean Configuration - Low Altitude			
Stall Prevention, Partial Flap Configuration			
Stall Prevention, Landing Configuration			
Stick Pusher Demonstration			
Recovery from Nose Low Attitudes			
Recovery from Nose High Attitudes			
Arrival Procedures			
Precision Approach			
Precision Approach - Backup Instrumentation			
Missed Approach from a Precision Approach			
Normal Approach and Landing			
Landing from a Precision Approach			
Windshear on Landing			
Go-around/Rejected Landing			
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS			
Normal/Abnormal/Emergency Procedures/Operations: Ground Proximity Warning System, WX Radar, Radio Altimeter, Transponder			
Normal/Abnormal/Emergency Procedures/Operations: Stall Warning/Avoidance Devices			
After Landing Procedures			
Parking and Securing			
Simulator Session 2	**Brief**	**Crew**	**Single**
Powerplant Start - Normal	2.0	4.0	4.0
Powerplant Start - Abnormal			
Use of Checklists			
Taxiing/Runway Operations			
Before Takeoff Checks			
Crosswind Takeoff			
Departure Procedure			
TCAS (Collision Avoidance Maneuver)			
Powerplant Failure (Including Shutdown/Restart)			
Procedures and Maneuvering with an Engine Out while executing the duties of a Pilot-in-Command (SIC Only)			
Holding			
Nonprecision Approach			
Nonprecision Approach - Manually Flown with Course Reversal			

Circling Approach			
Visual Approach			
Published Missed Approach			
Crosswind Landing			
Landing From a Circling Approach			
Landing from a No Flap or Nonstandard Flap Approach			
Normal/Abnormal/Emergency Procedures/Operations: Powerplant			
Normal/Abnormal/Emergency Procedures/Operations: Auxiliary Power Unit (APU)			
Normal/Abnormal/Emergency Procedures/Operations: Electrical System			
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Normal/Abnormal/Emergency Procedures/Operations: Flap System			
Normal/Abnormal/Emergency Procedures/Operations: Flight Control System			
Normal/Abnormal/Emergency Procedures/Operations: Smoke Control/Removal			
Normal/Abnormal/Emergency Procedures/Operations: Hydraulic System			
Normal/Abnormal/Emergency Procedures/Operations: Landing Gear and Brakes			
Normal/Abnormal/Emergency Procedures/Operations: Fuel System			
Simulator Session 3	**Brief**	**Crew**	**Single**
Taxiing/Runway Operations	2.0	4.0	4.0
Before Takeoff Checks			
Instrument Takeoff			
Rejected Takeoff			
Powerplant Failure During Takeoff			
Departure Procedure			
Stall Prevention, Clean Configuration - High Altitude			
Stall Recovery with Idle Thrust			
Powerplant Failure (Including Shutdown/Restart)			
Arrival Procedures			
Precision Approach			
Precision Approach, One Engine Inoperative - Manually Flown			
Nonprecision Approach - Backup Instrumentation			
Nonprecision Approach - Manually Flown with Course Reversal			

Missed Approach with One Engine Inoperative			
Crosswind Landing			
Landing from a Precision Approach			
Approach and Landing with a Powerplant Failure			
Normal/Abnormal/Emergency Procedures/Operations: Powerplant			
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS			
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Normal/Abnormal/Emergency Procedures/Operations: In-flight Fire Drills			
Normal/Abnormal/Emergency Procedures/Operations: Pitot-Static System			
Normal/Abnormal/Emergency Procedures/Operations: Environmental/Air Conditioning System			
Normal/Abnormal/Emergency Procedures/Operations: Pressurization System			
Normal/Abnormal/Emergency Procedures/Operations: Decompression			
Normal/Abnormal/Emergency Procedures/Operations: Emergency Descent (Maximum Rate)			
Normal/Abnormal/Emergency Procedures/Operations: Emergency Evacuation			
Normal/Abnormal/Emergency Procedures/Operations: Anti-ice and Deice Systems			
Normal/Abnormal/Emergency Procedures/Operations: Airframe Icing			

11.5.3 Course 3 Outline			
Day 1 (As Required by 135.351(b)(2))	**Planned Hours**	**Ground**	**Systems Integration**
Quiz	Per § 135.351(b)(2) as noted in the Standardized Curriculum Document	8.0	0.0
Aircraft General			
Aircraft Manuals			
Auxiliary Power Unit			
Avionics and Communications			
CRM			
Electrical System			

Fire and Smoke Detection, Protection and Suppression				
Flight Controls				
Flight Planning and Performance				
Flight Profiles and Maneuvers				
Fuel System				
Hydraulic System				
Ice Protection				
Landing Gear and Brakes				
Lighting				
MEL and CDL				
Oil System				
Oxygen				
Pitot-static System				
Pneumatic and Environmental Systems				
Powerplant				
Preflight				
Thrust Reverse				
Weight and Balance				
Windshear				
Ground School Completion Exam				
Simulator Session 1 (Initial Observation)		**Brief**	**Crew**	**Single**
Checking: Preflight Inspection		2.0	4.0	2.0
Checking: Start Procedures				
Checking: Taxiing/Runway Operations				
Checking: Pretakeoff Checks				
Checking: Normal Takeoff				
Checking: Area Departure				
Checking: Steep Turns				
Checking: Stall Prevention (Approaches to Stalls)				
Checking: Area Arrival				
Checking: Holding				
Checking: Normal ILS Approach				
Checking: Coupled Approach				
Checking: Nonprecision Approach				
Checking: Missed Approach from an ILS				
Checking: EFVS Approach				
Checking: Normal Landing				
Checking: Maneuver by Partial Panel				
Checking: Unusual Attitude Recovery				
Simulator Session 2 (second checking event)		**Brief**	**Crew**	**Single**
Checking: Crosswind Takeoff		2.0	4.0	2.0

Checking: Instrument Takeoff			
Checking: Takeoff with Powerplant Failure			
Checking: Rejected Takeoff			
Checking: Powerplant Failure			
Checking: Engine-out ILS			
Checking: Second Nonprecision Approach			
Checking: Second Missed Approach			
Checking: Circling Approach			
Checking: Crosswind Landing			
Checking: Landing from an ILS			
Checking: Landing with an Engine Out			
Checking: Circling Approach to Landing			
Checking: Rejected Landing			
Checking: No-flap Approach to Landing			
Checking: EFVS Landing			
Checking: System Malfunction			
Simulator Session 3 (Scenario 1 or Train-to-Proficiency)	**Brief**	**Crew**	**Single**
Scenario 1 to be developed by the training provider IAW TSWG annual guidance OR remaining checking events to be trained to proficiency.	2.0	4.0	2.0
Simulator Session 4 (Scenario 1 or 2)	**Brief**	**Crew**	**Single**
Scenario 2 to be developed by the training provider IAW TSWG annual guidance.	2.0	4.0	2.0

11.5.4 Differences Training Curricula

Differences GIV-X to GV-SP					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	1.5	0.5	0.5	0.5
Differences: Avionics and Communications					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Landing Gear and Brakes					

Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Thrust Reverse					
Differences: Flight Profiles and Maneuvers					
Differences GV-SP to GIV-X					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	2.0	1.0	0.0	0.0
Differences: Avionics and Communications					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Landing Gear and Brakes					
Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Thrust Reverse					
Differences GIV-X to GV					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	2.0	1.0	2.0	1.0
Differences: Pneumatic and Environmental Systems					
Differences: Avionics and Communications					
Differences: Electrical System					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Landing Gear and Brakes					
Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Thrust Reverse					

Differences GV to GIV-X					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	3.0	1.5	3.0	1.5
Differences: Pneumatic and Environmental Systems					
Differences: Avionics and Communications					
Differences: Electrical System					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences GV to GV-SP					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	3.0	1.5	3.0	1.5
Differences: Pneumatic and Environmental Systems					
Differences: Avionics and Communications					
Differences: Electrical System					
Differences: Flight Controls					
Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Flight Profiles and Maneuvers					
Differences GV-SP to GV					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems	2.0	1.0	2.0	1.0
Differences: Avionics and Communications					

Differences: Electrical System	will be covered.				
Differences: Flight Controls					
Differences: Auxiliary Power Unit					
Differences: Powerplant					

11.5.6 Specialty Curricula

The outline for the Controller Pilot Data Link Communications specialty curriculum segment is below. Additional specialty curricula will be addressed in subsequent recommendations.

CPDLC Initial			
Day 1	**Planned Hours**	**Ground**	**Systems Integration**
Use of CPDLC	4.0	2.0	2.0

Appendix B – Standard Operating Procedures

GUFLSTREAM G-V

STANDARDIZED OPERATING PROCEDURES, MANEUVERS, AND CALLOUTS

Table of Contents

1.0 Introduction

Standard Operating Procedures (SOPs) are essential to the safety of flight because they provide a common methodology of flying the aircraft. Compliance with SOPs means following the appropriate procedure at the appropriate time. In other words, doing it the right way, every time. SOPs are an important barrier to potential crewmember errors caused by fatigue, distraction, stress, or inattention. Therefore, SOPs create a more reliable crew as these errors are more likely to be captured if nonstandard procedures are introduced into a given flight scenario. In addition, strict adherence to SOPs allows a crew to more effectively manage the flight when unforeseen issues arise such as mechanical irregularities or unexpected weather.

The crew concept is an important element of SOPs. The spirit of Crew Resource Management (CRM) is utilizing all available resources (including cabin staff) to maintain flight safety, by recognizing threats, and preventing threats from becoming errors.

There are external and internal resources available. For example, Air Traffic Control (ATC) is an external resource. ATC can provide important information about weather, traffic, and airport flow management. In addition, a Flight Service Station (FSS) can help with clearances and provide other essential information when contact with ATC is not possible (such as during ground operations).

The crew is the primary internal source of CRM. Communication is the essential element of CRM on the flight deck. Therefore, a crewmember must be able to demonstrate effective oral, non-verbal, and written communications in normal and non-normal situations. Briefings are an example of a strategy used in CRM because they create a shared mental model of how a flight will be managed. In addition to departure and arrival briefings, there are items that can be briefed as needed, in real time during the flight. For example, if a crossing restriction is issued, the pilot flying (PF) should brief the pilot monitoring (PM) how they intend to meet the restriction. Briefings give the PM an opportunity to remind the PF of the plan in case of distractions.

Even though the pilot in command (PIC) is responsible for the conduct of the flight, the second in command (SIC) must offer input to address any questions or concerns regarding the condition and safety of that flight. It’s important to remember that each crewmember can communicate identifiable conditions which may interfere with the safe outcome of a flight. Just as the PIC should seek information from an external resource such as ATC, input from the SIC should also be sought. Again, communication and agreement between PIC and SIC are imperative.

Implementation of any procedure as an SOP is most effective when:

- The procedure is appropriate to the situation
- The procedure is practical to use
- Crewmembers understand the reasons for the procedure
- Crewmember duties are clearly delineated
- Effective training is conducted
- Adherence to the standard is emphasized by flight crews, and reinforced by instructors, check pilots, and managers alike

- Crewmembers are aware of the potential risks/hazards if SOPs are not followed

2.0 checklists

Checklists are tools that support a flight crew's effectiveness in ensuring that all required actions are performed without omission and in an orderly manner. Effective checklists are pertinent and concise. Use them the way they are written—verbatim, smartly, and professionally. Checklists for abnormal/emergency procedures are typically presented in a Quick Reference Handbook (QRH).

Several naming conventions for checklists exist. Regardless of the convention, the execution of checklists falls into two general categories:

- Those that allow for items to be accomplished using a flow, and then verified using the appropriate checklist; and
- Those where each item is actioned in response to a challenge.

If using Flow Patterns, accomplish the cockpit setup for each phase of flight with the desired flow pattern then refer to the checklist to verify the setup. Use normal checklists as "done lists" rather than "do lists." Flow patterns are disciplined procedures; they require pilots who understand the aircraft systems/controls and who methodically accomplish the flow pattern. For those flight departments who do not use flow patterns, the normal "Challenge -Do-Verify" method may be used.

The **Do-Verify (DV), also known as Challenge and Response**, method consists of the checklist being accomplished in a variable sequence without a preliminary challenge, typically following a flow pattern. These checklists usually relate to the normal operation of the aircraft. Specific critical items are checked /cross-checked, whereby the PM reads the items to be checked and the PF confirms (visually) the proper status/configuration of the appropriate items. The DV method allows the flight crew to use flow patterns from memory to accomplish a series of actions quickly and efficiently. Each individual crewmember can work independently, which helps balance the workload between crewmembers.

The **Challenge-Do-Verify (CDV), also known as Read-and-Do**, method consists of a crewmember making a challenge before an action is initiated, taking the action, and then verifying that the action item has been accomplished. This method is most effective when one crewmember issues the challenge and the second crewmember takes the action and responds to the first crewmember, verifying that the action was taken. This requires that the checklist be accomplished methodically, one item at a time, in an unvarying sequence. These types of checklists usually relate to non-normal (abnormal and emergency) procedures for which a cockpit flow pattern performed from memory is not suitable.

Mechanical or **electronic checklists** differ in format from paper, hand-held checklists, but not in the design method or use. The actions these checklists contain and their sequencing are consistent with the paper version (when required) available to the flight crew. Some electronic checklists will have an ability to automatically detect the completion of an action based on switch position, system state, or both. In electronic checklists, the verification required may be a matter of observing that the items are complete via the display method used (for example, a completed item turns green).

2.1Normal Procedures

The normal procedures checklist should be thought of as routine in day-to-day flying. It should be accomplished using the following procedures. The application of a normal procedure checklist should be initiated (called for or requested) by the pilot flying (PF) and then read by the pilot monitoring (PM).

2.1.1 Checklist Initiation

It is the PF's responsibility to call for the checklist at the appropriate time to ensure the aircraft is in correct configuration for that portion of flight. The PM will be responsible for verifying checklists items as appropriate.

If a Flow Pattern is used, the PM will generally accomplish the flow pattern and then verify that the items have been completed using the checklist. The PM then acknowledges completion of the checklist to the PF, stating "checklist complete."

If a challenge-response method is used to execute a checklist, after the PF initiates the checklist, the PM challenges by reading the checklist item aloud. The PF is responsible for verifying that the items designated as PF or seat position (i.e., LH or RH) are accomplished and for responding orally to the challenge.

Items designated on the checklist as PM or by seat position are the PM's responsibility. The PM accomplishes the item, then responds orally to their own challenge. In all cases, the response by either pilot is confirmed by the other and any disagreement is resolved prior to continuing the checklist.

After the completion of any checklist, the PM states "checklist is complete." This allows the PF to maintain situational awareness during checklist phases and prompts the PF to continue to the next checklist, if required.

If the PF fails to initiate a normal checklist at the appropriate time, good CRM practice requires that the PM suggest the initiation of the applicable checklist. Normal procedures checklist operations should be called for in a timely manner during low-workload periods (conditions permitting) to prevent any undue pressure or possible interruption that could defeat the purpose of the checklist and potentially be detrimental to safety. For example, calling for the Before Takeoff Checklist while the PM is copying the ATC clearance is poor timing and should be avoided.

Situational awareness is not limited to only understanding the time/space relationship of the aircraft, but also includes an awareness of each crew member's current workload. Time and workload management, including the availability of the other pilot to participate, are key factors in the initiation and effective conduct of normal checklists.

2.2 One Pilot in Cockpit

The Preflight Inspection, Cockpit Preparation, Before Starting Engines and Shutdown checklist may be accomplished by one pilot alone. The Normal Engine Ground Start checklist may also be accomplished by one pilot but this is considered a non-normal procedure. A pilot that completes a checklist alone must advise the other pilot which checklist(s) has/have been completed.

2.3 Both Pilots in Cockpit

The normal method for conducting checklists in the G-V is using “Challenge and Response”. Any response that is different from that which is listed indicates something is abnormal and must be challenged by the other crewmember before continuing. In all cases, follow specific company operating procedures when accomplishing checklists in the aircraft. When a response on a checklist is “as required” the appropriate crewmember should respond according to the actual switch position.

2.3.1 Omission of Checklists

While the PF is responsible for initiating checklists, the PM should ask the PF whether a checklist should be started if, in their opinion, a checklist is overlooked. As an expression of good crew resource management, such prompting is appropriate for any flight situation.

2.3.2 Actioning Normal Checklists

Critical items require a response by the PF. Less-critical items may be both challenged, completed, and responded to by the PM alone. To enhance communication and understanding between crewmembers, standard rules and phraseology should be used when conducting normal checklists:

- The challenged crewmember should respond only after verifying the required configuration and correcting any deviations from the correct settings
- If the required configuration is not possible, the challenged crewmember should clearly and completely respond by stating the actual configuration
- The challenging crewmember should always wait for a definitive response (and should cross-check the validity of the response) before moving to the next item
- For all aircraft, the crewmember responsible for reading the checklist should be responsible for ensuring that the checklist is completed systematically and expeditiously. This crewmember should be responsible for managing interruptions, cross-checking the controls and indicators to ensure that the required actions have been accomplished, and for reporting that the checklist has been completed.

Note: Some checklists include a line that defines a logical hold point to allow partial completion of the checklist. The crew can complete the checklist down to that line and then pause until further action is appropriate, and the remaining checklist items can be meaningfully completed. For those checklists, the PF would initiate the checklist by saying, “(Checklist name) to the line.” Once those items are complete, the PM should state, “(Checklist name) to the line, complete.”

2.3.3 Interrupting and Resuming Checklists

If a normal checklist must be interrupted for any reason, the PF should state a clear hold at the specific item in the checklist such as, “Hold checklist at (item).” An explicit call such as, “Resume (continue) checklist at (item),” should be made before the checklist is resumed.

Note: Upon resuming the normal checklist after an interruption, consideration may also be given by either the PF or PM to starting the entire checklist over, with the possible exception of electronic checklists.

2.3.4 Checklist Terminology

Checklist terminology is controlled to ensure clarity and common understanding between crewmembers.

- The challenges and responses on the checklist should be consistent with the labeling on the switches and controls in the cockpit
- Terms such as "tested," "checked," and "set" are acceptable terms only when they are clearly defined and consistently used
- This document establishes a consistent policy concerning responses to items with variable settings. "As required" may be printed on the checklist but a response that gives the actual setting is normally appropriate.
    - Items that require variable responses should be carefully evaluated. Such items may not actually be required on the checklist or may be more appropriately included in the system management portion of a checklist.
- With limited exception, when specific quantities are required, a response of "checked" is not acceptable. Responses to checklist items concerning liquid or gas quantities should be made in terms of the actual quantities on board compared to the specific quantity required, for example: "10,000 pounds required, 10,400 on board."
    - A response of "checked" is acceptable when a range of quantity is permitted and the range is marked on an indicator, such as a green arc on an oil quantity gauge.
- Excess verbiage on checklists should be discouraged. For example, a checklist item of "Reduce airspeed to 130 KIAS for best glide" can be abbreviated as "BEST GLIDE – 130 KIAS."
- Ambiguous verbiage on checklists is not acceptable. For example, "takeoff power" can mean either to advance the power or to retard the power.
- Emergency procedures should be clearly defined prior to the first flight of the day to determine each crew member's responsibilities in the event an emergency or abnormal condition arise during the flight segment(s) (e.g., crew member priorities for passenger handling, aircraft securing, etc.)

2.4 Challenge/No Response

If the PM observes and challenges a flight deviation or critical situation, the PF should respond immediately. If the PF does not respond by oral communication or action, the PM must issue a second challenge that is loud and clear. If the PF does not respond after the second challenge, the PM must ensure the safety of the aircraft, announce that they are assuming control, and then take the necessary actions to return the aircraft to a safe operating envelope.

2.5 Definitions:

LH/RH: Pilot Station

- Designation of seat position for accomplishing a given task because of proximity to the respective control/indicator. Regardless of PF or PM role, the pilot in that seat performs tasks and responds to checklist challenges accordingly.

PF: Pilot Flying

- The pilot responsible for controlling the flight of the aircraft, either manually or through automation monitoring.

PM: Pilot Monitoring

- The pilot who is monitoring the flight of the aircraft and actions of the PF.

PIC: Pilot-in-Command

- The Pilot responsible for the operation and safety of an aircraft during flight time.

3.0 Briefings

Understanding that your fellow crew members do not have an infinite attention span, a long and detailed briefing is of little value if other crew members are task saturated.

Briefings enhance standardization and open communication between flight crewmembers by setting expectations and encouraging participation and teamwork. Effective communication requires both input and feedback. The ultimate objective is for the flight crew to know and understand the operation, not just cover a rote, generic list of items in each briefing.

A significant difference from prior briefing standards is the intentional identification of threats, and who initiates the identification of threats, relative to each phase of flight. In each briefing, the PM should identify relevant threats for the flight and open the briefing discussion with PF. A threat-based briefing concept, referred to as Threats, Plan, Considerations (TPC) has been designed to allow for the flight crewmembers to generate a discussion applicable to Threat and Error Management (TEM) in each specific phase of flight. Flight crewmembers should conduct TPC briefings in an interactive and collaborative manner, with each flight crewmember given the opportunity to give and receive input. Therefore, it is up to the flight crew to decide, based on professional judgement, what is appropriate to be discussed.

NOTE: It is recognized that the number and quality of threats will vary based on each flight-specific scenario, and the briefings will be scaled to account for the variability of the present conditions.

Appendix 1 provides examples of how briefings may be structured to provide a standardized approach to the TPC concept.

3.1 General

The departure Briefing should always be accomplished during a low stress environment such as on the ramp before aircraft movement. If a runway change occurs during aircraft movement, the aircraft should be stopped when possible and the Takeoff Briefing accomplished with the Parking Brake set. Loading FMS data or accomplishing a Takeoff Briefing while the aircraft is taxiing is not recommended. The Takeoff Briefing has the most variables of any crew briefing. While it is impossible to list every variable, The departure briefing is conducted by the designated PF after the threats have been identified by the PM. It enables the PF to inform the PM of the planned course of actions (e.g., expectations, roles and responsibilities, unique requirements) for both normal and abnormal conditions during takeoff.

A full briefing should be conducted during the first flight of the day. Subsequent briefings may either be abbreviated or expanded to address specific threats and/or aspects of each subsequent flight segment.

The departure briefing should be guided and illustrated by referring to the applicable flight management system (FMS) pages, paper or electronic charts, and the navigation display to visualize the departure route and confirm the applicable data entries. Crews should exercise caution to avoid the element of complacency from detracting from the departure briefing. The briefing should focus on situationally relevant considerations.

Elements of a departure briefing/aircraft set-up should include, but are not limited to, the identified threats and plan(s) to mitigate errors, as applicable, related to:

- Weather information, runway/taxiway in use, and operational factors (such as de-icing information or land-and-hold short operations in effect), and weather required for an air-return or continuation to a takeoff alternate
- Applicable NOTAMs to determine the effect of airport surface closures, construction, NAVAID outages, and airspace restrictions
- Operational impacts of weather to include use of radar, windshear recovery procedures, use of anti-icing systems
- Dispatch conditions affecting takeoff performance such as high temperature operations, cold temperature conversions, or operating in mountainous terrain
- Maintenance logbook (MEL/CDL) to determine operational impact
- Takeoff performance limitations (structural, runway, second segment climb, obstacles) as well as any specific takeoff performance limitations (minimum climb gradient needed)
- Weight and balance data
- Engine-out procedures and departure path/altitude
- Expected takeoff runway, the runway condition and wind component
- Set computed takeoff data for the prevailing conditions including slats/flaps configuration, V-speeds, thrust settings, bleed air configuration, and anti-ice
- Noise-abatement procedure
- Initial altitude, routing, airspeed, airspace restrictions, and any special considerations
- NAVAIDs as required to fly and/or cross-check the departure path including altitude constraints
- Considerations for a rejected takeoff (RTO). Unless prohibited by the OEM, either pilot may call for a rejected takeoff (RTO). The PF will initiate the abort
    - NOTE: In aircraft where a tiller is present and the PF is in a pilot station without access to, or control of, the tiller, the PM will maintain directional control of the aircraft until a safe condition is available to transfer flight controls.
- When operating an aircraft that does not have a door between the flight deck and the passenger compartment, the pilot may need to ask passengers to maintain a sterile cockpit and refrain from unnecessary conversation from the time the preflight preparations begin until the time the aircraft is clear of the terminal area and at cruising altitude. The same procedure should be followed on arrival, from the time landing preparations begin until the aircraft is safely stopped at the terminal.

3.2 Takeoff Briefing and the Go/No Go Decision

3.2.1 Go/No-Go Decision Criteria

The takeoff phase is arguably the most dangerous phase of aviation. Unlike other decisions in aviation, the Go/No-Go decision to abort or continue a takeoff is almost always irrevocable once it has been made. For this reason, the need for mental preparation based on current conditions cannot be overemphasized. Since conditions can vary greatly, it is best to decide on general guidelines and principles rather than extreme levels of detail:

- The first general guideline is to recall that the only malfunction, for which an aborted takeoff must be accomplished in order to meet performance criteria, is engine failure prior to V1. An aborted takeoff for all other malfunctions or conditions is at the discretion of the PIC.
- The second guideline deals with a loss of directional control. This could happen due to many factors including engine failure, thrust reverser deployment, nosewheel steering malfunctions, etc. If any of these events occur, it would be prudent to abort the takeoff. But what if there was an indication of thrust reverser deployment, but no loss of directional control? If the takeoff is on a minimum length runway, it may be prudent to continue the takeoff since no loss of directional control would indicate an erroneous indication.
- The last general guideline is an aircraft deemed unsafe to fly. More than any other, this guideline highlights the many items that could influence the crew's decision to abort a takeoff or continue a takeoff. Given the inherent risks associated with a high-speed abort, great care must be taken when aborting the takeoff for indications alone absent any other evidence of an actual concern about the aircraft's ability to safely become airborne. This is especially critical for those situations where you are runway length limited and is approaching V1. Examples include, but are not limited to the following:
  - If the stick shaker is activated just prior to V_1 – is that a truly unsafe condition, or an erroneous angle of attack issue?
  - If multiple tire failures produced high vibration at V1, would you continue the takeoff, or try to stop with multiple failed tires?
  - If a red Door Open CAS message illuminates at V1, does that make the aircraft unsafe to fly?

Understanding that your fellow crew members do not have an infinite attention span, a long and detailed takeoff briefing is of little value if other crew members are not really listening.

A high-speed abort can be a very serious event, and depending on runway length, weather conditions, and runway conditions, the situation can become critical.

3.2.2 Takeoff Briefing

If not previously briefed and confirmed in the departure briefing, a Takeoff Briefing should be conducted and include the following minimum items:

- Identified threats, plans, and considerations (TPC) to mitigate errors, as applicable
- Departure runway
- Departure procedure
- Power settings
- Speeds
- Abnormal or emergency procedures prior to or after reaching decision speed (i.e., RTO)
- Emergency return intentions
- Expectations of the other crewmember during the takeoff/departure

3.3 Arrival/Approach Briefing

While approach briefings are a very important part of a safe and effectively flown approach, two human factor realities must be considered: First is that the best briefings are not necessarily defined as the longest briefings. In most cases, short and to the point is better. Second is the attention and stress level of the pilot being briefed. Studies have shown that even at moderate cockpit stress levels, most of a long approach briefing will be tuned out by the other pilot as he/she attempts to manage their stress and prioritize duties.

When setting up for an arrival/approach, a standard briefing format (see below) should be used. Under normal operations, each pilot is responsible for setting up their respective radios and NAVAIDs. The PF briefs the approach/landing after transferring (monitoring) the flight controls to the PM. Emergency operations (or absence of autopilot) may require deviations from this procedure.

After confirming the correct page number and date of the approach, start on the briefing strip at the top of the approach plate, and read across. Read the initial portion of the missed approach strip. Read any special notes pertinent to the approach. End the briefing with required visibility and approach lighting.

An arrival/approach briefing should communicate the following general elements with due consideration to the actual operational situation:

- Identified threats, plans, and considerations (TPC) to mitigate errors, as applicable
- For arrival procedures, a review of lateral and vertical flight path management including published, or ATC assigned speed restrictions
- Runway in use
- Instrument approach procedure identification and details
- Weather information (0perational impacts such as use of radar, anti-ice, windshear)
- Applicable NOTAMs
- Landing performance considerations
- Runway(s)/taxiway(s) in use (surface conditions, wind direction, Deice, LAHSO, etc.)
- Terrain considerations / Obstacle clearance
- Required NAVAIDS
- Minimum altitudes
- Method required to establish aircraft on approach (radar vectors, transition route)
- Lateral and vertical flight path management
- Automation use
- Speed restrictions
- Communication requirements
- Fuel requirements (including alternate fuel)
- Any abnormal procedures such as system malfunctions, MELs
- Missed approach procedure (radar and non-radar procedures)

Following a chart brief, the airport diagram should be reviewed with emphasis on runway conditions, length, landing distance requirements, landing speeds, anticipated turnoff point, anticipated taxi routes, and low-visibility taxi operations. Additionally, if a planned departure from normal SOPs is required to meet an operational requirement, this should be clearly reviewed and discussed during the briefing and prior to commencing the approach.

4.0 Philosophy for the Use of Advanced Technology Equipment

1. **Fly the aircraft**

   The flight crew is always responsible, above all else, to fly the airplane. This responsibility cannot be delegated or be allowed to pass unattended to automated equipment.

2. **Cockpit automation should enhance flight crew situational awareness**

   The use of cockpit automation should contribute to situational awareness of the flight crew. It should always be managed to increase situational awareness and reduce workload.

3. **Reversion to manual flight control / navigation**

   When cockpit automation interferes with situational awareness, automation should be removed and the flight crew should revert to manual flying to the extent necessary to regain situational awareness and maintain safe flight. If the automation is producing a result that is not immediately recognizable as unquestionably accurate, **DO NOT** attempt to diagnose the problem by interacting with the automation **while** the automation is still in control of the aircraft. Remove the automation's control of the aircraft and manually fly the aircraft along the correct lateral and vertical flight path, then the pilot monitoring can diagnose the discrepancy with the automation.

4. **Confirmation of information**

   Flight crewmembers should confirm receipt of information from each other, from sources outside the cockpit, and from automated sources. This can be accomplished by read-back, challenge and response, using independent resources, and announcing data from automated sources. Furthermore, all information and data received should be considered for logic and appropriateness.

5. **Human-centered automation**

   The safe, efficient operation of an aircraft is the sole responsibility of the flight crew. Use of automated equipment should always support the ability of the flight crew to perform required tasks safely and in as low a workload environment as possible. Whether using something as basic as the autopilot, or as advanced as the HUD/EVS, if you don't understand the automation completely, your workload will increase. While there can be no substitution for an extremely high level of proficiency with all of the G550's automation, it should only be used to the extent that it supports the flight crew. Remember, automation is there to serve us. We are not there to serve the automation.

6. **Guidance Panel Setting**

   When hand flying the aircraft, DO NOT make inputs into the Guidance Panel (GP). The PF should command the PM to make the GP inputs that you wish to make. When Autopilot is engaged, the PF should make all GP inputs with the exception of an ATC cleared altitude. An ATC cleared altitude should always be set into the GP Preselect Window by the PM. This methodology keeps both pilots "in the loop" to the greatest degree possible.

4.1 Use of Automation

Automation features vary widely among aircraft. Regardless of the level of automation, the flight crew must be able to master its use, know when it is not working properly, and be able to assume manual control when necessary to maintain safety of flight and situational awareness. Crew coordination is required for successful use of automation. When the autopilot is engaged, the PF shall set all inputs on the Flight Guidance System (FGS), except altitude (or as defined by OEM). When the autopilot is off, the PF shall command all inputs and the PM will set all inputs to the FGS. When mode selections are set or commanded, both crewmembers must confirm that the desired selection has been made. Incorporating flight mode annunciators and flight guidance systems into a scan is essential. If automation is not responding according to expectations, it is important to remove the automation promptly and assume manual control.

The PM accomplishes navigation and communication radio tuning, identification, and ground communication. For navigation radios, the PM tunes and identifies all navigation aids. Before tuning the PF's radios, he announces the NAVAID to be set. In tuning the primary NAVAID, in particular, the PM coordinates with the PF to ensure proper selection sequencing with the autopilot mode. After tuning and identifying the PF's NAVAID (via auto tune feature or manually), the PM announces "(Facility) tuned and identified."

Monitoring NDB audio output is not required in the G450/G550 due to the design of the system which would bias the needle from view if no valid signal from the NDB transmitter is being received.

In tuning the VHF radios for ATC communication, the PM places the newly assigned frequency in the COM Tune window at the time of receipt. Pressing the appropriate line select key transfers the preselect frequency to the active frequency. After contact on the new frequency, the PM retains the previously assigned frequency for a reasonable time period. Any confusion in the flight deck related to ATC communication is immediately cleared up by requesting ATC confirmation.

4.1.1 Flight Management System

The crew should review the programmed FMS flight plan prior to starting engines. Normally, the pilot conducting the cockpit setup has programmed the FMS flight plan through either MCDU. The flight plan is then displayed for review by both pilots against the dispatch release or ATC clearance routing. Any flight plan errors are corrected at this time.

Once the briefing is complete and both pilots agree with the FMS flight plan, it is cross-filled to the other FMS if operating in the Initiated Transfer mode.

During FMS navigation, both crewmembers should have the FMS mode selected on their display unit (DU). Any underlay information required should be displayed with the bearing pointers. The PFD-CMD mode of the guidance panel (GP) should always be selected to the flying pilot's side. When transitioning from VHF NAV mode to FMS mode or vice versa, the crewmember making the change will state the mode selected.

In the event of a discrepancy between a charted airway or procedure and the FMS database, the chart/map is the final authority. It is the responsibility of the crew to ensure that the FMS guidance conforms to the chart. When the aircraft is operating below 10,000 feet MSL, regardless of autopilot operation, the PF should not program the FMS. Programming should be commanded by the PF to the PM. Above 10,000 feet, with the autopilot on, the PF may elect to provide input to the FMS, provided aircraft control is either transferred to the PM, or a briefing of flight conditions is conducted for the PM to have and maintain situational awareness of the aircraft. All FMS inputs should be verified by both crewmembers.

For arrival and approaches, the appropriate charts should be displayed and readily available. Full LNAV/VNAV guidance using the FMS during terminal operations must be limited to situations permitting advance preparations, review of FMS programming and complete crew briefings.

This level of automation is not appropriate when significant changes to route or landing runway have been issued by ATC. In such situations, pilots should revert, at least temporally, to a lower level of automation. All approaches, both FMS Coupled (Blue Needles) and advisory (FMS data used for situational awareness), should be programmed in the FMS.

Blue Needle approaches should be flown by using the FMS and the flight guidance system in LNAV mode. Editing the flight plan after the approach label is permitted on advisory approaches only. Editing on a blue needle approach cannot be done without consequences such as loss of the approach vertical guidance and canceling approach scaling if available.

WARNING
Extreme caution must be exercised by monitoring appropriate annunciators to ensure that the proper navigation information is selected and utilized on each approach.

NOTE: The PF will monitor/control the aircraft, regardless of the level of automation employed. The PM will monitor the aircraft and actions of the PF.

5.0 General Callouts/Procedures

Note: Changes to the aircraft state by one pilot should not be conducted without prior communication to the other pilot.

5.1 Setting up the Flight Deck for an Approach

In training as in actual line operations, setting up the flight deck of an advanced aircraft such as the G550 for an approach is a critical step that must be absolutely mastered during training. Initially you may become overwhelmed with choices given the flexibility of the G550's avionics. For this reason, pilots should use the following standardized method of setting up the flight deck for every approach. The acronym **DALCAR** can be useful in remembering the steps to properly load the MCDU. After the MCDU is loaded, the next items are accomplished in the same order as the approach plate's briefing strip. After the briefing strip items are complete, we finish with the remaining HUD/ EVS items on the DC.

- PF/PM obtains current weather and approach in use
- PF commands the PM to set up the approach
  - **MCDU:**
    - **"D"**estination - PM changes the destination airport (if required)
    - **"A"**rrival - PM selects Arrival, Runway and Approach
    - **"L"**anding - PM selects Landing prompt and fills in all the pages
    - **"C"**ruise Altitude - PM selects cleared altitude in PERF CRUISE (CRZ annunciated between EPR gauges)
    - **"A"**ctivate Vectors - PM selects ACT VECTORS when on radar vectors
    - **"R"**aim - PM checks RAIM, RNP, EPU and any charted temperature limitation if GPS approach
  - **Briefing Strip Items:**
    - PM hard selects navaid identifier on both NAV radios via the MCDU PROG page (if not already auto-tuned)
    - PF/PM sets their "green needles" inbound course (for a green needle approach)
    - PF/PM sets DA/MDA on their respective DC's
    - PF sets the HUD runway elevation to Touch Down Zone Elevation (TDZE) on the DC
  - **HUD/EVS Items:**
    - PF sets the HUD flight path angle on the DC
    - PF performs EVS NUC check and confirms EVS "A", "H" or "L" is displayed on the HUD
    - PF/PM determines if approach has either an ILS glide slope, or an FMS glide path down to the runway
- PM states that the approach is set up and he/she is "ready for briefing"
- PF transfers controls to the other pilot and now becomes the PM
- PM briefs the approach (see suggested approach briefing below)
- PF transfers controls back to the other pilot and now becomes the PM
- PF commands Approach Check and In Range Check as appropriate

If the approach DOES have a working ILS glide slope or FMS glide path down to the runway, EVS lights alone can be used to descend below charted minimums to 100 feet above Touch Down Zone (TDZ), but the ILS glide slope or FMS glide path must be flown using the Flight Director or Autopilot. If approach DOES

NOT have a working ILS glide slope or FMS glide path down to the runway, EVS lights alone cannot be used to descend below charted minimums. In the case of an approach without a working ILS glide slope or FMS glide path down to the runway, EVS should still be used but for situational awareness only.

5.1.2 Stabilized Approach Criteria

Approach callouts are aircraft specific. These callouts may include configurations, altitudes, and profile information specific to the type. However, all approaches should incorporate and meet stabilized approach criteria.

An approach is considered stabilized when the following criteria are met:

- The aircraft is on the correct flight path
- Only small changes in heading/pitch are necessary
- From the final approach fix (point) inbound, maintain the selected airspeed at plus/minus 5 knots to designated DA/H or MDA/H.
- The aircraft is in the correct landing configuration
- Sink rate is no greater than 1000 feet/minute; if an approach requires a sink rate greater than 1000 feet/minute, a special briefing should be conducted prior to beginning the approach
- Power/thrust setting is appropriate for the aircraft configuration and is not below the minimum power for the approach
- All briefings and checklists have been conducted

Specific types of approach are stabilized if they also fulfil the following:

- ILS approaches must be flown within one dot of the glideslope and localizer
- Category II or III approach must be flown within the expanded localizer band
- Circling approaches: wings should be level on final prior to 300 feet above touchdown zone elevation; and,
- Unique approach conditions or abnormal conditions requiring a deviation from the above elements of a stabilized approach require a special briefing

Except for circling approaches, non-precision approaches should be conducted using Constant Descent Final Approach (CDFA) procedures unless conditions require and both crew members agree otherwise.

VMC	500 ft above TDZE

5.1.3 Altitude Changes

Prior to any altitude change, ensure the altitude preselector is set to the correct altitude. When passing one thousand feet (1000') to the selected altitude, the PM shall announce the following:

“[xxx} thousand climbing {xxx} thousand”

For example, “5000 climbing 6000” or “Flight level 230 descending flight level 220.”

For aircraft equipped with an EPGWS, there is no need for the crew to echo altitude callouts such as "1000." However, to maintain situational awareness and prevent over-reliance on automation, the crew should confirm that the information from the EPGWS is consistent with other data available from the primary instruments. In non-EPGWS equipped aircraft, the crew should make callouts as published according to the OEM procedures.

5.1.4 Heading Changes

When a heading change is required, the PF will announce and set the new heading with the heading selector or direct the PM to set the heading when workload requires. The PM will verbally confirm the heading change matches with the PF announcement. When the PM makes the heading change for the PF, the PF will verbally confirm the heading change matches with the directed change.

5.1.5 Altimeter Changes

When a new altimeter setting is required (either ATC provided or by passing through the Transition Attitude/Level) the crew will set their respective altimeters and the PM pilot will set the standby altimeter. The altimeters will be crosschecked for accuracy by the crew and verbally verified by stating:

[altimeter setting] "Set and crosschecked"

5.1.6 Aircraft Control Transfer

The following standard callouts are used when there is a need to transfer aircraft control from one pilot to the other. In addition, the pilot transferring the controls will also state the status of the flight guidance system or aircraft state when flying without the use of automation and the pilot accepting controls will reiterate the aircraft state. Transferring aircraft control should take place in a three-step sequence:

- Pilot transferring control states: "You have the flight controls, heading is 250, altitude is 6000, autopilot is ON, your flight controls…"
- Pilot accepting control states: "I have the flight controls, heading is 250, altitude is 6000, autopilot is ON, my flight controls…"
- Pilot transferring states second time: "You have the flight controls" and visually confirms the other pilot has the controls

5.1.7 Approach Altitude Call Outs

The minimum expected vertical path callouts on an approach are 1000, 500, 100 to minimums.

5.1.8 Pilot Monitoring (PM) Standard Callouts

Callouts between crew members is based on the philosophy of not calling out normal items to the greatest extent possible, and only calling out an abnormal situation. This keeps the cockpit "chatter" to a minimum and allows each crew member to focus on their duties. The following callouts apply generally and are not specific to any maneuver.	
Whenever an ATC cleared altitude is selected in the GP's altitude preselect window:	PM states the new altitude and points to the preselect window. PF also states the new altitude and points to the preselect window.
When one thousand feet prior to the ATC cleared altitude:	"ONE THOUSAND TO GO"
When 100 feet prior to the DH, DA or MDA:	"APPROACHING MINIMUMS" (see note 1)
When at minimums:	"MINIMUMS" (see note 1)
When 100 feet above touchdown zone:	"ONE HUNDRED" (see note 1)

(1) Callout not required if it has been made by the EGPWS.

The following callouts are made by the PM when a deviation from normal is encountered. The response from the PF must always be: "CORRECTING" and then the PF must actually correct the situation. Stating the words "CORRECTING" but not actually correcting should be considered by the PM as a non-response. If there is no response by the PF, the PM must make the deviation from normal callout one more time. If there is still no response from the PF, the PM MUST assume that a subtle incapacitation of the PF has taken place and take control of the aircraft by stating: "I HAVE THE AIRCRAFT."	
Altitude ±100 feet from target:	"ALTITUDE"
Localizer/Course deviation of 1/2 dot or more:	"LOCALIZER"
Glide path deviation of 1/2 dot or more:	"GLIDE SLOPE" or "GLIDE PATH"
Airspeed greater than 10 Knots above target:	"_____ KNOTS FAST"
Airspeed less than target:	"_____ KNOTS SLOW"
If Ground Spoilers DO NOT deploy after main gear touchdown:	"NO GROUND SPOILERS"
If Thrust Reverser(s) DO NOT deploy or are not selected by the PF:	"NO THRUST REVERSERS"

6.0 Taxi

Extreme vigilance during taxi operations is required by both crewmembers to reduce the possibility of taxiway or runway incursions. The following procedures should be used as applicable to the operation:

- Identified threats, plans, and considerations (TPC) to mitigate errors, as applicable
- Conduct a pre-taxi/departure briefing that includes the expected taxi route. Review the airport layout and identify critical areas such as Hot Spots and constructions areas listed in NOTAMs. This briefing is essential to maintain coordination and prevent ground incursions since the crew member who receives the clearance may not be the crew member taxiing the aircraft.
- After taxi clearance has been received, verify the runway assigned, any restrictions, and the taxi route. The use of written taxi instructions is a good operating technique and should be encouraged.
- Have the airport diagram(s) out, available, and in use, to include any low visibility taxi routes depicted. As appropriate, cross check the aircraft heading, airport diagram, and airport signage to confirm aircraft position while taxiing.
- Use aircraft lighting as appropriate for the conditions.
- Use of all available exterior lighting is recommended when crossing a runway
- When crossing taxiways or runways, both crew members should be looking outside the aircraft to scan for traffic. Programming the FMS, running checklists, or other activities that keep the crew inside should be discontinued until the aircraft is in a position of reduced threats or stopped.
- Before crossing active taxiways/runways, the crew will visually verify any intersecting paths for the absence of traffic. Use of TCAS may indicate aircraft on final approach. The left seat pilot will state, "Clear Left" and the right seat pilot will state "Clear Right."
- When approaching an entrance to an active runway, pilots will ensure compliance with hold short or crossing clearances by discontinuing non-monitoring tasks.
- Prior to crossing or taxiing onto any runway, verbally confirm ATC clearance with other crewmembers and visually scan the runway and approach area. The crew will confirm, per ATC clearance, that they are taxiing onto the correct takeoff runway.
- Once aligned with the assigned runway, the crew should visually and verbally confirm that heading indicator is appropriate for that runway. An aircraft equipped with the Runway Awareness Advisory System (RAAS) may provide this callout provided there is verbal acknowledgment from the crew.
- Read back all clearances/instructions to enter a specific runway, hold short of a runway, and taxi into the "line up and wait" position, including the runway designator.

7.0 Maneuvers Training

7.1 Stalls

Stall prevention and recovery should be trained in the following minimum configurations. OEM procedures may require additional training configurations:

- Clean
- Partial flap (takeoff configuration)
- Landing
- High altitude

Stall prevention will be accomplished in the appropriate phase of flight and in accordance with the OEM's procedures. Stall recovery should be initiated at the first indication of an impending stall. Altitude loss and recovery altitude should be evaluated based on phase of flight. The focus of stall recovery is to manage angle of attack and thrust needed to maintain safe flight.

7.2 Steep Turns

Steep turns are flown with 45 degrees of bank solely by reference to instruments. The minimum requirement is a turn of at least 180° in both directions. This task must be accomplished without intervention from the PM. Entry speed should be that prescribed by the OEM. In the absence of a manufacturer speed, the ACS should be consulted for applicable standards.

7.3 Time Critical Situations

When the aircraft, passengers, and/or crew are in jeopardy, remember three things:

FLY THE AIRCRAFT – Maintain aircraft control.

RECOGNIZE CHALLENGE – Analyze the situation.

RESPOND – Take appropriate action.

7.4 Rejected Takeoffs

The aborted takeoff procedure is a pre-briefed maneuver; both crewmembers must be aware of and briefed on the types of malfunctions that mandate an abort. Assuming that the crew trains to a firmly established SOP, either crewmember may call for an abort.

Regardless of who calls the abort or RTO, the PF will initiate the abort. Reasons for rejecting a takeoff include:

- For low-speed events— takeoff may be rejected for any non-normal condition
- For high-speed events — reject takeoff for engine failure below V1, loss of directional control, or aircraft deemed unsafe to fly. *(*At high speeds, it may be safer to continue the takeoff, even if below V1, based on weather, runway condition, runway length or indications that have no adverse effect on aircraft performance.)

Note: In aircraft where a tiller is present and the PF is in a pilot station without access to, or control of, the tiller, the PM will maintain directional control of the aircraft until a safe condition is available to transition flight controls to the PF.

7.5 Critical Malfunctions in Flight

In flight, the observing crewmember positively announces a malfunction. As time permits, the other crewmember makes every effort to confirm/identify the malfunction before initiating any emergency action.

If the PM is the first to observe any indication of a critical failure, the PM announces it and simultaneously identifies the malfunction to the PF by pointing to the indicator/annunciator.

After verifying the malfunction, the PF announces their decision and commands accomplishment of any checklist recall items. The PF monitors the PM during the accomplishment of those tasks assigned to him. It is a common crew practice for the PF to take control of the communications while the PM is performing abnormal and emergency procedures from the QRH.

7.6 Non-Critical Malfunctions in Flight

Procedures for recognizing and verifying a noncritical malfunction or impending malfunction are the same as those used for time-critical situations: use positive oral and graphic communication to identify and direct the proper response. Time, however, is not as critical and allows a more deliberate response to the malfunction. Always use the appropriate checklist to accomplish the corrective action.

8.0 Operating Procedures

8.1 Normal Takeoff (Flaps 10 or 20)

(See the Normal Takeoff (Flaps 10 or 20) table.)	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
CLEARED FOR TAKEOFF:	
If an aborted takeoff is required due to loss of directional control, use of rudder and up to maximum differential braking will provide much greater directional control authority than the tiller.	
Verify appropriate mode selected on Guidance Panel.	
"LINE UP CHECKLIST"	
	"LINE UP COMPLETE"
Advances thrust above 1.05 and engage autothrottles or set power manually.	
Verify elevator free.	
NOTE: (G550) If crosswinds are in excess of 20 knots, perform crosswind takeoff procedure. Set power to 66% LP prior to brake release. At 20 knots (GS from DU 2 OR 3) engage Autothrottles (or slam accelerate the engines). When using this procedure, add 600 feet to takeoff distance required. (Ref AFM Limitations: page 01-67).	
AT AIRSPEED ALIVE:	
	"AIRSPEED ALIVE"
	"POWER SET" Ensure power is set by 60 knots. If actual EPR/N1 doesn't match target (Increase Power).
NOTE: Takeoff distances from the performance manual and FMS are for static takeoffs. Consideration should be given to doing a static takeoff if the takeoff distance is critical.	
NOTE: If power is less than required Takeoff EPR, the PF should disengage the Autothrottle and manually set takeoff EPR.	
NOTE: Maintain directional control with rudder pedal steering .	
AT 80 KNOTS:	
	"80 KNOTS"
AT V_1:	
	"V1
AT V_R:	
	"ROTATE"
Rotate to an initial pitch altitude of 14 degrees.	
NOTE: If an aborted take-off is required due to loss of directional control, use of rudder and up to maximum differential braking will provide greater directional control authority than use of tiller.	
AFTER LIFT OFF:	
Verify positive rate of climb on the baro altimeter and VSI.	
	"POSITIVE RATE"
"Gear Up"	
	Position gear lever UP. Select Ground Spoilers OFF.
Establish initial climb speed of not less than V_2.	
NOTE: Normally it is the PM's responsibility to call "Positive Rate" but if the PM fails to call "Positive Rate" then the PF should make the call.	

NORMAL TAKEOFF (FLAPS 10 OR 20)	
Pilot Flying (PF)	**Pilot Monitoring(PM)**
AT FLAP RETRACTION ALTITUDE:	
§ **Approaching ____ feet.**	
"FLAPS UP" § Consideration should be given to delay flap retraction during heavy weight takeoffs/turns/terrain avoidance in order to retain takeoff power setting. Direct PM to select Lateral/Vertical Mode as required.	
	"FLAPS UP" Select and Verify flaps up, and select Lateral/Vertical Mode as requested.
NOTE: When FLCH is selected, the power levers will move to a climb thrust setting. Without Autothrottles the PF will have to manually set CLB Thrust. When the Flaps are selected UP, airspeed changes from V2 + 10 to 200 KCAS. Maintain 200 KCAS until clear of the airport traffic area. 200 KCAS will automatically change to 250 KCA when greater than 4 miles from the airport or greater than 2500 feet AAL as set on the PERF INIT DEP/ARR page.	
NOTE: Limit bank angle to 15 degrees while the flaps are retracting until reaching a speed greater than V2 +20 knots.	
WHEN WORKLOAD PERMITS:	
"CLIMB CHECKLIST"	**"CLIMB CHECKLIST COMPLETE"**

CAUTION

The brake accumulator will bleed down below 3000 PSI during cruise. Do not charge the accumulators back to 3000 PSI during cruise or initial descent. Wait until the BEFORE LANDING CHECKLIST to charge the accumulator to 3000 PSI if needed.

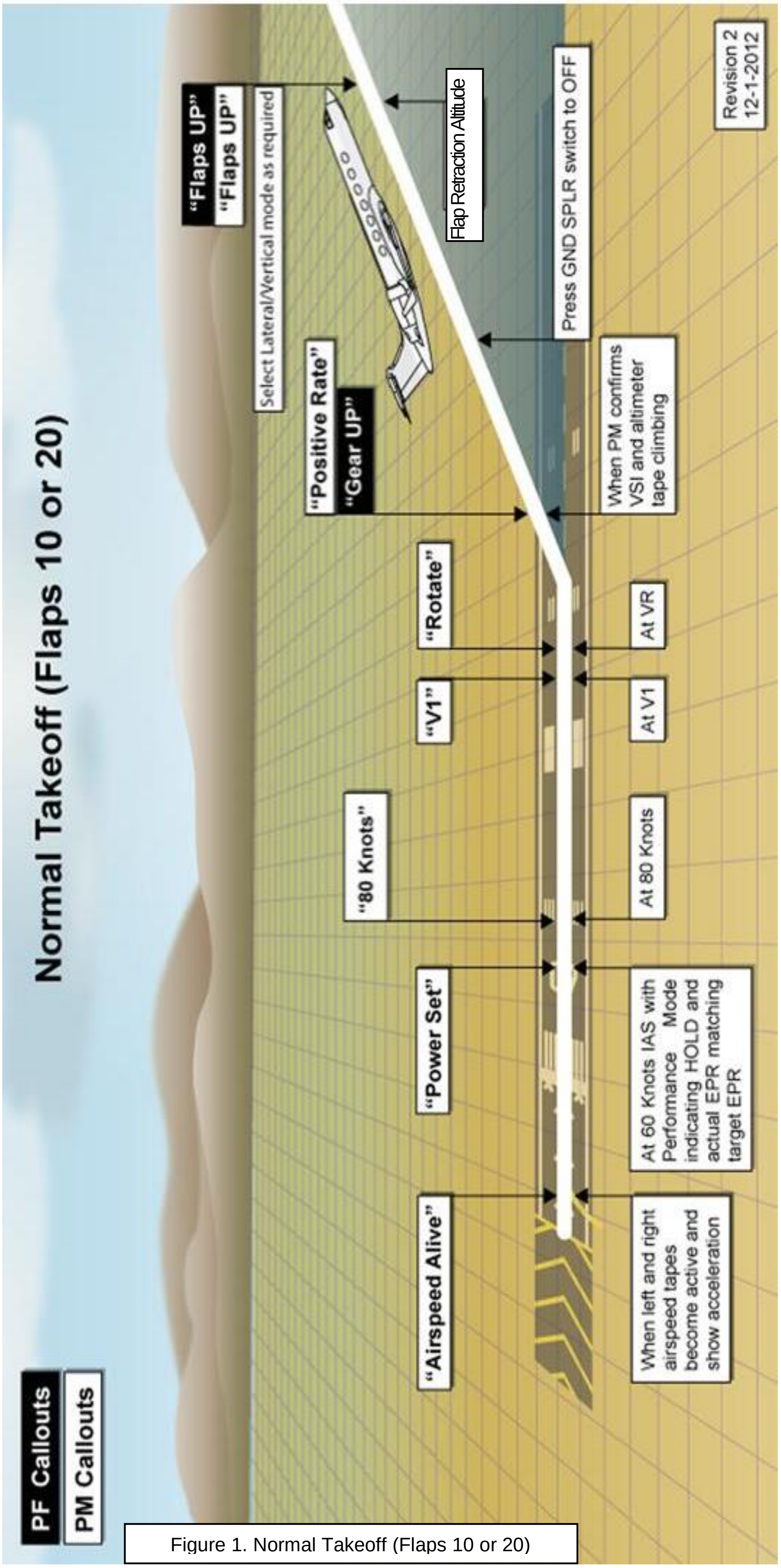


Figure 1. Normal Takeoff (Flaps 10 or 20)

8.2 Cruise

Cruise	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
AT 1,000 FT BELOW ASSIGNED ALTITUDE:	
	"1,000 to go"
"CRUISE CHECKLIST"	**"CRUISE CHECKLIST COMPLETE"**
NOTE: The brake accumulator will bleed down below 3000 PSI during cruise. Do not charge the accumulators back to 3000 PSI during cruise or initial descent. Wait until the BEFORE LANDING CHECKLIST to charge the accumulator to 3000 PSI if needed.	

8.3 Descent

NOTE: If the aircraft is configured to make altitude callouts, they may replace PM calls such as "1,000 ft above minimums."

NOTE: Maintain sterile cockpit below 10,000 ft above airport surface or as per company SOPs. Verify speed as required by local ATC and boundaries at transition levels Accomplish as many checklist items as possible. The "In Range" checklist must be completed prior to the initial approach fix.

8.4 Precision Approach

PRECISION APPROACH — ILS	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
NLT 5 MILES FROM FAF OR DURING PT OUTBOARD:	
"Flaps 10"	
	"Flaps 10" Select and Verify Flaps 10 degrees.
WHEN CLEARED FOR APPROACH:	
"ARM APPROACH"	
	Verify approach modes on the PFD.
AT LOCALIZER (LOC) CAPTURE:	
"LOCALIZER CAPTURE"	
AT GLIDE SLOPE (GS) ALIVE:	
"GLIDE SLOPE ALIVE"	
"FLAPS 20"	
	"FLAPS 20" Select and Verify Flaps 20 degrees.
"GEAR DOWN"	
	"GEAR DOWN" Position gear lever DOWN.
Verify 3 green by both pilots.	
	Accomplish gear down flow pattern.
1 DOT BELOW GLIDE SLOPE:	
"FLAPS 39, BEFORE LANDING CHECKLIST"	
	"FLAPS 39, BEFORE LANDING CHECKLIST" Select and Verify Flaps 39 degrees. Accomplish **Before Landing Checklist**.
NOTE: When performing a One-engine Approach (Precision or Nonprecision) select manual speed at this time as per Gulfstream guidance.	
ON GLIDE SLOPE AND CROSSING FAF:	
"GLIDE SLOPE CAPTURE"	
"SET MISSED APPROACH ALTITUDE"	

AT 1,000 FT ABOVE AIRPORT LEVEL:	
	"1,000 FEET ABOVE AIRPORT LEVEL" Verify stabilized approach. Confirm **Landing Checklist** complete.
NOTE: If the aircraft is configured to make altitude callouts, they may replace PM calls such as "1,000 ft above minimums."	
AT 100 FT ABV MINIMUMS:	
	In the absence of Automation callout "APPROACH MINIMUMS". **"APPROACHING MINIMUMS"**
AT MINIMUMS:	
	In the absence of Automation callout "MINIMUMS". **"MINIMUMS"**
WHENEVER **EVS LIGHTS** COME INTO VIEW:	

PRECISION APPROACH — ILS	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
"EVS LIGHTS" Implies continuing to 100 FEET HAT.	
AT OR ABV MINS AND APP LIGHTS IN SIGHT:	
"APPROACH LIGHTS"	
"CONTINUING" For Non-EVS Approach - continuing to 100 FEET HAT.	
AT OR ABV 100 FT HAT AND RWY ENVIRONMENT IN SIGHT:	
"RUNWAY" Required call for Approach in order to land.	
"LANDING"	
AT MINS AND WITH NO RWY ENVIRONNMENT, APP LIGHTS, OR **EVS LIGHTS** IN SIGHT - GO AROUND:	
"GO AROUND"	
IF **EVS LIGHTS** OR APP LIGHTS, BUT NO RWY ENVIRONMENT AT 100 FT ABV TDZ (BARO):	
"GO AROUND" Call **normally** made by **PM**, but either pilot can make the decision to Go Around.	
NOTE: PM has 3 possible callouts: **"Approach Lights", "Runway", or "Go Around".** **NOTE: PF** has 6 possible callouts: **"EVS Lights", "Continuing", "Landing", "Go Around", "Approach Lights", or "Runway".** **NOTE:** Minimum Engage Height for the autopilot is 200 feet. Minimum disengage height for the autopilot is 60 feet. **NOTE**: Maximum demonstrated altitude loss for the coupled go-around is 60 feet.	
MAIN GEAR TOUCHDOWN:	
	Confirm ground spoiler deployment. If ground spoilers do not automatically deploy, callout:
	"NO GROUND SPOILERS"
Manually deploy the ground spoilers if they do not deploy automatically.	
	Confirm thrust reverser deployment. If one or both T/R's do not deploy, callout: **"ONE THRUST REVERSER"** OR **"NO THRUST REVERSERS"**
DECELERATING THROUGH 70 KNOTS:	
	"70 KNOTS"
Reduce reverse thrust so as to be at reverse idle by 60 knots.	
BELOW 70 KNOTS:	
Transition from rudder pedal steering to tiller steering when at a safe taxi speed.	

Maintain wings level.
NOTE: Maintain directional control through rollout using flight control crosswind correction techniques as required. The aircraft should be slowed to a safe taxi speed (<20 knots on dry pavement; <10 knots on contaminated pavement) before clearing the runway. Follow procedures for transferring aircraft control if necessary.
NOTE: On an ILS or LPV approach, the autopilot/flight director vertical gains are scaled based on radio altitude. In some rare instances, particularly at airports situated on plateaus (ex. KHSP), the radio altitude inputs may cause the autopilot/flight director commands to over correct. The incorrect gains could lead to autopilot/flight director commands making larger than necessary corrections on ILS/LPV glide paths. If the autopilot/flight director indication begins to excessively diverge from the glide slope/path, the approach should be hand flown using raw data or a go around should be executed

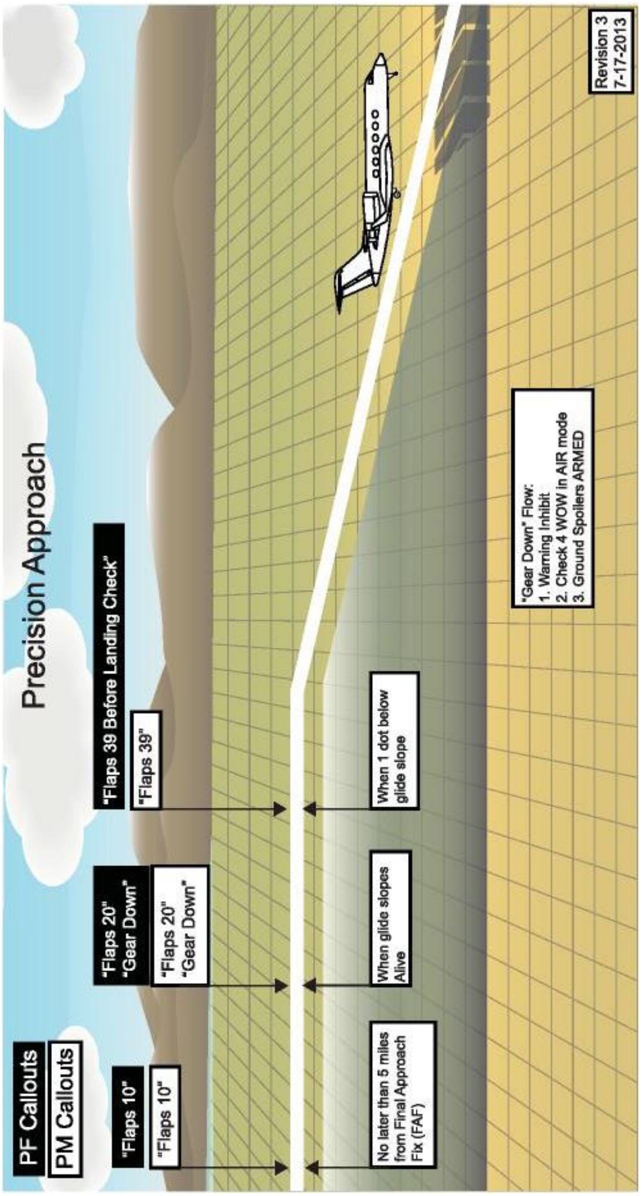


Figure 2. Precision Approach

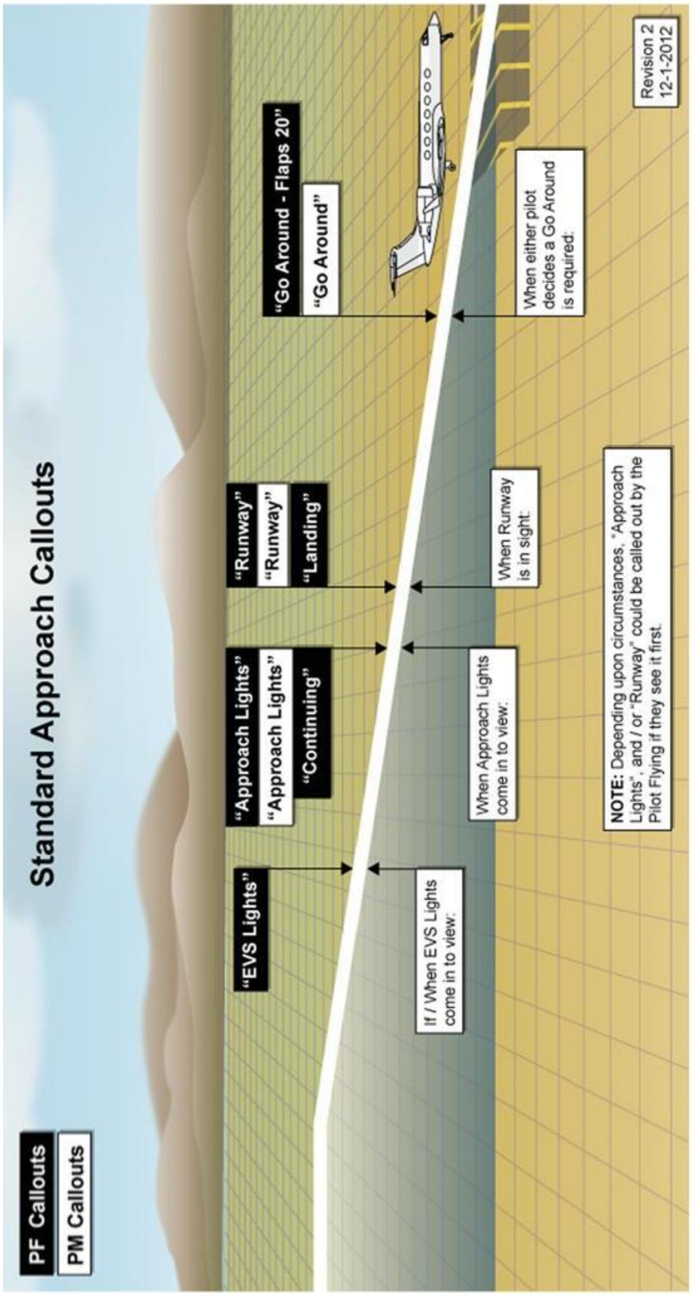


Figure 3. Standard Approach

8.5 Non-Precision Approach

Prior to Approach.
If flying an LPV approach—confirm LPV is armed (White) prior to the approach.

If transitioning to the VOR or Localizer on final approach, ensure VOR or LOC preview is displayed and IDENTs are checked.

For all approaches, brief descent method (VGP, FPA, VPATH, VS, FLCH) to be used for the approach procedure and the final approach segment.

Temperature Compensation – Considered

RAIM Check – Complete (If Required)

NON-PRECISION APPROACH	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
"Flaps 10"	
	"Flaps 10" Select and Verify Flaps 10 degrees.
AT COURSE CAPTURE:	
At 2 miles outside the FAF confirm FMS APPROACH MODE:	
At course capture callout: **"COURSE CAPTURE"**	
AT GLIDE PATH ALIVE:	
"GLIDE PATH ALIVE"	
NOTE: When VGP is being used for the approach, ensure "APR" is selected and VGP is Armed (White) prior to the FAF. **NOTE**: When VPATH is being used for the approach, ensure VNAV is selected prior to the FAF. **NOTE**: If the glideslope (GS) is out of service—LOC Only Approach—ensure GS is not armed.	
NLT 3 MILES FROM THE FAF:	
"FLAPS 20"	
	"FLAPS 20" Select and Verify Flaps 20 degrees.
"GEAR DOWN"	
	"GEAR DOWN" Position gear level DOWN.
Verify 3 green by both pilots.	
	Accomplish gear down flow pattern.
NLT 2 MILES FROM THE FAF OR 1 DOT BELOW GP:	
"Flaps 39", Before Landing Checklist"	
	"Flaps 39", Landing Check" Select and Verify Flaps 39 degrees Accomplish **Landing Checklist.**
Verify Autospeed, VREF39 + 5kts.	
ON GLIDE PATH:	
Verify LPV / VGP or LNAV / VNAV annunciates on PFD.	
IF ON A VGP APPROACH. **"SET MISSED APPROACH ALTITUDE"**	Set appropriate altitude on Guidance Panel altitude preselect window.
If on Non-FMS or LNAV approach. **"SET MDA"**	

NOTE: VGP descent mode will not capture altitudes set in the Altitude Selector or altitudes restrictions in the FMS Flight Plan	
AT FINAL APPROACH FIX (FAF) ALTITUDE:	
Verify Final Approach Fix Published Altitude	
AT 1,000 FT ABV MINIMUMS:	
	"1,000 FEET ABOVE MINIMUMS" Verify stabilized approach. Confirm **Landing Checklist** complete.
AT 100 FT ABV MINIMUMS:	
	In the absence of Automation callout "APPROACHING MINIMUMS". **"APPROACHING MINIMUMS"**
AT MINIMUMS:	
	In the absence of Automation callout "MINIMUMS". **"MINIMUMS"**
WHENEVER **EVS LIGHTS** COME INTO VIEW:	
"EVS LIGHTS" Implies continuing to 100 FEET HAT.	
AT OR ABV MINS AND APP LIGHTS IN SIGHT:	
"APPROACH LIGHTS"	
"CONTINUING" For Non-EVS Approach - continuing to 100 FEET HAT.	
AT OR ABV 100 FT HAT AND RUNWAY ENVIRONMENT IN SIGHT:	
"RUNWAY" Required call for EVS Approach in order to land.	
"LANDING"	
AT MINS AND NO RWY ENVIRONMENT, APP LIGHTS, OR **EVS LIGHTS** IN SIGHT - GO AROUND:	
"GO AROUND"	
IF EVS LIGHTS OR APP LIGHTS IN SIGHT, BUT NO RWY ENVIRONMENT AT 100 FT ABV TDZ (BARO):	
"GO AROUND"	
Call **normally** made by **PM**, but either pilot can make the decision to Go Around.	
NOTE: PM has 3 possible callouts: **"Approach Lights", "Runway", or "Go Around".** **NOTE: PF** has 6 possible callouts: **"EVS Lights", "Continuing", "Landing", Go Around", "Approach Lights", or "Runway".**	
AT MAIN GEAR TOUCHDOWN:	
	Confirm ground spoiler deployment. If ground spoilers do not automatically deploy, callout: **"NO GROUND SPOILERS"** Confirm thrust reverser deployment. If on or both T/R's do not deploy, callout: **"ONE THRUST REVERSER"** OR **"NO THRUST REVERSERS"**
DECELERATING THROUGH 70 KNOTS:	
	"70 KNOTS"
Reduce reverse thrust so as to be at reverse idle by 60 knots.	
BELOW 70 KNOTS:	
Transition from rudder pedal steering to tiller steering when at a safe taxi speed.	
NOTE: Maintain directional control through rollout using flight control crosswind correction techniques as required. The aircraft should be slowed to a safe taxi speed (<20 knots on dry pavement; <10 knots on contaminated pavement) before clearing the runway. Follow procedures for transferring aircraft control if necessary.	

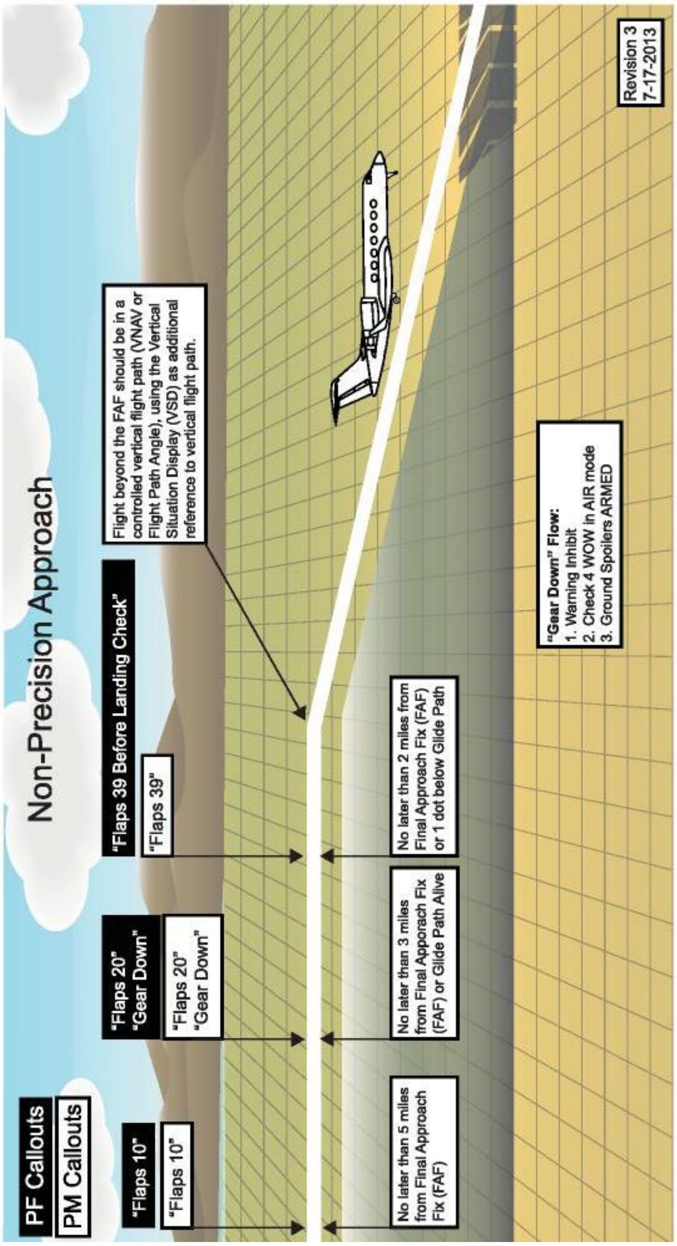


Figure 4. Non-Precision Approach

8.5 Visual Approach & Landing

VISUAL APPROACH & LANDING	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
NO LATER THAN ENTRY INTO TRAFFIC PATTERN:	
"FLAPS 10" Verify Autospeed 180.	**"FLAPS 10"** Select and Verify Flaps 10 degrees.
BY ABEAM THRESHOLD OR NLT A 4 MILE FINAL:	
"FLAPS 20"	
Verify Autospeed 160 (G40) or 150 (G550).	**"FLAPS 20"** Select and Verify Flaps 20 degrees.
"GEAR DOWN"	
	"GEAR DOWN" Position gear lever DOWN.
Verify 3 green by both pilots.	
	Accomplish gear down flow pattern.
ON BASE LEG BUT NLT A 3 MILE FINAL:	
"FLAPS 39, BEFORE LANDING CHECKLIST"	
	"FLAPS 39, LANDING CHECK" Select and Verify 39 degrees. Accomplish **Landing Checklist**.
Verify Autospeed, $V_{REF}39$ + 5kts.	
MAIN GEAR TOUCHDOWN:	
	Confirm ground spoiler deployment. If ground spoilers do not automatically deploy, callout:
	"NO GROUND SPOILERS"
	Confirm thrust reverser deployment. If one or both T/R's do not deploy, callout: **"ONE THRUST REVERSER"** OR **"NO THRUST REVERSERS"**
DECELERATING THROUGH 70 KNOTS:	
	"70 KNOTS"
Reduce reverse thrust so as to be at reverse idle by 60 knots.	
BELOW 70 KNOTS:	
Transition from rudder pedal steering to tiller steering when at a safe taxi speed.	
NOTE: Maintain directional control through rollout using flight control crosswind correction techniques as required. The aircraft should be slowed to a safe taxi speed (<20 knots on dry pavement; <10 knots on contaminated pavement) before clearing the runway. Follow procedures for transferring aircraft control if necessary.	

CAUTION

A HARD LANDING THAT RESULTS IN A SIGNIFICANT BOUNCE WILL DEPLOY THE GROUND SPOILERS IF THE POWER LEVERS ARE MAINTAINED AT IDLE. THIS WILL RESULT IN A RAPID LOSS OF LIFT AND AIRSPEED DURING THE SUBSEQUENT TOUCHDOWN. ADVANCING THE POWER LEVERS WILL RETRACT THE GROUND SPOILERS AND DECREASE THE SINK RATE.

8.6 Go Around - 2 Engines Operating

GO AROUND - 2 ENGINES OPERATING	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
WHEN EITHER PILOT DECIDES TO GO AROUND:	
"GO AROUND FLAPS 20" Simultaneously accomplish the following: Press TO/GA button. Rotate smoothly up into the flight director. Advance thrust levers to G/A thrust - if autothrottles are not already doing so.	
	"FLAPS 20" Move flap handle to 20 degrees.
POSITIVE VERTICAL SPEED AND ALTIMETER TAPE CLIMBING:	
"POSITIVE RATE"	
"GEAR UP"	
	Move gear handle to UP. Select Ground Spoilers to OFF.
	Set/Confirm missed approach altitude is set in the GP preselect window.
	Without Enhanced NAV - Press HDG button on the GP.
	Select/Confirm FMS on the PF's Display Controller NAV menu.
	For executing a Published Missed Approached Without Enhanced NAV - Press LNAV button on the GP.
AT FLAP RETRACTION ALTITUDE:	
	At flap retraction altitude press MAN speed button on the GP and select 200 knots.
	Press FLCH button on the GP.
AT V_{REF} +20 OR HIGHER:	
"FLAPS UP"	
	"FLAPS UP" Move flap handle UP.
Notice the first step of the flow patter states: **"Set/confirm"** This is because an ILS approach or one using VGP as vertical mode will already have the missed approach altitude set, while an LNAV only approach will not.	
Notice the third step of the flow states: **"Set/confirm"** This is because the PF's Display Controller will already be selected to FMS during an FMS based approach, while during an ILS approach it may not.	

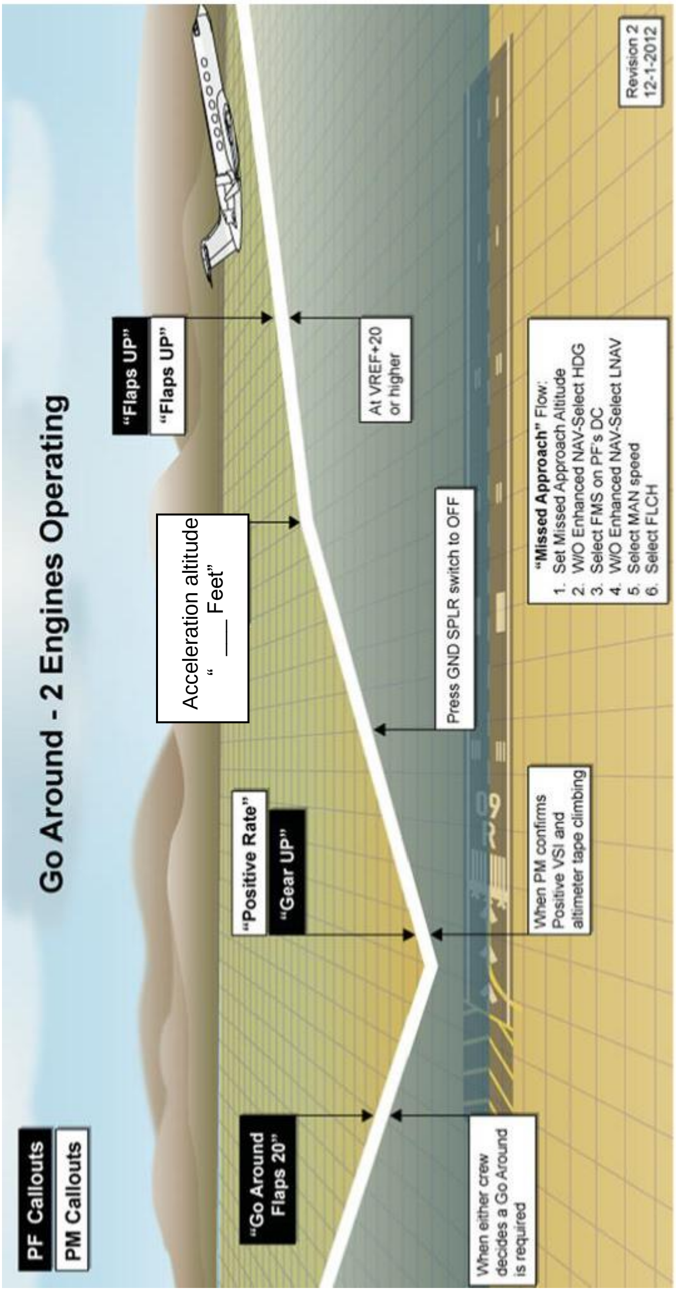


Figure 5. Go Around - 2 Engines Operating

8.7 Go Around - Single Engine

GO AROUND - SINGLE ENGINE (PART 1)	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
WHEN EITHER PILOT DECIDES TO GO AROUND:	
"GO AROUND FLAPS 20" Simultaneously accomplish the following: Press TO/GA button. Rotate smoothly up into the flight director PITCH CUE. Advance operative engine's thrust lever to the MAX thrust stop while smoothly adding rudder to maintain desired track.	
	"FLAPS 20" Move flap handle to 20 degrees.
POSITIVE VERTICAL SPEED AND ALTIMETER TAPE CLIMBING:	
"POSITIVE RATE"	**"POSITIVE RATE"**
"GEAR UP"	
	Move gear handle to UP. Select Ground Spoilers OFF.
	Set/confirm missed approach altitude is set in the GP altitude preselect window.
	Without Enhanced NAV - Press HDG button on the GP, Select/confirm FMS on the PF's Display Controller NAV menu.
	With Enhanced NAV - Press LNAV button on the GP.
	Press MAN speed button on the GP.
	Press FLCH button on the GP.
	NOTE: The **"missed approach"** flow during a single engine go around omits the selection of 200 knots as is the case with 2 engine go around.
	It is replaced by setting VSE when acceleration altitude is attained.
AT 1,500 FT AAL (AND CLEAR OF OBSTACLES):	
	Set a speed 30 to 40 knots higher than present speed.
Flight director pitch cue will command acceleration.	
AT V_{REF} +20 OR HIGHER:	
"FLAPS UP"	
	"FLAPS UP" Move flap handle UP.
"SET VSE"	
	Set V_{SE}. A good rule of thumb is V_{REF} +20 knots.

GO AROUND - SINGLE ENGINE (PART 2)	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
AT V_{SE}:	
"SET MCT"	
	Reduce thrust on operating engine to MCT.
Notice the first step of the flow pattern states: **"Set/confirm"** This is because an ILS approach or one using VGP as vertical mode will already have the missed approach altitude set, while an LNAV approach will not.	
Notice the third step of the flow pattern states: **"Set/confirm"** This is because the PF's Display Controller will already be selected to FMS during an FMS based approach, while during an ILS approach it may not.	

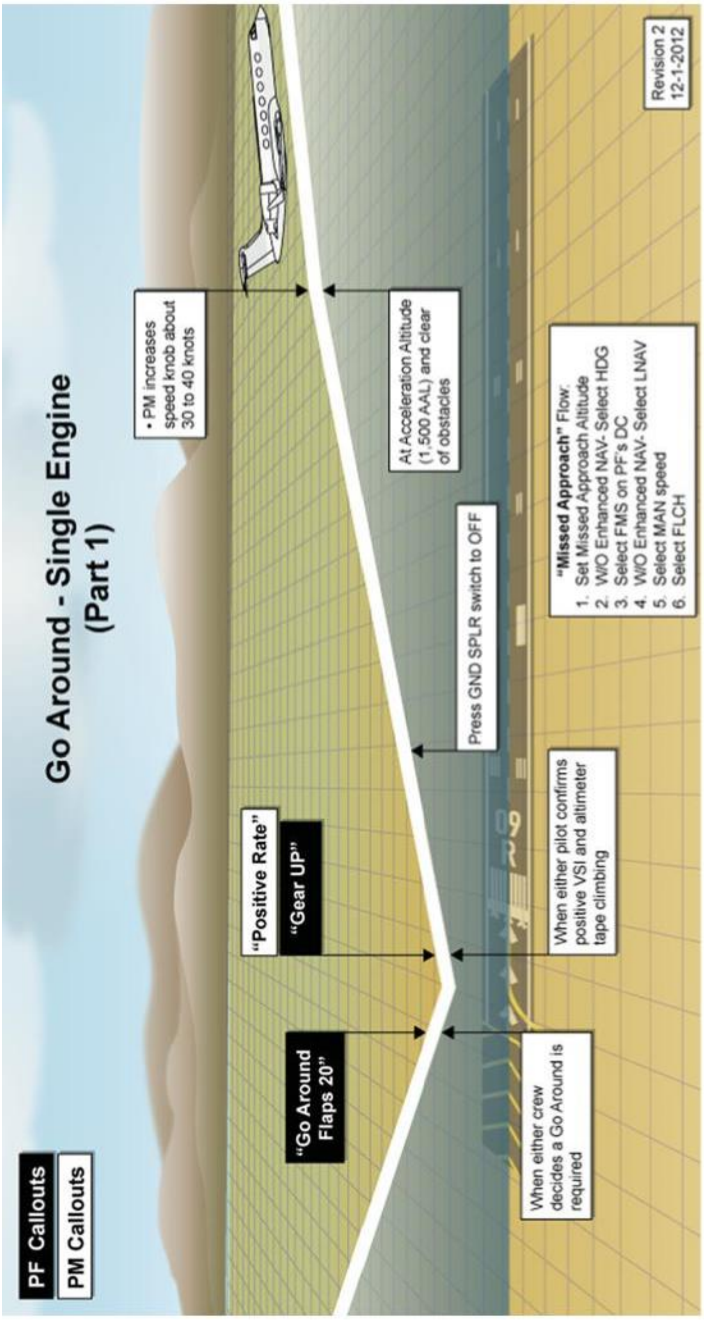


Figure 6. Go Around - Single Engine (Part 1)

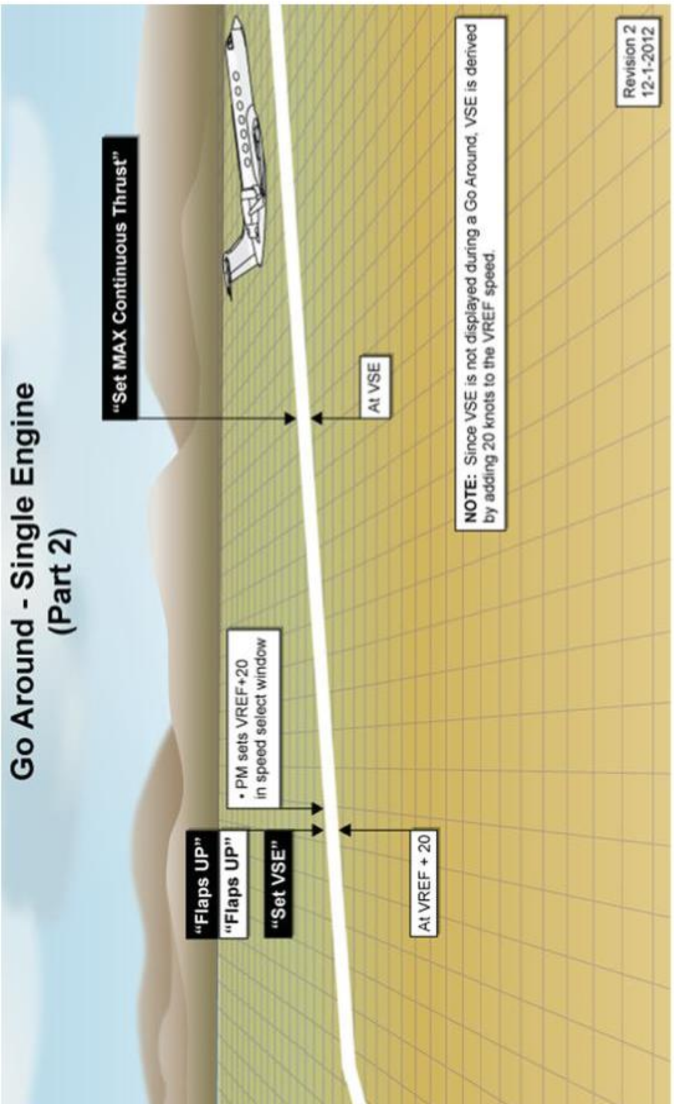


Figure 7. Go Around - Single Engine (Part 2)

8.8 Rejected Takeoff

REJECTED TAKEOFF	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
WHEN EITHER PILOT DECIDES TO REJECT THE TAKEOFF:	
"ABORT"	
Simultaneously reduce thrust levers to IDLE and apply maximum wheel braking.	
Actuate thrust reverse as required to ensure aircraft does not depart the end of the runway.	
Deploy speed brakes	
	Notify ATC when possible.
WHEN CLEAR OF RUNWAY:	
	Perform appropriate checklists.
	Monitor brake temperatures.
If the PIC decides not to grant **"ABORT"** command / callout authority to other crew members, the PIC should state so during the takeoff briefing.	

8.9 Engine Failure at V_1

ENGINE FAILURE AT V_1 (PART 1)	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
At V_1:	
Pilot commits to flight by removing hand from thrust levers.	
When the engine fails, whichever pilot notices the malfunction first should call:	
"Engine Failure"	
Maintain runway centerline.	
Autothrottles will disconnect when an engine fails.	
At V_R:	
	"ROTATE" PM should ensure not to forget the "Rotate" callout due to the distraction of the engine failure. The PF will most likely be task saturated with maintaining control of the aircraft, thus a late or no "Rotate" callout could result in late rotation and loss of accelerate/go performance.
Smoothly rotate up into the flight director pitch cue.	
Target speed for initial climbout is V_2 to V_2+10.	
POSITIVE VERTICAL SPEED AND ALTIMETER TAPE CLIMBING:	
	"POSITIVE RATE"
"GEAR UP"	
	Move gear handle to UP. Select Ground Spoiler OFF.
"MAN SPEED"	
	Press MAN speed button on the GP.

ENGINE FAILURE AT V_1 (PART 1)	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
"FLIGHT LEVEL CHANGE"	
	Press FLCH button on the GP.
AT FLAP RETRACTION ALTITUDE:	
	Identify the failed engine and convey any other pertinent information to the PF in a very short statement.
	Advise ATC and declare an emergency. Do not perform any checklists until 1,500 feet AGL. In the case of an engine fire, PIC may decide to command an initial shutdown of the engine and save actual engine fire checklist until 1,500 feet AGL.
Do not perform any checklists until 1,500 feet AGL.	
In the case of an engine fire, PF may decide to command an initial shutdown of the engine and save actual engine fire checklist until 1,500 feet AGL.	

ENGINE FAILURE AT V_1 (PART 2)	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
AT 1,500 FT AGL (AND CLEAR OF OBSTACLES)	
"SELECT AUTO SPEED" When MAN speed is deselected; speed target and flight director pitch cue will command acceleration to V_{SE}. Above 1500 Feet AGL and clear of obstacles.	Deselect MAN speed on GP.
AT V_2 +10 OR HIGHER:	
"FLAPS UP"	

	"FLAPS UP" Select and Verify Flaps UP.
NOTE: Takeoff speeds (including VSE) will disappear from the Display Controllers when passing 1500 feet. **NOTE**: V2-V2+10 speed will remain displayed on PFD and FG speed window (autospeed selected); speed target and flight director pitch cue will command acceleration to VSE.	
AT V SE:	
"SET MCT"	
	Reduce thrust on operating engine to MCT.
PIC should designate who will fly the aircraft, and who will accomplish the checklists.	
	Accomplish the appropriate abnormal/ emergency checklists.
IF AN ENGINE FIRE IS IN PROGRESS:	
	If an engine fire is in progress, the **"Engine Fire In Flight Checklist"** should be accomplished.

ENGINE FAILURE AT V_1 (PART 2)	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
IF AN ENGINE RESTART IS DESIRED:	
Crew should decide whether the engine can be restarted.	
	If engine restart is desired, the preferred checklist is the **Airstart Automatic Checklist** (GV, G550, G650). If restart is NOT desired, the preferred checklist is the **Engine Shutdown in Flight Checklist.**
Confirm with ATC that you are an emergency aircraft and advise them of intentions.	

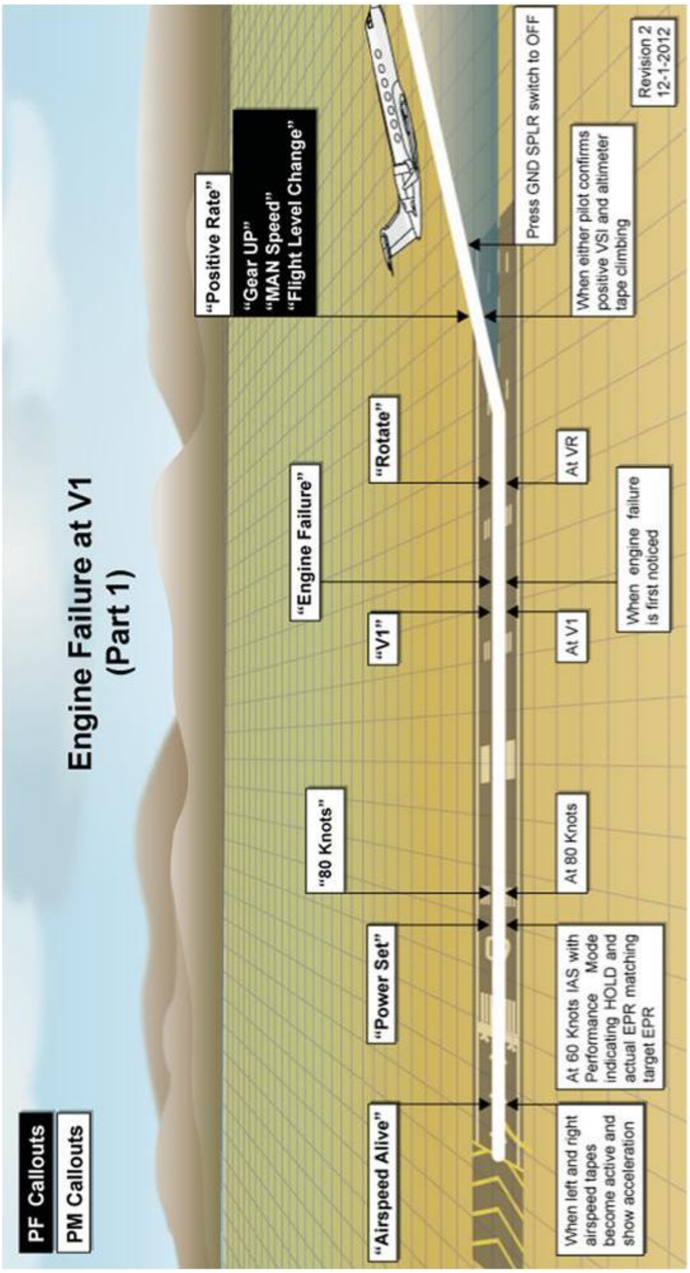


Figure 8. Engine Failure at V_1 (Part 1)

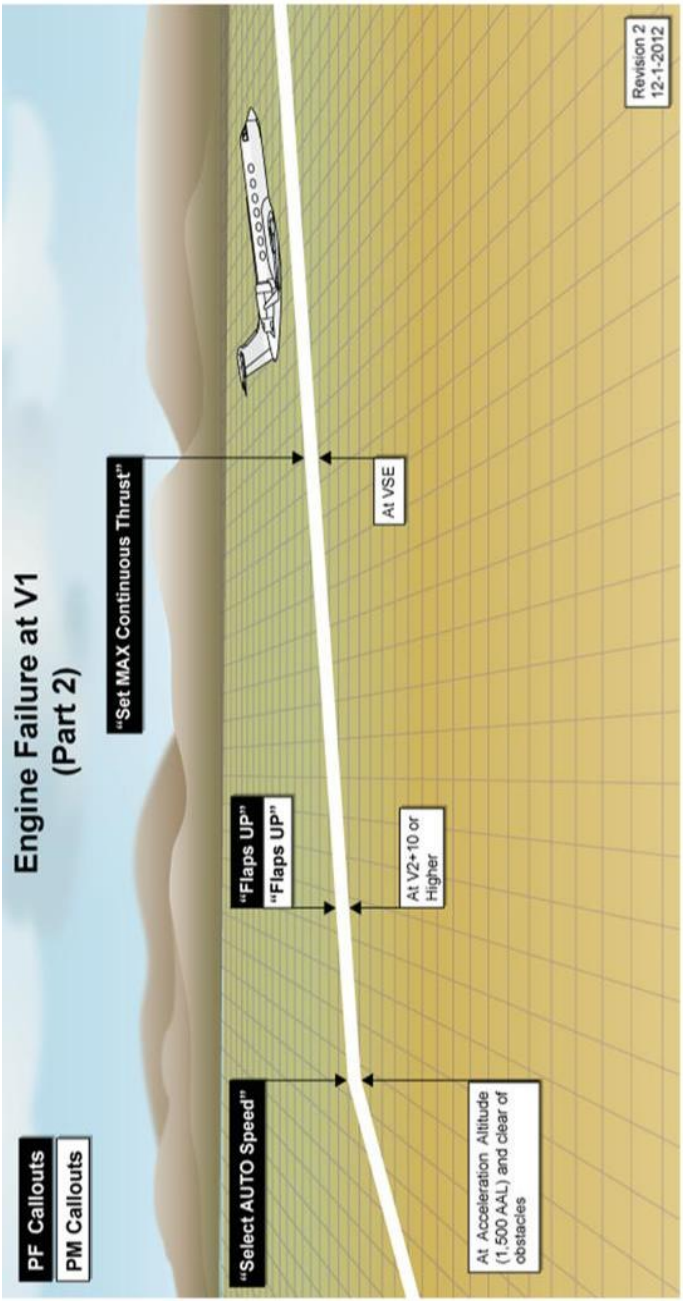


Figure 9. Engine Failure at V_1 (Part 2)

8.10 Manual Emergency Descent

MANUAL EMERGENCY DESCENT	
Pilot Flying (PF)	**Pilot Monitoring (PM)**
When the decision is made to commence an emergency descent:	
“Mask — Mask — Mask” • Don oxygen mask • Select “MASK: button on ACP • Establish communication with PM	**“Mask — Mask — Mask”** • Don oxygen mask • Select “MASK: button on ACP • Establish communication with PF
Once oxygen use and communication is established, move slowly and methodically through the following steps. Try to mimic the pace and smoothness of the Autopilot and Autothrottles during Emergency Descent Mode (EDM).	
• Disconnect Autopilot • Smoothly roll into a 30° bank turn (left or right) and allow pitch attitude to fall • Disconnect Autothrottles and smoothly reduce thrust to IDLE. Trim nose down if needed to achieve an initial pitch of 10° nose down. • As airspeed approaches VMO/MMO, smoothly extend speed brakes and smoothly raise pitch attitude to about 7° nose down, then maintain VMO/MMO during the descent	• Select 10,000 feet (or MEA) in GP altitude preselect window • Press SYNC button on Heading Knob • Press ON button below Heading Knob • Turn heading bug at least 90° in the direction of the PF’s turn • Press FLCH button on the GP • Press MAN button below speed CHG knob • Rapidly spin speed knob clockwise (speed window will automatically stop speed advancement at VMO/MMO).
After PM has properly set up guidance panel and flight director cues are matched with aircraft:	
♦ ”Engage Autopilot” • Sync heading and stop turn when stable descent at VMO/MMO is attained.	♦ Press AP button on the GP
When vertical mode changes from IAS to ASEL (which could occur 3,000 to 4,000 feet above selected altitude depending upon rate of descent):	
• Select 250 Knots in GP’s speed window. This action keeps thrust levers at IDLE during the altitude capture transition process as the aircraft will slow from 340 Knots to 250 Knots.	
Assess any damage to the aircraft, and the health state of the passengers.	

8.11 Stick Pusher Recovery

STICK PUSHER RECOVER TECHNIQUE
NOTE: Stall prevention will be accomplished in the appropriate phase of flight. Stall recovery should be initiated at the first indication of an impending stall (e.g., stall warning, initial buffet, stick shaker). Recovery from an impending stall will not mandate predetermined altitude loss or a predetermined recovery altitude.
Recovery Technique after Stick Pusher Activation: (1) Advance Thrust Levers to MAX. (2) Allow Stick Pusher to finish activation (approximately 1 second). DO NOT fight the Stick Pusher unless it remains activated for longer than 1 second which would indicate Stick Pusher malfunction. (3) When Stick Pusher activation is complete, control yoke will return to neutral. (4) When control yoke returns to neutral, the aircraft will be significantly out of trim due to the rapid acceleration caused by maximum thrust and the lowered nose. (5) Raise pitch attitude to match the Pitch Limit Indicator (PLI). DO NOT allow a pitch attitude above the PLI as this will likely produce another Stick Pusher activation. (6) Due to the out of trim condition, a significant PUSH force may be required to keep pitch attitude at the PLI. (7) When a positive rate of climb is achieved, callout: “Go Around – Flaps 20”, then fly the normal Go-Around maneuver all the way to a clean configuration. Unless a more serious emergency exists, DO NOT attempt to “salvage” the approach.
Supplemental Information: (1) Minimum altitude loss is achieved by ensuring the aircraft does not enter another Stick Pusher activation during recovery from the initial event (2) DO NOT override the Stick Pusher with control yoke’s A/P DISC push button unless it is clear that the Stick Pusher activation is longer than approximately 2 seconds which would indicate Stick Pusher activation valve failed in the OPEN position. (3) Turning OFF the Stall Barrier switchlight is not recommended. (4) Activation of the Stick Pusher in flight should be considered extremely serious. In flight activation will almost always be completely unexpected by the flight crew. (5) The control yoke’s A/P DISC push button will NOT override the Stick Pusher on JAA certified aircraft. (6) If Stick Pusher event occurs low to the ground, this procedure could result in striking the ground. However, ground contact with the aircraft in controlled flight is more desirable than striking the ground in a stalled condition in an attempt to keep from hitting the ground at all costs.

9.0 Sample Checklists.

Operators shall use the manufacturer recommended checklists. Sample checklists are included below for reference.

9.1 Before Starting Engines

1. **Preflight Inspections.. COMPLETE**
   Items of this checklist which were checked as part of the preflight inspection need not be rechecked.
2. **Circuit Breakers (CBs)... CHECK**
3. **ELECTRICAL POWER CONTROL Panel............................... SET**
4. **STANDBY ELECTRICAL POWER (HMG).............................. OFF**
5. **EMERGENCY POWER.. OFF**
6. **APU (If Not Already Running) .... START**
7. **EMERGENCY POWER... ARM**
8. **DISPLAY SYSTEM CONTROL (3)...................................... NORM**

   NOTE: The DISPLAY SYSTEM CONTROL alternate modes should be checked on the first flight of each month.
9. **NAV DISPLAY SWITCHING (2) .... NORM**

   NOTE: The NAV DISPLAY SWITCHING reversionary modes should be checked on the first flight of each month.

10. **IRSs / FMSs...NAV / INITIALIZED**
11. **Engine FIRE DETECTION FAULT Test ....TESTED**
12. **L ENG / R ENG FIRE Test ....TESTED**

13. **System Tests………………………………………..……….TESTED**

    NOTE: The WING and COWL ANTI-ICE switches should be selected to the OFF position prior to the ice detection test. Once the tests are completed, return switches to AUTO.

14. **BLEED AIR... OFF**
15. **TEMP CONTROL Panel.. SET**
16. **CABIN PRESSURE CONTROL Panel..................... CHECK! SET**

    NOTE: Check manual control of the outflow valve on first flight of the day.

17. **WINDSHIELD HEAT (2) .... OFF**
18. **ANTI ICE HTR (4) .... OFF**
19. **EVS WDO HEAT (if installed) ....OFF (LEGEND BLACK)**
20. **WSHLD BLWR .... OFF**
21. **COWL ANTI ICE (2) ! WING ANTI ICE (2)........................... AUTO**
22. **FUEL SYSTEM Panel... CHECK**

    NOTE: If automatic refueling has been accomplished since the last flight, check the AUTO REFUEL switch, located on the Systems Monitor Test Panel, is OFF.

23. **FUEL RETURN.. AUTO**
24. **L MAIN! R MAIN TRU.. OFF**
25. **CABIN ! GALLEY MASTERS................................ AS REQUIRED**

26. SATCOM ! PHONE ! CAMERA MASTERS .... ON
27. CABIN WDO HEAT .... ON (LEGEND OFF)
28. PWR XFR UNIT (PTU).. ARM
29. AUX PUMP! BRAKE SYSTEM .... ARM ! CHECKED
30. COCKPIT LIGHTS MASTER CONTROL .... AS REQUIRED
31. SEAT BELT! NO SMOKE.. ON
32. CRANK MASTER .... OFF
33. START MASTER .... OFF
SIDE CONSOLES:
34. COCKPIT LIGHTS Control Panels (Pilot's and Copilot's)... SET
35. EMERG LDG GEAR Handle .... IN
36. Audio Control Panel (Pilot's and Copilot's)........................ SET
37. Cockpit Voice Recorder.. TEST
38. CREW / PASSENGER OXYGEN .... ON / AUTO
39. Non Essential Static Source (if installed) .... ON / NORMAL
40. Crew Oxygen Masks .... CHECKED
41. NOSE WHEEL STEERING POWER .... OFF
42. NOSE WHEEL STEERING PEDALS DISC................................ ON

INSTRUMENT PANEL:

43. Clocks .... SET / ZERO
44. LPV ENBL Switch .... OFF
45. Display Controllers .... CHECKED
46. Engine .... SELECT EPR MODE
47. GPWS (First Flight Of Day: Perform "Long" Test) .... TEST
48. TCAS (First Flight Of Day) .... TEST
49. Altimeters (3) .... SET & CROSS-CHECKED

NOTE: In order to conduct operations in RVSM airspace, the pilot and copilot altimeters must agree with seventy-five (75) feet of known field elevation, and must also agree with seventy-five (75) feet of each other.

50. Guidance Panel .... SET
51. Standby ADI .... ERECT
52. Standby RMI.. TESTED / PRI HDG
53. STB / FLP Indication .... CHECKED
54. Gear Handle / Lights .... DOWN / 3 GREEN
55. YAW DAMP .... ENG
56. PITCH TRIM... ENG / CHECK / SET

NOTE: Set pitch trim for takeoff in accordance with the Table Of Recommended Pitch Trim Settings For Takeoff. Verify on FLIGHT CONTROLS synoptic page that pitch trim is in the GREEN band and the digital trim value is also GREEN.

Table 1. Table of Recommended Pitch Trim Settings for Takeoff

Total Fuel (lb):	**Zero Fuel Center of Gravity, %MAC**						
	34.5%	**35.0%**	**37.0%**	**39.0%**	**41.0%**	**43.0 %**	**45.0%**
41300	18.5	18.5	18	17	16	15	13
40000	18	18	18	16	15	15	13
38000	18	17	17	15	14	14	12
36000	17	17	16	14	14	13	11.5

34000	16	16	15	14	13	12	11
32000	16	15	15	13	12	11	10.5
30000	15	15	14	12	12	11	10
28000	15	15	14	12	11	10	9.5
26000	15	14	14	12	11	10	9
24000	14	13	13	12	11	9	8.5
22000	13	12	12	12	11	9	8.5
20000	12	11	11	11	10	9	8
18000	11	11	10	10	9	8.5	8
16000	11	11	10	10	9	8.5	8
14000	11	11	10	10	9	8.5	8
12000	11	11	10	10	9	8.5	8
10000	11	11	10	10	9	8.5	8
8000	11	11	10	10	9	8.5	8
6000	11	11	10	10	9	8.5	8
4000	11	11	10	10	9	8.5	8
2000	11	11	10	10	9	8.5	8
0	11	11	10	10	9	8.5	8

(1) Verify takeoff trim setting on FLIGHT CONTROLS synoptic page.

57. Standby Rudder..CHECK / OFF
58. TERRAIN DISPLAY...ON
PEDESTAL:
59. Fire Handles... IN
60. Power Levers / Reverse Levers .... IDLE / DOWN
61. L / R FUEL CONTROLS..OFF

NOTE: For airplanes not having ASC 167 (G10.2 FADEC Modifications) incorporated, if ENG MAINT LTD messages are present, check the MDAU. If the cause of the message is a P30 fault, this is a Do Not Dispatch condition. Maintenance is required prior to engine start.

62. GPWS / GND SPLR FLAP ORIDE..OFF

63. SPOILER CONTROL...ON
64. SPEED BRAKE .... RETRACT DETENT
65. Radar (2)...STANDBY
66. STALL BARR ....ON
67. ANTI SKID ....ON
68. GND SPLR...OFF
69. L / R T / REV MAN STOW (2)..OFF
70. EMER STAB ....OFF
71. Parking Brake / PRESS.. SET / 3000 PSI
72. AIL DISC / ELEV DISC... STOWED

NOTE: For airplanes without ASC 202, momentarily lift the aileron and elevator disconnect covers to ensure that the red Power Disconnect Levers are fully down and parallel to the pedestal.

73. RFMUs………………………………………………………..ON / SET

NOTE: In cold weather, full display brightness may not be achievable for almost ten (10) minutes due to the properties of the florescent screen.

74. LASERTRAK ....SET
75. Cabin Pressure Selector Panel ....SET
76. Rudder / Aileron Trim..................................... CHECKED / ZERO

77. Takeoff Briefing..COMPLETE

NOTE: The takeoff briefing should include as a minimum the normal call-outs during the acceleration phase to V_1 and V_R, runway and departure SID, ATC clearance, takeoff configuration/climb performance, and go/no go decision criteria, including specific duties during an aborted takeoff. Refer to AOM, Section 06-02-40: Normal Takeoff (Flaps 10 or 20).

END

9.2 Before Takeoff Checklists

9.2.1 After Starting Engines

CAUTION

FAILURE TO SWITCH THE START MASTER OFF ALLOWS THE ISOLATION VALVE TO REMAIN OPEN. IF POWER IS ADVANCED ABOVE IDLE, ENGINE SURGES, COMPRESSOR STALLS, OR UNCOMMANDED ENGINE SHUTDOWN MAY OCCUR.

1. **START MASTER...OFF**
2. **ELECTRICAL POWER CONTROL Panel .... SET**
3. **EMERGENCY POWER ....ARMED**
4. **DOORS..CLOSED**
5. **APU .... STOP / AS DESIRED**

NOTE: It is recommended that the APU be shut down after starting main engines unless required for dispatch or to provide additional cooling airflow for passengers.

6. **BLEED AIR Panel... SET**

CAUTION

ENGINE BLEED AIR AND APU BLEED AIR SHOULD NOT BE SELECTED ON AT THE SAME TIME.

7. **FUEL SYSTEM Panel .... SET**
8. **COWL ANTI-ICE (2) / WING ANTI-ICE (2).................. AS REQUIRED**

NOTE: Anti Ice must be selected ON manually for takeoff in icing conditions. Refer to GV Airplane Flight Manual Section 5, Performance, for takeoff performance with Anti Ice selected ON.

A. An optional operational check of the Cowl / Wing Anti-Ice system can be performed as follows:

(1) L / R COWL/WING ANTI ICE…………ON (MANUALLY SELECT)

(2) "AI" Icon(s) Adjacent To TGT Indicator......DISPLAYED

(3) L / R COWL / WING ANTI-ICE MESSAGE .... DISPLAYED

(4) L / R COWL / WING ANTI-ICE………………AUTO / AS REQUIRED

(5) "AI" Icon(s) / CAS Messages……………… EXTINGUISHED

9. **ANTI-ICE HTR (4) ....ON**
10. **WINDSHIELD HEAT (2)..ON**
11. **CABIN PRESSURE AUTO / SEMI ....AUTO**

CAUTION

PRESSURE DIFFERENTIAL SHOULD NOT EXCEED 0.3 PSI DURING TAXI, TAKEOFF, OR LANDING.

12. **FLIGHT CONTROLS Synoptic Page..SELECT**
13. **Ground Spoilers (First Flight of Day) .... CHECKED**
14. **Stall Barrier (First Flight of Day) ....TEST**
15. **Flight Controls / Bungees.. CHECKED**

Check flight controls for freedom and correct movement over full range of motion, while observing marshaller or FLIGHT CONTROLS synoptic page.

NOTE: For airplanes not having either the -5A or -7 part number installed, the following check is required: When performing the elevator check, move the yoke rapidly from the neutral position to full aft, and then to the full forward position **without hitting the elevator stops**, all in less than one second. HOPS should not activate. Rapid forward movement of the yoke may result in a ratcheting noise under the floor. This is normal.

NOTE: For airplanes having either the -5A or -7 part number installed, the following check is required: When performing the elevator control checks, pull the yoke aft, then release. The yoke should slowly fall forward until the elevator surface reaches its stop. A failed bungee has shown that when the yoke reaches the forward stop, there is a slight hesitation and the yoke cycles approximately one (1) inch aft, then forward. For a normal bungee, there should be no hesitation or aft movement after the yoke is released. Windy conditions may invalidate the yoke cycling test.

NOTE: Do not perform a rapid movement on the aileron surface. This could lead to an inadvertent HOPS activation.

16. NOSE WHEEL STEERING POWER ....ON
17. YAW DAMP... ENG
18. HMG (Standby Electrical Power System) (Prior To Extended Overwater Flight) .... CHECK
- **A. AC POWER Snynoptic Page...SELECT**
- **B. STANDBY ELECTRICAL POWER MASTER...........................ON**
- **C. AC POWER Synoptic Page Indications .... VERIFY**
- **D. STANDBY ELECTRICAL POWER MASTER........................OFF**
- **E. BRAKES Synoptic Page..SELECT**

END

9.2.2 Taxi / Before Takeoff

CAUTION

IF THE AIRPLANE IS TAXIED FOR THE PURPOSE OF REPOSITIONING THE AIRPLANE TO ANOTHER PARKING SPOT ON THE AIRPORT, BE AWARE THAT THE CABIN PRESSURE SYSTEM WILL SWITCH TO THE FLIGHT MODE WHEN GROUND SPEED EXCEEDS EIGHT (8) KNOTS. ENSURE THE APU AIR / ENGINE BLEEDAIR IS OFFAND THE CABIN IS FULLY DEPRESSURIZED PRIOR TO OPENING MAIN ENTRANCE DOOR.

CAUTION

WITH ASC 102A INSTALLED, THE MAIN DOOR CAN ONLY BE OPENED WHEN THE PRIMARY AND SECONDARY LOCKS ARE PROPERLY SEQUENCED. ENSURE THAT THE DOOR SAFE SWITCH IS OFF AND AUX PUMP IS NOT RUNNING PRIOR TO OPENING THE DOOR. IF THE DOOR DOES NOT OPEN READILY, CLOSE THE DOORAND REINITIATE THE DOOR OPENING SEQUENCE.

1. **TRANSPONDER………… .... AS REQUIRED**
2. **EXTERIOR LTS………… .... AS REQUIRED**
3. **Brake Synoptic Page…...SELECTED**
4. **Brakes…………………… .... CHECKED**
5. **FLAPS / STAB…………. ....SET FOR TAKEOFF**
6. **TRIM SETTINGS (3)…….. SET**
7. **Slip Indicators / Compasses / Flight Instruments......CHECKED**
8. **Engine Instruments……. ....CHECKED / ALL WHITE**
9. **CABIN PRESSURE CONTROL ....RECHECKED FOR FLIGHT**

10. **Thrust Reversers (First Flight of the Day) .... CHECKED**
11. **Takeoff Briefing (If not previously done) .... COMPLETED**
12. **WARN INHIBIT………….. .... INHIBIT**
13. **LPV ENBL Switch……… .... OFF**
14. **BLEED AIR Control Panel…………APU OFF / L & R ENG ON / ISOLATION CLOSED**

15. **COWL ANTI-ICE (2) / WING ANTI-ICE (2) .... AS REQUIRED**

NOTE: Anti Ice must be selected ON manually for takeoff in icing conditions. Refer to GV Airplane Flight Manual Section 5, Performance, for takeoff performance with Anti Ice selected ON.

16. **Flight Control Synoptic Page.. SELECT**

NOTE: Verify pitch trim setting is in the GREEN band.

17. **Flight Observer Seat Position / Interior Doors ....CHECK**

NOTE: The flight observer seat shall either be stowed if unoccupied or, if occupied, verified to be in the takeoff / landing position prior to takeoff. Confirm that interior doors are OPEN for takeoff.

END

9.2.3 Line Up

CAUTION

TILLER STEERING SHOULD BE USED TO ALIGN THE AIRPLANE ON CENTERLINE. ONCE TAKEOFF ROLL HAS COMMENCED, USE OF TILLER STEERING ABOVE 60 KCAS IS NOT RECOMMENDED.

CAUTION

FOR AIRPLANES EQUIPPED WITH THE VARIABLE GAIN NOSEWHEEL STEERING SYSTEM (S/N 675 AND SUBSEQUENT OR ASC 129), IF THE NWS FIXED GAIN MESSAGE IS DISPLAYED ON CAS, IRS INPUT TO THE TILLER IS LOST. THE STEERING AUTHORITY IS CONSTANT AT ALL SPEEDS.

NOTE: It is recommended that the engines run at idle or taxi power for five (5) minutes before takeoff.

NOTE: For acceleration to takeoff with crosswinds above 20 knots, the fan speed is limited to less than 66% LP RPM until a forward speed of 20 knots has been reached. Above 20 knots forward speed, a slam acceleration to takeoff power is required. Add 600 feet to required field length when using this procedure.

1. **EXTERIOR LIGHTS……… .... SET**
2. **Transponder / TCAS……...ON / TA / RA**
3. **Radar……………………….. .... AS REQUIRED**
4. **GND SPLR………………… ....ARMED**

NOTE: Advance power levers before arming ground spoilers. Avoid retarding power levers to idle to prevent inadvertent spoiler deployment.

5. **V-Speeds CHECKED / BOXED**

NOTE: At sixty (60) knots, the pilot shall confirm that the elevators are free and the yoke has reached neutral position.

NOTE: A HOPS activation at rotation may require up to 130 lb of pull force to achieve the takeoff attitude. There will be a delay in airplane rotation and, once airborne, a push force will be required to maintain the climb altitude. Application of forward trim will be required shortly after becoming airborne. To avoid running out of forward trim, reduce speed as necessary.

6. **EICAS... CHECKED**
7. **Departure Runway Alignment .... BOTH PILOTS CONFIRM**

$\boxed{\textbf{END}}$

9.3 Before Landing Checklist

Before Landing

1. **Landing Gear……………………………………..DOWN / 3 GREEN**
2. **GND SPLR..ARMED**

NOTE: If a Touch and Go Landing is to be performed, GND SPLR should be OFF for this maneuver. Manual spoiler landing distance should be taken into account.

3. **Brakes / Hydraulics / Brake Accumulator…….CHECKED / 3000 PSI**

NOTE: Verify brake accumulator has 3000 psi charge. Recharge to 3000 psi using AUX Pump if necessary.

4. **NO SMOKE…………………………………………………………..ON**

5. **FLAPS...SET FOR LANDING**

NOTE: Recommended final approach speed is V_{REF} is +5 knots. If strong winds are present, add to V_{REF} 1/2 of the steady state wind plus the full gust to a maximum additive of 20 knots. V_{REF} will still be target speed at the threshold.

6. **WARN INHIBIT.. INHIBIT**
7. **FLIGHT CONTROL Synoptic Page .... SELECT**

CAUTION

AFTER TOUCHDOWN, USE RUDDER PEDAL STEERING AND / OR RUDDER AERODYNAMIC CONTROL TO MAINTAIN RUNWAY CENTERLINE. USE OF TILLER STEERING SHOULD BE LIMITED TO SPEEDS LESS THAN 60 KCAS.

CAUTION

FOR AIRPLANES EQUIPPED WITH THE VARIABLE GAIN NOSEWHEEL STEERING SYSTEM (S/N 675 AND SUBSEQUENT OR ASC 129), IF THE NWS FIXED GAIN MESSAGE IS DISPLAYED ON CAS, IRS INPUT TO THE TILLER IS LOST. THE STEERING AUTHORITY IS CONSTANT AT ALL SPEEDS.

NOTE: Initiate cancellation of reverse thrust so as to be at the reverse idle position by 60 KCAS.

END

9.4 After Landing Checklists

9.4.1 After Landing

1. **Radar STANDBY**
2. **Transponder.. STANDBY**
3. **FLAPS.. AS REQUIRED**

NOTE:

Check with the Pilot Flying prior to cleanup. At idle power, simultaneous flap retraction and spoiler stowing with moderate braking may cause momentary PTU and AUX hydraulic pump activation. Reset the AUX pump if necessary.

4. **GND SPLR.. OFF**
5. **LDG / STROBE Lights.. OFF**
6. **COWL ANTI ICE (2) / WING ANTI-ICE (2)………………AUTO / AS REQUIRED**

NOTE: If icing conditions are not present, select AUTO or OFF.

7. **ANTI-ICE HTR (4).. OFF**
8. **WINDSHIELD HEAT (2).. OFF**
9. **L / R ALT Boost Pumps.. OFF**
10. **APU.. AS REQUIRED**
11. **APU GEN.. AS REQUIRED**
12. **BLEED AIR.. AS REQUIRED**

NOTE: If APU BLEED AIR is selected ON after landing, select the L and R ENG BLEED AIR switches to OFF. This will prevent thermal transients on the APU or possible damage to the APU when the power levers are moved above idle.

13. **Brake Temps.. CHECKED**

NOTE: If landing required hard braking, ensure brake temperatures have peaked and are decreasing. Note peak temperature and time from BTMS display for use in determining turn-around time and brake cooling requirements. See Chapter 5: Approach and Landing Planning and Performance.

END

9.4.2 Shutdown

NOTE: It is recommended to operate the engine(s) at idle for three (3) minutes before shutdown. Taxi time may be credited.

1. **Parking Brake.. SET**
2. **Transponder.. STANDBY**
3. **PTU..NOT ARM**
4. **SEAT BELT / NO SMOKE.. OFF**
5. **COWL ANTI-ICE (2) / WING ANTI-ICE (2).. OFF**
6. **Radar.. OFF**

NOTE: With APU GEN ON, pausing two (2) seconds between selecting each FUEL CONTROL switch OFF will prevent possible electrical break power transfer.

7. **L / R FUEL CONTROL .... OFF**

CAUTION

MAKE SURE THAT THE APU AIR / ENGINE BLEED AIR IS OFF AND CABIN IS FULLY DEPRESSURIZED PRIOR TO OPENING MAIN ENTRANCE DOOR. MAKE SURE THAT THE AREA UNDER THE DOOR IS CLEAR OF OBSTACLES AND PERSONNEL PRIOR TO OPENING MAIN ENTRANCE DOOR.

CAUTION

WITH ASC 102A INSTALLED, THE MAIN DOOR CAN ONLY BE OPENED WHEN THE PRIMARY AND SECONDARY LOCKS ARE PROPERLY SEQUENCED. ENSURE THAT THE DOOR SAFE SWITCH IS OFF AND AUX PUMP IS NOT RUNNING PRIOR TO OPENING THE DOOR. IF THE DOOR DOES NOT OPEN READILY, CLOSE THE DOORAND REINITIATE THE DOOR OPENING SEQUENCE.

8. **Main Entrance Door..OPEN**
9. **OXYGEN Systems...OFF**
10. **NOSE WHEEL STEERING Power ....OFF**
11. **IRS(s)………………..OFF**

NOTE: Do not remove electrical power before water drain purge cycle is complete.

12. **DISPLAY SYSTEM CONTROL (3) ....OFF**
13. **CABIN / GALLEY MASTERS / CABIN WDO HEAT ....OFF**
14. **SATCOM / PHONE / CAMERA MASTERS...............................OFF**
15. **EMERGENCY POWER..OFF**
16. **APU STOP**
17. **MAIN Boost Pumps ....OFF**
18. **FUEL RETURN AUTO**
19. **COCKPIT LIGHTS .... AS DESIRED**
20. **EXTERIOR LIGHTS ....OFF / AS REQUIRED**

CAUTION

MAKE SURE THAT THE HYDRAULIC PRESSURE IS DEPLETED PRIOR TO ENGAGING GUST LOCK. IF IT IS NOT POSSIBLE TO READ HYDRAULIC PRESSURES AS THE AIRPLANE IS POWERED DOWN, CYCLE THE CONTROLS WITH THE CONTROL COLUMN, CONTROL YOKE AND RUDDER PEDALS TO DEPLETE THE RESIDUAL PRESSURE. FAILURE TO ALLOW HYDRAULIC PRESSURE DISSIPATION PRIOR TO ENGAGINGTHE GUST LOCK MAYCAUSE DAMAGETO THE AIRPLANE STRUCTURE.

21. **GUST LOCK………….. ....ON**
22. **Wheel Chocks……. .... IN PLACE**
23. **Parking Brake ....OFF**
24. **RFMUs…………….………… ....OFF**
25. **APU MASTER (RPM less than 5%)..OFF**
26. **CABIN PRESSURE CONTROL Panel ....VERIFY OUTFLOW VALVE CLOSED / SELECT MANUAL**
27. **AUX Pump…………………… .... NOT ARM**
28. **LEFT / RIGHT BATTERIES…..OFF**

CAUTION

CHECK ENGINE OIL QUANTITY BETWEEN FIVE (5) AND THIRTY (30) MINUTES AFTER SHUTDOWN. DO NOT SERVICE OIL ON A COLD ENGINE. IF IN DOUBT, RUN THE ENGINE AT IDLE FOR TEN (10) MINUTES. RECHECK OIL LEVEL TO DETERMINE IF THE ENGINE NEEDS OIL SERVICE. FAILURE TO FOLLOW THESE PROCEDURES COULD LEAD TO DAMAGE TO THE OIL PUMP.

29. ENGINE(s) Oil Quantity……CHECK / SERVICE (AS REQUIRED)

30. AIRPLANE…………………….............SECURED / DOOR CLOSED

END

9.4.3 Transit Check

The transit check is required by the Rolls-Royce BR700 Series Maintenance Manual. It may be performed by a qualified flight crew member.

1. **Inlet Cowl, LP Compressor Rotor and Rotor Path ......EXAMINE**

   Inspect for any loose objects, damage or leaks.

2. **Exhaust / Thrust Reverser System ....EXAMINE**

   Inspect for signs of metal deposits and damage.

3. **Log Book Entry (If Required) .... ANNOTATE**

END

Appendix 1. Briefings

1.0 GENERAL

Briefings enhance standardization and open communication channels between Crewmembers by setting expectations and encouraging all Crewmembers to participate and act as a team. Effective communication requires both input and feedback. The ultimate objective is for the Crew to know and understand the operation, not just cover bullet items of the briefings. It is up the Crew to decide, in your professional judgement, what needs to be discussed in any given situation.

Briefings also conduct relevant information in an interactive and collaborative manner, providing each crewmember the opportunity to give input. Broader perspective and items are included below, however the following format will be followed when conducting a TPC briefing:

- **Threats.** Reference the Threat table (in the TPC (EXPANDED POLICY), below). This list is not all inclusive, but it is directed towards the most common Safety needs, and Operational Risks These will change as threats change and are to be used as a starting point.
- **Plans.** Brief relevant Plan items. These are listed on Normal Procedures Checklist as they are more likely to be relevant.
- **Considerations.** Considerations are how the crew will close the loop and pick up anything that did not fit in the aforementioned "Threats and Plans."

Re-brief as necessary any changes to items previously briefed and encourage other Crewmembers to verbalize deviations from the briefed plan.

2.0 TPC (EXPANDED POLICY)

2.1 Threats

A general list of common threats applicable to flight operations is listed in Figure 1-1. This list is not all inclusive but is comprised of common industry safety and operational risks. These risks may change as threats are identified, reported, and analyzed by the TSWG through operator's voluntary ASAP and SMS reporting.

THREATS		
AIRPORT/RUNWAY	**ATC**	**OPS/DISPATCH/MX**
☐ Contamination	☐ Clearance changes	☐ Schedule pressure
☐ Construction	☐ Departure/arrival	☐ Open squawks
☐ Hotspots	☐ Runway changes	☐ Release changes
ADVERSE WX	**AIRCRAFT**	**ENVIRONMENT**
☐ Visibility	☐ Systems	☐ Terrain (GPWS)
☐ Cold/hot	☐ MELs	☐ Night operations
☐ Winds	☐Automation	☐Traffic (TCAS)
☐ Turbulence/precip	☐ Performance	☐ Uncontrolled airport
GROUND/FBO	**PHYSIOLOGY**	**CABIN/SERVICE**

□ Catering	□ Fatigue	□ Passengers
□Wing walkers	□ Situational awareness	□Technology (WiFi)
□ Delays	□ Nutrition	□Stock/cleaning

Figure 1-1

2.2 Plan

The PF should collaborate with the PM on designing a plan to mitigate each identified threat. Briefings will then include any relevant Plan strategies.

2.3 Considerations

Considerations are discussed to close the loop between identified Threats and expected Plan(s) of action to either:

- Identify any items that were not previously included in the Threats and Plan discussion
- Identify any new threats introduced with the plan strategy(ies)

Re-brief as necessary any changes to items previously briefed and encourage other non-flying flight crewmembers (when available) to verbalize deviations from the briefed plan.

3.0 Briefing Guide

The following Briefing Guide is intended to provide a scalable flow for the TPC briefing, whereby the “Plan” elements can be expanded to address the identified Threats in the crew discussion.

CREW SAFETY BRIEFING

Aircraft status
Abort criteria
General emergency procedures

Responsibilities
Security considerations

TAKEOFF & DEPARTURE BRIEFING

Threats (PM & PF discuss)

Plan

Cleared route (dual verification of FMS)
Departure RWY
Performance – T/O
Automation
Emergency return – T/O alternate
Cleared taxi route

Considerations

Trip-specific
Review additional threats

ARRIVAL & APPROACH BRIEFING

Threats (PM & PF discuss)

Plan

Route (STAR, approach & modes, MA, alternate)
Automation
Landing RWY, LPA, planned exit, taxi route
Flaps, VREF, target speed

Considerations

Trip-specific
Review additional threats

DEBRIEF

What went well?
If we could repeat the flight, would we do anything differently?
Are there any reports to complete/submit – e.g., ASAP, SMS, company specific?

Appendix C – Learning Objectives

G-V Standardized Curriculum Course 1 Learning Objectives

Table of Contents

Course 1 Overview			
Day 1	**Planned Hours**	**Ground**	**Systems Integration**
Aircraft General	1.0	7.0	0.0
Aircraft Manuals	1.0		
Auxiliary Power Unit	1.0		
Electrical System	4.0		
Day 2	**Planned Hours**	**Ground**	**Systems Integration**
Avionics and Communications	8.0	8.0	0.0
Day 3	**Planned Hours**	**Ground**	**Systems Integration**
Avionics and Communications	8.0	8.0	0.0
Day 4	**Planned Hours**	**Ground**	**Systems Integration**
Avionics and Communications	3.0	8.0	0.0
Powerplant	2.5		
Oil System	0.5		
Thrust Reverse	0.5		
Fire and Smoke Detection, Protection and Suppression	1.5		
Day 5	**Planned Hours**	**Ground**	**Systems Integration**
Hydraulic System	2.0	7.5	0.0
Flight Controls	2.0		
Landing Gear and Brakes	2.0		
Ice Protection	1.5		
Day 6	**Planned Hours**	**Ground**	**Systems Integration**
Flight Planning and Performance	8.0	8.0	0.0
Day 7	**Planned Hours**	**Ground**	**Systems Integration**
Flight Profiles and Maneuvers	2.0	8.00	0.0
CRM	4.0		
Weight and Balance	2.0		

Day 8	**Planned Hours**	**Ground**	**Systems Integration**	
Windshear	0.5	8.0	0.0	
MEL and CDL	0.5			
Pitot-static System	0.5			
Pneumatic and Environmental Systems	3.0			
Oxygen	0.5			
Lighting	0.5			
Preflight	1.5			
Ground School Completion Exam	1.0			
Day 9	**Planned Hours**	**Ground**	**Systems Integration**	
SIT 1*	2.0	0.0	2.0	
Day 10	**Planned Hours**	**Ground**	**Systems Integration**	
SIT 2*	4.0	0.0	4.0	
Day 11	**Planned Hours**	**Ground**	**Systems Integration**	
SIT 3*	4.0	0.0	4.0	
Simulator Session 1		**Brief**	**Crew**	**Single**
Preflight Inspection (Cockpit)		3.0	4.0	4.0 (2.0 hours of PF and 2.0 Hours of PM flight training)
Powerplant Start - Normal				
Use of Checklists				
Taxiing/Runway Operations				
Before Takeoff Checks				
Normal Takeoff and Climb				
Departure Procedure				
Steep Turns				
Stall Prevention, Partial Flap Configuration				
Stall Prevention, Clean Configuration - Low Altitude				
Stall Prevention, Landing Configuration				
Stick Pusher Demonstration				
Recovery from Nose Low Attitudes				
Recovery from Nose High Attitudes				
Arrival Procedures				
Precision Approach				
Precision Approach - Backup Instrumentation				
Missed Approach from a Precision Approach				

Normal Approach and Landing				
Landing from a Precision Approach				
Go-around/Rejected Landing				
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS				
Normal/Abnormal/Emergency Procedures/Operations: Stall Warning/Avoidance Devices				
After Landing Procedures				
Parking and Securing				
Simulator Session 2		**Brief**	**Crew**	**Single**
Powerplant Start - Normal		3.0	4.0	2.0
Powerplant Start - Abnormal				
Use of Checklists				
Taxiing/Runway Operations				
Before Takeoff Checks				
Crosswind Takeoff				
Departure Procedure				
TCAS (Collision Avoidance Maneuver)				
Powerplant Failure (Including Shutdown/Restart)				
Procedures and Maneuvering with an Engine Out while executing the duties of a Pilot-in-Command (SIC Only)				
Holding				
Nonprecision Approach				
Nonprecision Approach - Manually Flown with Course Reversal				
Visual Approach				
Published Missed Approach				
Crosswind Landing				
Normal/Abnormal/Emergency Procedures/Operations: Powerplant				
Normal/Abnormal/Emergency Procedures/Operations: Auxiliary Power Unit (APU)				
Normal/Abnormal/Emergency Procedures/Operations: Fuel System				
Normal/Abnormal/Emergency Procedures/Operations: Electrical System				
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director				

Simulator Session 3		Brief	Crew	Single
Taxiing/Runway Operations		3.0	4.0	2.0
Before Takeoff Checks				
Crosswind Takeoff				
Instrument Takeoff				
Rejected Takeoff				
Powerplant Failure During Takeoff				
Departure Procedure				
Powerplant Failure (Including Shutdown/Restart)				
Arrival Procedures				
Holding				
Precision Approach				
Precision Approach, One Engine Inoperative - Manually Flown				
Nonprecision Approach - Backup Instrumentation				
Nonprecision Approach - Manually Flown with Course Reversal				
Missed Approach with One Engine Inoperative				
Visual Approach				
Normal Approach and Landing				
Crosswind Landing				
Landing from a Precision Approach				
Approach and Landing with a Powerplant Failure				
Normal/Abnormal/Emergency Procedures/Operations: Powerplant				
Normal/Abnormal/Emergency Procedures/Operations: Anti-ice and Deice Systems				
Normal/Abnormal/Emergency Procedures/Operations: Airframe Icing				
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS				
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director				
Normal/Abnormal/Emergency Procedures/Operations: Pitot-Static System				
Normal/Abnormal/Emergency Procedures/Operations: In-flight Fire Drills				
Normal/Abnormal/Emergency Procedures/Operations: Smoke Control/Removal				
Normal/Abnormal/Emergency Procedures/Operations: Emergency Evacuation				
Simulator Session 4		**Brief**	**Crew**	**Single**

Taxiing/Runway Operations	3.0	4.0	2.0
Before Takeoff Checks			
Crosswind Takeoff			
Windshear on Takeoff			
Departure Procedure			
Steep Turns			
Recovery from Nose Low Attitudes			
Recovery from Nose High Attitudes			
Stall Prevention, Clean Configuration - High Altitude			
Stall Recovery with Idle Thrust			
TCAS (Collision Avoidance Maneuver)			
Visual Approach			
Nonprecision Approach			
Circling Approach			
Missed Approach			
Landing From a Circling Approach			
Crosswind Landing			
Go-around/Rejected Landing			
Landing from a No Flap or Nonstandard Flap Approach			
Windshear on Landing			
Normal/Abnormal/Emergency Procedures/Operations: Flap System			
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Normal/Abnormal/Emergency Procedures/Operations: Hydraulic System			
Normal/Abnormal/Emergency Procedures/Operations: Flight Control System			
Normal/Abnormal/Emergency Procedures/Operations: Landing Gear and Brakes			
Normal/Abnormal/Emergency Procedures/Operations: Ground Proximity Warning System, WX Radar, Radio Altimeter, Transponder			
Normal/Abnormal/Emergency Procedures/Operations: Environmental/Air Conditioning System			
Normal/Abnormal/Emergency Procedures/Operations: Pressurization System			
Normal/Abnormal/Emergency Procedures/Operations: Decompression			

Normal/Abnormal/Emergency Procedures/Operations: Emergency Descent (Maximum Rate)			
After Landing Procedures			
Parking and Securing			
Simulator Session 5	**Brief**	**Crew**	**Single**
Preflight Inspection (Cockpit)	3.0	4.0	2.0
Powerplant Start - Normal			
Powerplant Start - Abnormal			
Taxiing/Runway Operations			
Before Takeoff Checks			
Instrument Takeoff			
Powerplant Failure During Takeoff			
Rejected Takeoff			
Departure Procedure			
Powerplant Failure (Including Shutdown/Restart)			
Stall Prevention, Clean Configuration - Low Altitude			
Stall Prevention, Partial Flap Configuration			
Stall Prevention, Landing Configuration			
Precision Approach			
Precision Approach, One Engine Inoperative - Manually Flown			
Missed Approach from a Precision Approach			
Missed Approach with One Engine Inoperative			
Missed Approach			
Visual Approach			
Crosswind Landing			
Landing from a Precision Approach			
Approach and Landing with a Powerplant Failure			
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Normal/Abnormal/Emergency Procedures/Operations: Powerplant			
Normal/Abnormal/Emergency Procedures/Operations: In-flight Fire Drills			
Normal/Abnormal/Emergency Procedures/Operations: Flight Control System			
Normal/Abnormal/Emergency Procedures/Operations: Smoke Control/Removal			
Normal/Abnormal/Emergency Procedures/Operations: Emergency Evacuation			

Normal/Abnormal/Emergency Procedures/Operations: Pitot-Static System				
Simulator Session 6		**Brief**	**Crew**	**Single**
Preflight Inspection		3.0	4.0	2.0
Start Procedures				
Taxiing/Runway Operations				
Pretakeoff Checks				
Normal Takeoff				
Crosswind Takeoff				
Instrument Takeoff				
Takeoff with Powerplant Failure				
Rejected Takeoff				
Area Departure				
Steep Turns *(PIC only)*				
Stall Prevention (Approaches to Stalls)				
Powerplant Failure				
Area Arrival				
Holding				
Normal ILS Approach				
Engine-out ILS				
Coupled Approach				
Nonprecision Approach				
Second Nonprecision Approach *(PIC only)*				
Missed Approach from an ILS				
Second Missed Approach *(PIC only)*				
Circling Approach				
EFVS Approach				
Normal Landing				
Crosswind Landing				
Landing from an ILS				
Landing with an Engine Out				
Circling Approach to Landing				
Rejected Landing				
No-flap Approach to Landing *(PIC only)*				
EFVS Landing				
System Malfunction				
Maneuver by Partial Panel				
Unusual Attitude Recovery				
Simulator Session 7 (Optional LOFT)		**Brief**	**Crew**	**Single**
		2.0	4.0	4.0

LOS scenario(s) shall be constructed in accordance with AC 120-35D (Flightcrew Member Line-Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation).			

Ground School Learning Objectives

Day 1 Ground School Learning Objectives

Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can describe the operation of the airplane systems and components using correct terminology
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain immediate action items or memory items, if appropriate
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand Crew and Passenger Emergency Equipment - survival gear	Can explain the location, purpose and operation of emergency equipment in the aircraft
Aircraft General	Understand evacuation procedures and crew duties - Cabin Window Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - Ditching procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - External Baggage Door Not Secure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Aircraft General	Understand evacuation procedures and crew duties - Main Entrance Door Not Secure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - Planned Airplane Evacuation procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand Specific Flight Characteristics	Can describe Any aircraft characteristics relevant to all weather operations, such as flight deck visibility cutoff angles and the effect on flight deck visibility of proper eye height, seat position or instrument lighting intensities related to transition through areas of varying brightness levels. Pilots should be aware of the effects on flight visibility related to use of different flap settings, approach speeds, use of various landing or taxi lights, and proper procedures for use of windshield wipers and rain repellent. If windshield defog, anti-ice, or de-icing systems affect forward visibility, pilots should be aware of those effects and be familiar with proper settings for use of that equipment related to low-visibility landing.

Aircraft General	Understand Specific Flight Characteristics	Can describe Visual reference information and address aircraft geometry limitations on visual references, actions to take with loss or partial loss of visual references, risks of inappropriate use of visual references, and necessary visual references for continuation after MDA or DA/DH. Issues discussed in Chapter 4, Procedures, for continuation or discontinuation of an approach should be comprehensively addressed.
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Aircraft Manuals	Understand Auxiliary Power Unit (APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that AFM guidelines supersede all other information
Aircraft Manuals	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - autopilot	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - emergency locator transmitter.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Flight Management System (FMS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can obtain required navigation equipment for approach operations using WAAS or any operational restrictions/limitations, as outlined in the AFM, RFM, AFMS, OpSpec, MSpec, or LOA.
Aircraft Manuals	Understand Avionics and communications - ground-based navigation systems and components	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - indicating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Radar	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - terrain awareness/warning/alert systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - transponder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Emergency Equipment - emergency exits	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - passenger oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Electrical System - circuit breakers and protection devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - controls	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - external and auxiliary power sources. (Ground power and APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - generators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - batteries	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Envelope protection—angle of attack warning and protection and speed protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - lavatory	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - powerplant	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - elevator	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - flaps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - rudder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - speed brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - spoilers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Flight Controls - Ailerons	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - trim systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - additives	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - controls and indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - cross-feeding	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - drains	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - fuel grade	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - fuel substitutions	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Fuel system - fueling and defueling procedures	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - transferring	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - allowable types of fluid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - capacity	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - pressure	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - regulators/accumulators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - reservoirs	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Ice Protection - anti-ice & de-ice.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection - pitot-static system protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection airfoil surfaces	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection windshield	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - antiskid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - extension/retraction system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - nosewheel steering	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Landing Gear - shock absorbers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - tires	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Lighting	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pitot Static System - Operation and power sources for other flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - pressurization	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - supply for ice protection systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Powerplant - turbine wheels	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - allowable types of oil	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - compressors	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - controls and indications	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - deicing, anti-icing	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - oil system capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - thrust reverse	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can describe the operation of the airplane systems and components using correct terminology
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can explain system or component limitations

Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can explain immediate action items or memory items, if appropriate
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain system or component limitations
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Electrical System	Understand Electrical System - controls	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - controls	Can explain system or component limitations
Electrical System	Understand Electrical System - controls	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - controls	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - controls	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - external and auxiliary power sources. (Ground power and APU)	Can explain system or component limitations
Electrical System	Understand Electrical System - external and auxiliary power sources. (Ground power and APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - generators	Can explain system or component limitations
Electrical System	Understand Electrical System - generators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - generators	Can explain immediate action items or memory items, if appropriate

Electrical System	Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - generators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - indicators	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - indicators	Can explain system or component limitations
Electrical System	Understand Electrical System - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - indicators	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - batteries	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - batteries	Can explain system or component limitations
Electrical System	Understand Electrical System - batteries	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Electrical System	Understand Electrical System - batteries	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - batteries	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Day 2, 3, and 4 Ground School Learning Objectives

Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e.,	Can differentiate between "substitute means of navigation" and "alternate means of navigation"

	non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using GPS input may be used as an alternate means of navigation without restriction.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain RAIM prediction requirements when using GPS as a substitute means of navigation
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S.	Can explain that RNAV systems using WAAS input may be used as an alternate means of navigation without restriction.

	National Airspace System (NAS)	
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that operators planning to use TSO-C145/-C146 equipment as a substitute means of navigation must check WAAS NOTAMs and confirm WAAS availability for the applicable operation and time
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using DME/DME/IRU, without GPS input, may be used as an alternate means of navigation where valid DME/DME position updating is published as available (for example, by NOTAM or authorization).

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that in order to use a substitute means of navigation on departure procedures, pilots of aircraft with RNAV systems using DME/DME/IRU, without GPS input, must ensure their aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map display may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain the definition of Alternate Means of Navigation
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can state the definition of RAIM

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain the definition of Substitute Means of Navigation
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can describe the ways in which a suitable RNAV system may be used
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that the ways in which a suitable RNAV system may be used still apply, even when a facility is identified as required

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that unless otherwise specified, an otherwise suitable RNAV system cannot be used for navigation on procedures that are identified as not authorized by notam. (For example, an operator may not use a RNAV system to navigate on a procedure affected by an expired or unsatisfactory flight inspection, or a procedure that is based upon a recently decommissioned NAVAID)
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that an otherwise suitable RNAV system cannot be used for substitution of the NAVAID providing lateral guidance for the final approach segment
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that an otherwise suitable RNAV system cannot be used for Lateral navigation on LOC-based courses (including LOC back-course guidance) without reference to raw LOC data

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that the navigation data should be current for the duration of the flight. If the Aeronautical Information Regulation and Control (AIRAC) cycle will change during flight, operators and pilots should establish procedures to ensure the accuracy of navigation data, including suitability of navigation facilities used to define the routes and procedures for flight. Traditionally, this has been accomplished by verifying electronic data against paper products
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Pilots must extract waypoints, NAVAIDs, and fixes by name from the onboard navigation database and comply with the charted procedure or route
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that pilots may not manually enter published procedure or route waypoints via latitude/longitude, place/bearing, or place/bearing/distance into the aircraft system

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Pilots are expected to accurately track procedure and route centerlines (CL), as depicted by onboard lateral deviation indicators (LDI), displays, and/or flight guidance during all operations described in this AC unless otherwise authorized to deviate by air traffic control (ATC) or in the instance of an emergency condition
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Operators operating under parts 91K, 121, 125, 129, and 135 must also be equipped with at least one other independent navigation system in addition to an installed and operable RNAV system. This additional system must be suitable, in the event of loss of navigation capability of the RNAV system, for proceeding safely to a suitable airport and completing an instrument approach.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that ADF equipment need not be installed and operational, although operators of aircraft without an ADF will be bound by the operational requirements defined in AC 90-108 and not have access to some procedures (that is, there may be instances when some operations might not be conducted without ADF equipment).

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that for the purposes of flight planning, any required alternate airport must have an available IAP that does not require the use of GPS.
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance –	Can explain immediate action items or memory items, if appropriate

	Broadcast (ADS-B) In and Out	
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	link, UHF/VHF/HF, satellite)	
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite) - Radio Failure / Mistune During a Dual Coupled ILS Approach	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Electronic Flight	Can explain immediate action items or memory items, if appropriate

	Instrument Systems (EFIS)	
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain the features of the PlaneView System
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the functional characteristics of the cursor control device
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain system or component limitations
Avionics and	Understand Avionics and	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Communic ations	communications - emergency locator transmitter.	
Avionics and Communic ations	Understand Avionics and communications - emergency locator transmitter.	Can explain immediate action items or memory items, if appropriate
Avionics and Communic ations	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communic ations	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communic ations	Understand Avionics and communications - Flight Management System (FMS)	Can explain that DPs and STARs are flown as RNAV 1 procedures. RNAV routes are flown as RNAV 2 unless otherwise specified
Avionics and Communic ations	Understand Avionics and communications - Flight Management System (FMS)	Can explain that at system initialization, pilots must confirm the navigation database is current and verify the aircraft's present position.
Avionics and Communic ations	Understand Avionics and communications - Flight Management System (FMS)	Can explain that RNAV DPs and STAR procedures must be retrieved by procedure name from the onboard navigation database and conform to the charted procedure
Avionics and Communic ations	Understand Avionics and communications - Flight Management System (FMS)	Can explain that whenever possible, RNAV routes should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. Selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted
Avionics and Communic ations	Understand Avionics and communications - Flight Management System (FMS)	Can explain that manual entry of waypoints using latitude/longitude or place/bearing is not permitted

Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must not change any RNAV DP or STAR database waypoint type from a flyby to a flyover or vice versa.
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that flightcrews should crosscheck the cleared flight plan against charts or other applicable resources, as well as the navigation system textual display and the aircraft map display, if applicable
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verification of assigned route and correct entry of transitions into RNAV System/FMS
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying their aircraft navigation system is operating correctly and the correct runway and DP (including any applicable en route transition) are entered and properly depicted prior to flight
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying proper entry of their ATC assigned route upon initial clearance and after any subsequent change of route.
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying their aircraft navigation system is operating correctly and the transition and arrival runway is entered and properly displayed
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that For DPs, the pilot must be able to engage RNAV equipment to follow flight guidance for lateral RNAV no later than 500 feet above airport elevation.
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must use a lateral deviation indicator (or equivalent navigation map display), flight director and/or autopilot in lateral navigation mode on RNAV 1 routes. The full-scale course deviation indicator (CDI) deflection value of ±1 NM is acceptable

Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots of aircraft without GPS/GNSS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the depiction of waypoint types (flyover and flyby) and path terminators
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the required navigation equipment for operation on RNAV routes, DPs, and STARs (for example, DME/DME/IRU and GPS/GNSS)
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe system specific levels of automation, mode annunciations, mode changes, alerts, interactions, reversions and degradation
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the functional interaction with other aircraft systems
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the meaning and appropriateness of route discontinuities as well as related flightcrew procedures
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the monitoring procedures for each phase of flight (for example, monitor PROG or LEGS page)
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the types of navigation sensors (for example, DME, IRU, GPS/GNSS) utilized by the RNAV system and associated system prioritization/weighting/logic

Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain turn anticipation regarding speed and altitude effects
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe proper interpretation of electronic displays and symbols
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS) - FMS Powers Up in Single or Independent Mode procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the onboard navigation data must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and relevant coded terminal airspace procedures for the departure, arrival, and alternate airfields.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the pilot must notify ATC of any loss of the RNAV capability, together with the proposed course of action. If unable to comply with the requirements of an RNAV procedure, pilots must advise ATC as soon as possible.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 1 requires a total system error of not more than 1 nautical mile (NM) for 95 percent of the total flight time.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 2 requires a total system error of not more than 2 NM for 95 percent of the total flight time
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that Receiver Autonomous Integrity Monitoring (RAIM) is a technique used within a GPS receiver/processor to monitor GPS signal performance and is achieved by a consistency check among redundant measurements.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that an Instrument Departure Procedure (DP) is a published instrument flight rules (IFR) procedure providing obstruction clearance from the terminal area to the en route structure.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a SID is a published IFR air traffic control (ATC) DP providing obstacle clearance and a transition from the terminal area to the en route structure.

Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a Standard Terminal Arrival (STAR) is a published IFR ATC arrival procedure that provides a transition from the en route structure to the terminal area
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that an RNAV route within the high or low altitude structure of the contiguous United States, is designated by a “Q” or “T”
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that pilots operating aircraft with an approved barometric vertical navigation (baro-VNAV) system may continue to use their baro-VNAV system while executing U.S. RNAV routes, DPs, and STARs, however operators must ensure compliance with all altitude constraints as published in the procedure by reference to the barometric altimeter
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs does not require the pilot to monitor ground-based Navigational Aids (NAVAID) used in position updating unless required by the Airplane Flight Manual (AFM), pilot’s operating handbook (POH), or the operating manual for their avionics
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs bases obstacle clearance assessments on the associated required RNAV system performance
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain system or component limitations

Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS) - GPS / SBAS Reception Loss During RNAV (GPS) Approach to Minima procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the performance requirement and the fail-down capabilities of the system
Avionics and Communications	Understand Avionics and communications - GPS instrument	Can describe the meaning and proper use of aircraft equipment/navigation suffixes

	approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can explain instrument procedure characteristics as determined from chart depiction and textual description
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can state that manual change of waypoints included in the approach is prohibited
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima	Can differentiate between ILS flight guidance cues and LPV guidance cues

	using the wide area augmentation system	
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradations.
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe functional integration with other aircraft systems
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can describe the navigation systems to be used, such as the instrument landing system (ILS) with its associated critical area protection criteria, marker beacons, distance measuring equipment (DME), compass locators, or other relevant systems should be addressed to the extent necessary for safe operations. For Ground Based Augmentation System (GBAS) Landing System (GLS)), any characteristics or constraints regarding that method of navigation must be addressed (e.g., proper procedure waypoint selection and use, integrity assurance, loss of satellite availability or failure, terrain masking).

Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can identify Visual aids including Approach Lighting Systems (ALS), runway lighting systems, markings/lighting associated with declared distances, taxiway lighting, color coding of the centerline lighting for distance remaining, Low-Visibility Operations (LVO)/Surface Movement Guidance and Control System (SMGCS) lighting, and any other lighting systems relevant to an AWO environment should be addressed.
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can identify automatic or perform manual input requiring parameters, such as inbound course or automatic/manually tuned navigation frequencies, the importance of checking that proper selections have been made to ensure appropriate system performance, and the sequence and management of any mode changes.
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - ground-based	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

	navigation systems and components	
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and Communications - HUD	Can identify all HUD symbology
Avionics and Communications	Understand Avionics and Communications - HUD	Can explain the FPV
Avionics and Communications	Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Avionics and Communications	Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD
Avionics and Communications	Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Avionics and Communications	Understand Avionics and Communications - HUD	Can describe crew briefings and callouts
Avionics and Communications	Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Avionics and Communications	Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Avionics and	Understand Avionics and	Can describe the operation of the airplane systems and components using correct terminology

Communications	communications - indicating devices	
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - indicating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - indicating devices - (EVS) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - (HUD) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Charts Function DU 2 and 3 Inoperative procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices -	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	Charts Function Failure procedure	
Avionics and Communications	Understand Avionics and communications - indicating devices - Equipment Loss While in RVSM Airspace procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Video Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and	Understand Avionics and communications -	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Communications	Inertial Navigation Systems (INS) - IRS Align in Motion procedure	
Avionics and Communications	Understand Avionics and Communications - Instruments	Can interpret situation information displays, as applicable.
Avionics and Communications	Understand Avionics and Communications - Instruments	Can describe proper application of MDA, DA/DH, or AH, including proper use and setting of altimeter bugs, use of the inner marker (IM) where authorized or required due to irregular underlying terrain, and appropriate altimeter setting procedures for the barometric altimeter consistent with the operator’s practice of using either altimeter setting referenced to airport ambient local pressure (QNH) or altimeter setting referenced to airport field elevation (QFE).
Avionics and Communications	Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Radar	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Radar	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Radar	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain instrument procedure characteristics as determined from chart depiction and textual description
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret the depiction of waypoint types (flyover and flyby) as well as associated aircraft flightpaths
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain that a waypoint may be a flyover in one procedure and the same waypoint may also be a flyby in another procedure;
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries	Can list required equipment for RNP operations

	which adopt ICAO standards for RNP operations.	
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret aircraft automation, mode annunciations, changes, alerts, interactions, reversions, and degradations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain functional integration with other aircraft systems
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the meaning of route discontinuities and appropriate flightcrew procedures;
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States,	Can list the types of navigation sensors used by the RNP system and their annunciations

	oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain turn anticipation with consideration to speed and altitude effects
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret electronic displays and symbols
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe appropriate selection of course deviation indicator (CDI) scaling (lateral deviation display scaling)

Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the importance of maintaining the published path and maximum airspeeds while performing RNP operations with Radius to Fix (RF) legs (if applicable)
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret the depiction of path terminators, associated aircraft flightpaths, altitude, and speed restrictions
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe flightcrew contingency procedures for a loss of RNP capability; and
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries	Can explain the performance requirement to couple the autopilot (AP)/flight director (FD) to the navigation system's lateral guidance on RNP procedures, if required

	which adopt ICAO standards for RNP operations.	
Avionics and Communications	Understand Avionics and Communications - Supporting Systems	Can interpret Other associated instrumentation and displays including any head-up display, guidance system, vision system, monitoring displays, status displays, mode annunciation displays, failure or warning annunciations, and associated system status displays that may be relevant. When such airborne systems are used as the basis for category(s) of minima (e.g., HUD or SVGS for Special Authorization (SA) CAT I; AP, F/D, or HUD for CAT I Landing Minima with Reduced Lighting (RVR 1800)), training should address the relationships between the various system components and the minima for which they are required.
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems - (EGPWS) Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can define TA (Traffic Advisory) as Aural voice and display information provided by TCAS to a flightcrew, identifying the location of nearby traffic that meets certain minimum separation criteria
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe TCAS on-ground performance
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the see-and-avoid concept is still valid even with TCAS
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can define Increase, reversal, crossing, and weakened Ras
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that That TCAS II assures separation from aircraft equipped with an altitude-reporting transponder;

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain the detection and protection provided by TCAS against altitude-reporting and non-altitude-reporting intruders
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that the system detects multiple aircraft
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain TCAS to TCAS coordination
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate the potential impact of not following RAs
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can differentiate between TCAS surveillance range versus display range
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain when an intruder will not be displayed
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain the normal, expected pilot response to TAs, RAs, use of displayed traffic information to establish visual contact, and constraints on maneuvering based solely on Tas.
Avionics and	Understand Avionics and communications -	Can state RA inhibit altitudes

Communications	traffic awareness/warning/ avoidance systems	
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can discuss the risks inherent to an inability to comply with an RA due to aircraft performance limitations after an engine failure, and appropriate response to RAs in limiting performance conditions, such as during heavy weight takeoff or while en route at maximum altitude for a particular weight.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain communication and coordination with ATC related to or following a TCAS event, when to contact ATC, and accepted TCAS phraseology.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can identify TCAS symbology
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain radar altimeter inputs to TCAS, and weather radar/electronic flight information system (EFIS) interfaces
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate familiarization with AFM provisions including information on TCAS modes of operation; normal and atypical flightcrew operating procedures; and response to TAs, RAs, and any AFM limitations.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate familiarization with MEL procedures related to TCAS
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can describe appropriate pilot response to TCAS RAs and TAs, ATC clearance compliances and nuisance alerts.

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can sate that TCAS interrogates other transponder-equipped aircraft within a nominal range of 14 nautical miles (NM).
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that TCAS surveillance range can be reduced in geographic areas with a large number of ground interrogators and/or TCAS II equipped aircraft
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can state that TAs can be issued against any transponder-equipped aircraft which responds to the ICAO Mode C interrogations, even if the aircraft does not have altitude reporting capability.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can state that RAs can be issued only against aircraft that are reporting altitude and only in the vertical plane
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can state that RAs issued against a TCAS-equipped intruder are coordinated to ensure the issuance of complementary RAs
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain that TCAS advisories are based on time to CPA rather than distance. The time must be short and vertical separation must be small, or projected to be small, before an advisory can be issued. The separation standards provided by Air Traffic Services (ATS) are different from the missed distances against which TCAS issues an alert
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain that the time must be short and vertical separation must be small, or projected to be small, before an advisory can be issued.

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that the separation standards provided by Air Traffic Services (ATS) are different from the missed distances against which TCAS issues an alert
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that the thresholds for issuing a TA or RA vary with altitude, and are larger at higher altitudes.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that TA tau threshold (trigger point) varies from 20 to 48 seconds before the projected CPA and the RA tau threshold varies from 15 to 35 seconds
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain that RAs are chosen to provide the desired vertical missed distance at CPA. As a result, RAs can instruct a climb or descent through the intruder aircraft's altitude.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that TCAS will neither track nor display non-transponder-equipped aircraft, nor aircraft not responding to TCAS Mode C interrogations.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain that TCAS will automatically fail if the input from the aircraft's barometric altimeter, radio altimeter, or transponder is lost
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that TCAS may not display all proximate transponder-equipped aircraft in areas of high-density traffic.

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that, Because of design limitations, the bearing displayed by TCAS is not sufficiently accurate to support the initiation of horizontal maneuvers based solely on the traffic display
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that Because of design limitations, TCAS will not track intruders with a Vertical Speed (VS) in excess of 10,000 feet per minute (fpm). In addition, the design implementation may result in some short-term errors in the tracked VS of an intruder during periods of high vertical acceleration by the intruder
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that Ground proximity warning system (GPWS) warnings and windshear warnings take precedence over TCAS advisories. When either a GPWS or windshear warning is active, TCAS aural annunciations will be inhibited.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that “INCREASE DESCENT” RAs are inhibited below 1,450 (±100) feet AGL
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that “DESCEND” RAs are inhibited below 1,100 (±100) feet AGL.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that all RAs are inhibited below 1,000 (±100) feet AGL.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that all TCAS aural annunciations are inhibited below 500 (±100) feet AGL.

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that if your aircraft type provides RA climb and increase climb commands at certified ceiling, the commands are to be followed.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate the proper use of controls including appreciate that low display ranges are used in the terminal area and the higher display ranges are used in the en route environment and in the transition between the terminal and en route environment.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate the proper use of controls including appreciate that if available, recommended usage of the “ABOVE/BELOW” mode selector. “ABOVE” mode should be used during climb and the “BELOW” mode should be used during descent.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate the proper use of controls including appreciate that the configuration of the display does not affect the TCAS surveillance volume.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate the proper use of controls including appreciate the benefits of selecting lower ranges when an advisory is issued, in order to increase display resolution
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate the proper use of controls including differentiate between the display of absolute altitude and relative altitude and explain the limitations of using this display if a barometric correction is not provided to TCAS.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can execute proper configuration to display the appropriate TCAS information without eliminating the display of other needed information.
Avionics and	Understand Avionics and communications -	Can recognize traffic within the selected display range that is not proximate traffic, (not causing a TA or RA to be issued).

Communic ations	traffic awareness/warning/ avoidance systems	
Avionics and Communic ations	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can recognize proximate traffic in the display, i.e., traffic that is within 6 NM and ±1200 feet.
Avionics and Communic ations	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can recognize non-altitude reporting traffic in the display.
Avionics and Communic ations	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can recognize no bearing TAs and RAs
Avionics and Communic ations	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can determine when it is necessary to change the selected range for off-scale TAs and RAs to ensure that all available information on the intruder is displayed.
Avionics and Communic ations	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can describe how to select the minimum available display range which allows the display of TAs to provide the maximum display resolution
Avionics and Communic ations	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can describe how to select the minimum available display range which allows the display of TAs to provide the maximum display resolution
Avionics and Communic ations	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that navigation displays oriented on track-up may require a pilot to make a mental adjustment for drift angle when assessing the bearing of proximate traffic.

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain the meaning of the red and green areas displayed on the RA display and when the green areas will and will not be displayed.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate general familiarization with the operator's guidance for the use of "TA-ONLY."
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that if "TA-ONLY" is not selected when an airport is conducting simultaneous operations from parallel runways separated by less than 1,200 feet, and to some intersecting runways, RAs can be expected
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that in TA mode, the TA aural annunciation is inhibited below 500 feet AGL. As a result, TAs issued below 500 feet AGL may not be noticed unless the TA display is included in the routine instrument scan.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can appreciate that in TA-ONLY mode, TAs will be issued at the time an RA is normally issued.
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can describe the division of duties between Pilot Flying (PF) and pilot monitoring (PM)
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can state the expected callouts during a TA or RA
Avionics and	Understand Avionics and communications -	Can describe proper communications with ATC during a TA or RA

Communications	traffic awareness/warning/ avoidance systems	
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can describe the conditions under which an RA may not be followed and who will make this decision
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems -	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	TCAS Failure procedure	
Avionics and Communications	Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - transponder	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - transponder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - transponder	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-TD capable systems IAW FAR § 91.176(a)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).
Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-100 capable systems IAW FAR § 91.176(b)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).

Avionics and Communications	Understand EFVS Operations	Can explain all required pilot flightcrew members must have received and logged the appropriate ground training in EFVS operations IAW FAR § 61.66(a)(1). All PICs or those manipulating the controls (PF) of an aircraft during EFVS operations must have received and logged the appropriate flight training in EFVS operations IAW FAR § 61.66(b)(1). A logbook endorsement or record of training completion is required for the appropriate EFVS operation (EFVS-TD and/or EFVS-100) unless using a military, 61.66(f) exemption OR the pilot can show documentation of satisfactory completion of EFVS-100 operations prior to March 13, 2018.
Avionics and Communications	Understand EFVS Operations	Can explain the checking requirements for EFVS operations as an approved air carrier. For Part 135 operations, FAR § 135.293(i) requires competency checks completed under FAR § 135.293(b) include tasks appropriate to the EFVS operations the certificate holder is authorized to conduct.
Avionics and Communications	Understand EFVS Operations	Can explain pilots conducting EFVS operations for parts 91K, 121, 125, and 135 maintain recent flight experience through satisfactory completion of EFVS tasks and maneuvers during their recurring proficiency checks or competency checks.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS operational credit is credit for a portion of flight visibility prescribed by the IAP being flown that is satisfied by the enhanced image provided by the EFVS. EFVS operational credit is authorized in FAA OpSpec C048.
Avionics and Communications	Understand EFVS Operations	Can describe EFVS operational credit is used by authorized parts 121, 125, and 135 CHs and part 129 foreign air carriers to determine minimum visibilities to: 1. Dispatch, release, or take off a flight under instrument flight rules (IFR) when the forecast weather at the destination airport is equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.613, 125.361, and 135.219); and 2. Begin, execute, or continue an approach when the weather is reported to be equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.651, 125.325, 125.381, and 135.225).

Avionics and Communications	Understand EFVS Operations	Can explain a standard EFVS credit. The Flight Technologies and Procedures Division evaluates available performance data from numerous sources such as other operational evaluations and Original Equipment Manufacturer (OEM) demonstrations conducted in the type design approval process. A standard credit is recommended for an installed EFVS sensor and is published in the Operational Suitability Report (OSR), Operational Credit for Enhanced Flight Vision Systems (EFVS). An operator applying for EFVS operational credit that elects to use the standard credit would not need to demonstrate system performance; however, this does not restrict an operator from conducting their own performance demonstration to determine operational credit. Industry consensus methodology for performance demonstrations is contained in RTCA DO-390, Test Procedures for Quantified Visual Advantage. The OSR can be found at https://drs.faa.gov/browse/excelExternalWindow/bb448b0f-d979-42a2-8d67-9346707e6d29.
Avionics and Communications	Understand EFVS Operations	Can explain Minimum Visibility with Use of EFVS for Parts 121, 125, 129, and 135. OpSpec C048 may include authorization to use a credit to reduce the visibility required for operating without the use of the EFVS (see Table 1, Sample Minimum Visibility Table). The credits based on the demonstrated EFVS sensor performance.
Avionics and Communications	Understand EFVS Operations	Can explain Landing Weather Minimums for Recently Upgraded PICs. Recently upgraded PICs are subject to § 121.652, § 125.379, or § 135.225(e), which temporarily raise IAP minimums to afford an extra layer of safety while experience operating as PIC is gained. EFVS minimum visibility should not be used until the requirements of these regulations are met, as this may negate the safety margins intended by these regulations.
Avionics and Communications	Understand EFVS Operations	Can explain Alternate Airport Weather. The use of EFVS minimum visibility is not advised for alternate airport planning. However, once in flight, a pilot may use EFVS minimum visibilities to begin an approach at an alternate airport.

Avionics and Communications	Understand EFVS Operations	Can ensure considerations for Part 91K, 125, or 135 Pilot Training Programs. Initial training for pilots under part 91K, 125, or 135 must include the required elements listed in FAR § 61.66(a)(2) and (b)(2). The required elements and suggested methods of meeting said requirements can be found in Appendix A. Part 91K, 125, or 135 competency checks should include appropriate EFVS tasks.
Avionics and Communications	Understand EFVS Operations	Can demonstrate familiarization with an overview per FAR § 91.176, parts 121, 125, and 135 CHs require OpSpec C048 to conduct EFVS-100 or EFVS-TD operations, and may include provisions to use EFVS operational credit. Part 91K program managers require MSpec C048 to conduct EFVS-100 or EFVS-TD operations. MSpec C048 does not include provisions to use EFVS operational credit.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 1. Airworthiness Documentation. Excerpts from the AFM(S) that identify the EFVS operation(s) for which the system received airworthiness approval. The FAA recommends incorporating any procedures or operating limitations in the AFM(S) into the approved EFVS training curriculum and operating manuals.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 2. Operating Manuals. Applicable sections of operating manuals (e.g., Airplane Operations Manual (AOM), Flight Operations Manual (FOM), pilot’s operating handbook (POH), and/or quick reference handbook (QRH)) that contain the operator’s procedures or provisions for using an EFVS. These procedures can be incorporated in the operator’s approved EFVS training curriculum and in the AFM(S).
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 3. EFVS Pilot Training Curriculum. A proposed EFVS training curriculum that ensures the pilot meet the requirements of § 61.66. Paragraph 9 and Appendix A contain information for developing a training curriculum to include the required ground training subjects and flight training tasks required by § 61.66(a) and (b). It is acceptable to incorporate a previously approved curriculum provided by a part 141 or 142 school.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 4. EFVS Provisions in the MEL. If the applicant is seeking MEL relief for EFVS, they should provide the proposed MEL containing appropriate operations and maintenance procedures that consider all applicable components of the EFVS during MEL submission, review, and approval.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 5. Application for Operational Credit. Operators operating under parts 121, 125, and 135 CHs applying for authorization to use EFVS operational credit should provide: a. A statement of proposed credit. Operators may propose use of the standard credit published in the EFVS OSR, which is based on previous demonstrations of system visual advantage. When an operator elects to use the standard credit, it is not necessary to demonstrate visual advantage during the operational demonstration. If the applicant elects to perform their own demonstration, AC 20-167 provides methods that can be used to demonstrate quantified visual advantage in the certification process. b. EFVS training curriculum for dispatchers or other persons exercising operational control, as described in paragraph 9 and Appendix C. c. Dispatch procedures manual or a general operations manual, as applicable, containing procedures for using the authorized EFVS operational credit to determine the minimum visibilities for use with EFVS.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 6. EFVS Maintenance Procedures. EFVS maintenance procedures or programs as described in Appendix B. If the applicant is responsible for the training of maintenance personnel, the applicant can also provide an EFVS training curriculum for maintenance personnel, as described in paragraph 9 and Appendix B.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of EFVS Operational Demonstration for Parts 91K, 121, 125, and 135 Applications. The FAA's process for approval and acceptance includes observing and evaluating the operator's ability to perform the proposed operation(s) in accordance with the procedures, guidelines, and parameters described in the operator's formal application. The means for meeting the operational demonstration objectives and an appropriate timeline are established through an agreement between the operator and the responsible Flight Standards Safety Assurance office. The are many acceptable means by which an operational demonstration can be accomplished (e.g., tabletop exercises, simulators, classroom observations, observations of line operations, observations of training flights, or any other agreed-upon means).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of the regulations relevant to EFVS operations. A list of the regulations is in Appendix D, Related Regulations and Guidance. Appendix D includes 61.66, 91.1065, 121.407, 121.409, 121.441 including Appendices F and H, 125.287, 135.293, 91.176, 91.189(d) and (e), 91.1039, 121.651, 125.325, 125.381, 135.225, 91.905, AC 20-167, AC 61-65, AC 120-54, AC 120-57, AC 120-71, and AC 120-118.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of an AFM or its supplement (AFM(S)) or other manufacturer documentation that specifies the type of EFVS operation the EFVS is certified to conduct, specifies performance applicable to the use of operational credit, or defines specific procedures, conditions, or limitations associated with operating the EFVS. In some cases, procedures described in an AFM(S) may be more restrictive than the regulations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the characteristics of the enhanced imagery provided by an EFVS. An EFVS image must be real-time, conformal, and sensor-based. Imagery that is computer-generated from a database, such as a synthetic image, cannot be used to conduct an EFVS operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements to be used for EFVS operations to touchdown and rollout (EFVS-TD) operations listed under 14 CFR part 91, § 91.176(a)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements of an EFVS to be used for EFVS operations to 100 feet above the touchdown zone elevation (TDZE) (EFVS-100) operations listed under § 91.176(b)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the controls for the EFVS image to include display brightness, contrast, and image modes.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the control for turning the EFVS image on or off. This control is important, because if the sensor imagery were to obscure the pilot's view of the outside scene, the pilot should have a readily available means to immediately remove the sensor imagery from the Head-Up Display (HUD). However, in order to continue an EFVS operation, the pilot should reactivate the image as soon as possible.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain how computer-generated synthetic elements are presented in the image, if applicable. Some systems may integrate synthetic vision elements into the image displayed on the HUD. A pilot should be able to differentiate between the sensor-based elements and the computer-generated elements.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) explain the runway and extended runway centerline symbology presented during the approach phase.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the field of view (FOV) of the EFVS display.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can explain the imaging technology of the EFVS sensor and the related limitations (i.e., light detection, obstacle detection, weather types, and FOV). The AFM(S) may specify any limitations or demonstrated performance applicable to the installed EFVS. An EFVS can display imagery that may significantly improve a pilot's capability to detect approach lights and visual references of the runway environment that may not otherwise be visible using natural vision. Not all EFVS sensors have the same imaging capabilities. Some sensors may image particular materials and some may focus in specific energy spectrums. Some sensor technologies are more affected by certain weather conditions (e.g., obscurations and precipitation). Some systems utilize multiple sensors to combine the benefits from different technologies.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview on interpreting a sensor-generated scene presented by the EFVS. Images may have characteristics and contain artifacts that are unique to the sensor technology, EFVS image processing software, or display characteristics (i.e., monochrome colors). An external scene generated from infrared technology may be different from a scene generated from another technology or combination of technologies.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview of image anomalies of the installed EFVS. Anomalies such as “noise,” “blooming,” parallax, and other visual effects may be more prevalent in different EFVS installations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of flight planning considerations for sensor performance and limitations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can explain the optimal EFVS settings for different phases of flight and meteorological conditions.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of techniques for identifying visual references with natural vision at 100 feet above the TDZE for EFVS-100 operations. There may be several techniques that crews can use to ensure that visual references are seen with natural vision while continuing to use the EFVS image. It is important that these techniques do not reinforce deactivating the EFVS image more than momentarily during the EFVS operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of considerations for conducting EFVS operations with a limited EFVS FOV. A combination of crosswind correction, approach course offset, and the lateral FOV may result in the inability of the pilot to acquire and maintain visual references.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of considerations for executing a go-around below a DA/DH or MDA. Whether a pilot is using an EFVS or natural vision, obstacle clearance should not be assumed when initiating a go-around below a DA/DH or MDA or after the missed approach point. The missed approach procedure should be thoroughly briefed and accurately flown, and may need additional climb performance beyond the standard 200 feet per nautical mile to ensure adequate obstacle clearance.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for visual segment obstacle clearance. Pilots using an EFVS should be careful not to conclude that the flightpath is free of obstacles because no obstacles are distinctly visible in the EFVS image. The approach procedure should be thoroughly briefed and accurately flown.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of the considerations for conducting EFVS operations on special instrument approach procedures (IAP). Operators that have a specific approval from the FAA to conduct instrument approaches using special IAPs should evaluate those instrument procedures to determine their compatibility with EFVS operations. These procedures may have nonstandard features or special conditions that may not be compatible with EFVS operations or the performance of an EFVS sensor.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for conducting taxi operations after conducting an EFVS operation. Once the EFVS operation is complete, the pilot may have to taxi at an airport with Low-Visibility Operations (LVO)/Surface Movement Guidance and Control System (SMGCS) operations in effect. Although an EFVS may provide some increased situation awareness during taxi operations, natural vision is still essential.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) can demonstrate an overview of the effect of obscuration types, precipitation conditions, and low ceilings or cloud layers as contributing factors to the variable and unpredictable characteristics of EFVS sensor performance or EFVS sensor and image quality.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) demonstrate an overview of visibility reporting equipment (e.g., Runway Visual Range (RVR), automated surface observing system (ASOS), and Automated Weather Observing System (AWOS)) and their limitations, reporting increments, and relationship to actual flight visibility on the approach.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-TD operations, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-100 operations, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: a. An integrity check of the sensor window.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: b. System tests and warmup time.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: c. System control adjustments, to include appropriate setting of EFVS contrast, brightness, and symbology.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: d. EFVS image alignment procedures with the natural vision image.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: a. Callouts for continuing descent below the DA/DH or MDA using the EFVS.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: b. Callouts for transition from enhanced image to natural vision at 100 feet above the TDZE during an EFVS-100 operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: c. Callouts to clearly communicate the decision to land or go around.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: d. Callouts for abnormal EFVS operations.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: a. Expectations of system performance and limitations in reported weather conditions and a minimum visibility for the use of an EFVS (if applicable).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: b. EFVS callouts.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: c. Other approach considerations that may affect EFVS operations such as final approach offsets and ground infrastructure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: d. Missed approach considerations and procedure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: e. The taxi operation considerations in reported weather conditions.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the PM use of the repeater display during EFVS-TD operations. The PM uses the display to assess the safe conduct of the approach, landing, and rollout, and intervene, if necessary, in visibilities where natural vision may not be sufficient.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the procedure used for determining minimum visibility for use of EFVS for the purpose of releasing the flight or executing an approach, as applicable.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can demonstrate an overview of techniques for identifying EFVS system failures and corresponding procedures. A proper cross-check of the HUD instrumentation presentations against the EFVS sensor image could help recognize malfunctions of the navigation equipment or improper presentation of elements in the visual scene during the approach. In the event any required component fails during an EFVS operation until touchdown, the PF should initiate a go-around. However, this does not preclude a pilot's authority to continue to a landing and rollout if the pilot considers that a safer course of action.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(viii) can integrate the following: it is necessary for the pilot training curriculum to include the interpretation of approach and runway lighting systems and their display characteristics when using an EFVS. This could be accomplished by including an overview of different light sources used in airport and approach lighting systems and the ability of the EFVS to detect them. An EFVS based only on infrared sensor technology may not be capable of imaging light-emitting diode (LED) lighting because energy is not emitted in an infrared spectrum. It is important that pilots are familiar with the potential use of LEDs at their destination and any corresponding limitations of their EFVS. For more information, please refer to Information for Operators (InFO) 11004, Enhanced Flight Vision System (EFVS), Enhanced Vision Systems (EVS), and Night Vision Goggles (NVG) Compatibility with Light-Emitting Diodes (LEDs) at Airports and on Obstacles. You can find InFO 11004 at https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info.
Avionics and Communications	Understand EFVS Operations	Can explain those portions of this chapter that relate to EFVS flight operations and limitations, including the Airplane Flight Manual or Rotorcraft Flight Manual limitations.
Avionics and	Understand EFVS Operations	Can explain EFVS sensor imagery, required aircraft flight information, and flight symbology.

Communications		
Avionics and Communications	Understand EFVS Operations	Can explain EFVS display, controls, modes, features, symbology, annunciations, and associated systems and components.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS sensor performance, sensor limitations, scene interpretation, visual anomalies, and other visual effects.
Avionics and Communications	Understand EFVS Operations	Can explain preflight planning and operational considerations associated with using EFVS during taxi, takeoff, climb, cruise, descent and landing phases of flight, including the use of EFVS for instrument approaches, operating below DA/DH or MDA, executing missed approaches, landing, rollout, and balked landings.
Avionics and Communications	Understand EFVS Operations	Can explain weather associated with low visibility conditions and its effect on EFVS performance.
Avionics and Communications	Understand EFVS Operations	Can explain normal, abnormal, emergency, and crew coordination procedures when using EFVS.
Avionics and Communications	Understand EFVS Operations	Can interpret approach and runway lighting systems and their display characteristics when using an EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to touchdown and rollout. This includes a displayed EFVS sensor image for the pilot monitoring where the symbology does not obscure the runway environment. See 91.176(a)(1)(i)(A) through (F) and (ii) for details.
Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.
Avionics and	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.

Communications		
Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (a)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Ensure when a minimum flightcrew of more than one pilot required, the pilot monitoring must use the display specified in paragraph (a)(1)(ii) to monitor and assess the safe conduct of the approach, landing, and rollout.
Avionics and Communications	Understand EFVS Operations	Can appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Appreciate why the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing.
Avionics and Communications	Understand EFVS Operations	Can ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operators, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;
Avionics and Communications	Understand EFVS Operations	Can ensure each person acting as a required pilot flightcrew member for a foreign air carrier subject to part 129, or any person serving as a required pilot flightcrew member of a foreign registered aircraft, must be qualified in accordance with the training requirements of the civil aviation authority of the State of the operator for the EFVS operation to be conducted.

Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under this part must conduct the operation in accordance with a letter of authorization for the use of EFVS unless the operation is conducted in an aircraft that has been issued an experimental certificate under § 21.191 of this chapter for the purpose of research and development or showing compliance with regulations, or the operation is being conducted by a person otherwise authorized to conduct EFVS operations under paragraphs (a)(2)(ix) through (xii) of this section. A person applying to the FAA for a letter of authorization must submit an application in a form and manner prescribed by the Administrator.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless from the authorized DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references - (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the enhanced flight visibility using EFVS must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can explain the Administrator may prescribe additional equipment, operational, and visibility and visual reference requirements to account for specific equipment characteristics, operational procedures, or approach characteristics. These requirements will be specified in an operator's operations specifications, management specifications, or letter of authorization authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to 100 feet above the touchdown zone. See 91.176(a)(1)(i)(A) through (F) for details; however, a flare prompt, flare guidance, or height above ground level need not be present for operations to 100 feet above the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.
Avionics and Communications	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.

Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (b)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Can appreciate why for operations conducted under part 121 or part 135 of this chapter, the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing
Avionics and Communications	Understand EFVS Operations	Ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operators, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless from the authorized MDA or DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references- (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the flight visibility must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot without reliance on the EFVS - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.

Avionics and Communications	Understand EFVS Operations	Can consider the compliance date. Beginning on March 13, 2018, a person conducting an EFVS operation to 100 feet above the touchdown zone elevation must comply with the requirements of paragraph (b) of this section.
Avionics and Communications	Understand EFVS Operations	Can determine the recommended EFVS Operational Credit capability for their make/model and possibly serial number for their aircraft using Appendices 1 and 2.
Avionics and Communications	Understand EFVS Operations	Can appreciate the EFVS Operational Credit Tables in Appendix 3 for risk management under Part 91 operations or compliance for air carrier operations.

Day 4 Continued Ground School Learning Objectives

Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Powerplant	Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations without APU
Powerplant	Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations with APU
Powerplant	Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU
Powerplant	Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations with APU
Powerplant	Conduct Powerplant Start	Can explain procedures for starting engines under various conditions
Powerplant	Conduct Powerplant Start	Can explain possible malfunctions during powerplant start, procedures to address the malfunction, and any associated limitations
Powerplant	Conduct Powerplant Start	Can describe coordinating and communicating with ground personnel for powerplant start, if applicable

Powerplant	Conduct Pushback	Can describe the published OEM pushback procedure for operations with engines not running, starting the right engine during pushback, and both engines running prior to pushback.
Powerplant	Understand Powerplant - turbine wheels	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - turbine wheels	Can explain system or component limitations
Powerplant	Understand Powerplant - turbine wheels	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - turbine wheels	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - turbine wheels	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - turbine wheels	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - allowable types of oil	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - allowable types of oil	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - allowable types of oil	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Powerplant	Understand Powerplant - compressors	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - compressors	Can explain system or component limitations
Powerplant	Understand Powerplant - compressors	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - compressors	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - compressors	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - compressors	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - controls and indications	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - controls and indications	Can explain system or component limitations
Powerplant	Understand Powerplant - controls and indications	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - controls and indications	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - controls and indications	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Powerplant	Understand Powerplant - controls and indications - Engine Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - controls and indications - Pylon Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - deicing, anti-icing	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain system or component limitations
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Oil System	Understand Powerplant - allowable types of oil	Can describe the operation of the airplane systems and components using correct terminology
Oil System	Understand Powerplant - allowable types of oil	Can explain system or component limitations

Oil System	Understand Powerplant - allowable types of oil	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oil System	Understand Powerplant - oil system capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain system or component limitations
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain immediate action items or memory items, if appropriate
Oil System	Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oil System	Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Thrust Reverse	Understand Powerplant - thrust reverse	Can describe the operation of the airplane systems and components using correct terminology
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain system or component limitations
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Thrust Reverse	Understand Powerplant - thrust reverse	Can explain immediate action items or memory items, if appropriate
Thrust Reverse	Understand Powerplant - thrust reverse	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Thrust Reverse	Understand Powerplant - thrust reverse - Dispatch with Inoperative Thrust Reverser(s) On Wet Runways procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Thrust Reverse	Understand Powerplant - thrust reverse - Thrust Reverser Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Thrust Reverse	Understand Powerplant - thrust reverse - Thrust Reverser Manual Stow Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain immediate action items or memory items, if appropriate

Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Equipment Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Floor Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and	Can explain system or component limitations

	suppression - pneumatic and environmental	
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental - Airplane Interior Fire / Smoke / Fumes procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain immediate action items or memory items, if appropriate
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain all notes cautions or warnings listed in the

		OEM manuals & OEM manuals
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain immediate action items or memory items, if appropriate
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Day 5 Ground School Learning Objectives

Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the

		airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - capacity	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - capacity	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - capacity	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - capacity	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - capacity	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - capacity	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - pressure	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - pressure	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - pressure	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the

		airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - pressure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - pumps	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - pumps	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - pumps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - reservoirs	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - reservoirs	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - reservoirs	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Flight Controls	Conduct Clean Configuration Stall prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Landing Configuration Stall Prevention	Can explain the effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Partial Flap Configuration Stall Prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Recovery from Unusual Flight Attitudes	Can explain and reference the operating envelope and structural limitations for the airplane
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain system or component limitations
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain immediate action items or memory items, if appropriate

Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - elevator	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - elevator	Can explain system or component limitations
Flight Controls	Understand Flight Controls - elevator	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - elevator	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - elevator	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - elevator	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - flaps	Can explain system or component limitations
Flight Controls	Understand Flight Controls - flaps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Flight Controls	Understand Flight Controls - flaps	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - flaps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - rudder	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - rudder	Can explain system or component limitations
Flight Controls	Understand Flight Controls - rudder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - rudder	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - rudder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - rudder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - speed brakes	Can explain system or component limitations

Flight Controls	Understand Flight Controls - speed brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - speed brakes	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - speed brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - speed brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - spoilers	Can explain system or component limitations
Flight Controls	Understand Flight Controls - spoilers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - spoilers	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - spoilers - Ground Spoiler Failure Inflight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can describe the operation of the airplane systems and

		components using correct terminology
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain system or component limitations
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - Ailerons	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - Ailerons	Can explain system or component limitations
Flight Controls	Understand Flight Controls - Ailerons	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - Ailerons	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - Ailerons	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Flight Controls	Understand Flight Controls - Ailerons	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - Other Flight Deck Systems	Can describe other flight deck systems related to AWO operations (e.g., autobrakes or autospoilers), and any associated limitations, characteristics, or constraints (e.g., touchdown pitch up or pitch down tendency of certain autospoiler or autobrake settings or non-normal conditions, time delays, or auto-deactivation features with go-around)
Flight Controls	Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - trim systems	Can explain system or component limitations
Flight Controls	Understand Flight Controls - trim systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - trim systems	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - trim systems - mach trim failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Landing Gear and Brakes	Conduct nosewheel steering - Nosewheel Steering failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain immediate action items or memory items, if appropriate

Landing Gear and Brakes	Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain immediate action items or memory items, if appropriate

Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - tires	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - tires	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - tires	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Ice Protection	Understand flight operations in icing conditions	Can explain that "severe icing" is when the rate of ice accumulation is such that ice protection systems fail to remove the accumulation of ice and accumulation occurs in areas not normally prone to

		icing, such as aft of protected surfaces and other areas identified by the manufacturer
Ice Protection	Understand ground operations in icing conditions	Can explain that regulations prohibit takeoff when snow, ice, or frost is adhering to wings, propellers, or control surfaces of an aircraft.
Ice Protection	Understand ground operations in icing conditions	Can explain that the degradation in aircraft performance and changes in flight characteristics when frozen contaminants are present are wide ranging, unpredictable, and highly dependent upon individual aircraft design
Ice Protection	Understand ground operations in icing conditions	Can explain that the PIC has the ultimate responsibility to determine if the aircraft is clean and that the aircraft is in a condition for safe flight.
Ice Protection	Understand ground operations in icing conditions	Can explain that in order to achieve compliance with the clean aircraft concept, it is imperative that takeoff not be attempted in any aircraft unless the pilot-in-command (PIC) is certain that critical components of the aircraft are free of frozen contaminants.
Ice Protection	Understand ground operations in icing conditions	Can explain that for aircraft type specific procedures, pilots should refer to the aircraft flight manuals or other manufacturer documents developed for that particular type aircraft

Ice Protection	Understand ground operations in icing conditions	Can explain that icing conditions (during flight or ground operations) can occur, and ice protection systems or procedures should be activated when OAT is below 50 degrees F (10 degrees C) and visible moisture in any form is present or when there is standing water, ice, or snow on the runway and/or taxiways.
Ice Protection	Understand ground operations in icing conditions	Can explain that residual ice or slush accumulated on airframe components during landing and taxi operations on contaminated runways, taxiways and ramps, can remain in place if low temperatures and other weather conditions exist unless identified and removed. Contaminants of this type are commonly found in wheel wells, on landing gear components, trailing edge flaps, undersurfaces of wings and horizontal stabilizers
Ice Protection	Understand ground operations in icing conditions	Can explain that the deicing process is intended to restore the aircraft to a clean configuration so that neither degradation of aerodynamic characteristics nor mechanical interference from contaminants will occur
Ice Protection	Understand ground operations in icing conditions	Can explain that it is essential that the PIC have a thorough understanding of the deicing and anti-icing process and the approved procedures necessary to ensure that the aircraft is clean for takeoff.
Ice Protection	Understand ground operations in icing conditions	Can explain that anti-icing should be performed as near to the takeoff time as possible to minimize the risk of exceeding

		the useful life or time of effectiveness of the anti-icing fluid
Ice Protection	Understand Ice Protection - anti-ice & de-ice - Ice Shedding Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain system or component limitations
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain the function and limitations of automatic mode of wing and cowl anti-ice systems
Ice Protection	Understand Ice Protection - pitot-static system protection	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection - pitot-static system protection	Can explain system or component limitations
Ice Protection	Understand Ice Protection - pitot-static system protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection - pitot-static system protection	Can explain immediate action items or memory items, if appropriate

Ice Protection	Understand Ice Protection - pitot-static system protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection airfoil surfaces	Can explain system or component limitations
Ice Protection	Understand Ice Protection airfoil surfaces	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection airfoil surfaces	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection windshield	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection windshield	Can explain system or component limitations
Ice Protection	Understand Ice Protection windshield	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection windshield	Can explain immediate action items or memory items, if appropriate

Ice Protection	Understand Ice Protection windshield	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection windshield - Windshield Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection windshield - Windshield Heat Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Day 6 Ground School Learning Objectives

Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Flight Planning and Performance	Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance
Flight Planning and Performance	Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Flight Planning and Performance	Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Flight Planning and Performance	Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Flight Planning and Performance	Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Flight Planning and Performance	Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Conduct Rejected Takeoff	Can define relevant V-speeds for a rejected takeoff
Flight Planning and Performance	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that there are two types of DPs: Standard Instrument Departures (SIDs) and Obstacle Departure Procedures (ODPs)
Flight Planning and Performance	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that SIDs are primarily designed for air traffic system enhancement to expedite traffic flow and to reduce pilot/controller workload.
Flight Planning and Performance	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that ODPs are recommended for obstruction clearance and may be flown without ATC clearance unless an alternate DP (SID or radar vector) has been specifically assigned by ATC.
Flight Planning and Performance	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs relies on normal descent profiles and identifies minimum segment altitude requirements
Flight Planning and Performance	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe alternate airport requirements and selection of an alternate airport.
Flight Planning and Performance	Understand Avionics and Communications - Instruments	Can describe proper application of controlling and/or advisory RVR, appropriate runway light settings, and proper determination of RVR values reported at foreign facilities.

Flight Planning and Performance	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe the meaning and proper use of aircraft equipment/navigation capability codes used on the flight plan
Flight Planning and Performance	Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run

Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance

Flight Planning and Performance	Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for “all engine” or “engine inoperative” missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified “all-engine lateral flightpath” (or radar vectors) and any specified “engine-inoperative lateral flightpath,” using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Flight Planning and Performance	Understand determining climb performance per AFM	Can state the definition of takeoff segment
Flight Planning and Performance	Understand determining climb performance per AFM	Can state the definitions of gross and net flighpath
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators

Flight Planning and Performance	Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane

		performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand ground operations in icing conditions	Can explain the general adverse effects of ice, snow and frost on aircraft performance and flight characteristics: decreased thrust, decreased lift, increased stall speed, trim changes, and altered stall characteristics and handling qualities
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance

Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process

Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can contribute to a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival
Flight Planning and Performance	Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the difference between the generic samples in table 3-2 where cumulative errors are made, and table 3-3 where errors are not made
Flight Planning and Performance	Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance

Day 7 Ground School Learning Objectives

Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Flight Profiles and Maneuvers	Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Flight Profiles and Maneuvers	Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight
Flight Profiles and Maneuvers	Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure
Flight Profiles and Maneuvers	Conduct Missed Approach - OEI	Can explain that when executing a one engine inoperative missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach

Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments increase pilot workload and potential errors during a critical phase of flight.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that the practice commonly referred to as “dive and drive,” can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help eliminate CFIT.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous descent final approach) technique.

Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the “dive and drive” technique.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV systems, or by manually computing rate of descent.
Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)

Flight Profiles and Maneuvers	Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.
Flight Profiles and Maneuvers	Conduct Rejected Takeoff	Can describe conditions and situations that could warrant a rejected takeoff (e.g., takeoff warning systems, powerplant failure, other systems warning/failure)
Flight Profiles and Maneuvers	Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew
Flight Profiles and Maneuvers	Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Flight Profiles and Maneuvers	Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Flight Profiles and Maneuvers	Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)
Flight Profiles and Maneuvers	Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways,

		entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Flight Profiles and Maneuvers	Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Flight Profiles and Maneuvers	Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Flight Profiles and Maneuvers	Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Flight Profiles and Maneuvers	Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Flight Profiles and Maneuvers	Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Flight Profiles and Maneuvers	Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Flight Profiles and Maneuvers	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight

Flight Profiles and Maneuvers	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Flight Profiles and Maneuvers	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Flight Profiles and Maneuvers	Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Flight Profiles and Maneuvers	Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Flight Profiles and Maneuvers	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight
Flight Profiles and Maneuvers	Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight
Flight Profiles and Maneuvers	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of indicated airspeed during a stabilized approach
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique

Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Flight Profiles and Maneuvers	Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain how use of published approach guidance in visual conditions can reduce errors
Flight Profiles and Maneuvers	Understand Specific Flight Characteristics	Can identify expected minimum visual references that occur on approach when the weather is at acceptable minimum conditions as well as the expected sequence of visual cues during an approach in which the visibility is at or above the specified landing minima. Training on this topic should include identifying required visual references over a range of actual or simulated low-visibility
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of impending stall indications and understanding of the need to initiate the stall

		recovery procedure at an impending stall.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of full stall indication (see paragraph 1-7) with the realization that most swept-wing transport category aircraft exhibit full stall characteristics different from those typically experienced in General Aviation (GA) aircraft used during certification training.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: For airplanes equipped with a stick pusher, recommended recovery actions in response to stick pusher activation.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Avoiding cyclical or oscillatory control inputs to prevent exceeding the structural limits of the airplane.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Structural considerations, including explanation of limit load, ultimate load, and the dangers of combining accelerative and rolling moments (i.e., the rolling pull) during recovery.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: The necessity for smooth, deliberate, and positive control inputs to avoid unacceptable load factors and secondary stalls.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: AOA must be reduced prior to controlling roll.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Effectiveness of control surfaces and the order in which the control surfaces lose and regain their

		effectiveness (e.g., spoilers, ailerons, etc.).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: If a terrain awareness warning system (TAWS) warning is encountered during recovery from a low altitude stall event, recovery from the stall warning should take precedence. Once the airplane recovers from the stall event, then execute the TAWS escape maneuver.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: AOA versus pitch angle.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Rate of onset including rate of airspeed decay (both low and high).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Airplane configuration and condition including weight, center of gravity (CG), landing gear, flaps/slats, spoilers/speed brakes, etc.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Asymmetric loading including thrust asymmetries, wing loading due to roll or yaw transients or uncoordinated flight.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: G loading.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Bank angle.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust and lift vectors.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust required versus thrust available.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Wind shear.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Altitude.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mach effects.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Situational Awareness.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mode confusion, including unexpected/unannounced mode changes.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: unexpected transition from automated to manual flight.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Contamination (ice), including the effect of icing on stall speed and stall warnings.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate an understanding of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain specific stall and low-speed buffet characteristics unique to the airplane type and any implications for the expected flight operations and airplane-specific stall recovery procedure (e.g., underwing mounted engines, t-tail, propellers, etc.).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can describe thrust settings and its application.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can describe autothrottle/autothrust protection.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate awareness of autoflight mode indications.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain incorrect use of (including input errors) flightpath automated systems.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the operation and function of stall protection systems in normal, abnormal, and emergency situations, including the hazards of overriding or ignoring stall protection system indications. Awareness of the factors that may lead such systems to fail, as well as degraded modes, indications, or behaviors that may occur with system failures.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain buffet boundary and margins in flight planning and operational flying.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the lower margins for stall onset and recovery (i.e., coffin corner) and possible buffet cueing differences on the high-speed versus the low-speed margin.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the principles of high-altitude aerodynamics, performance capabilities, and limitations; including high altitude operations and flight techniques (i.e., the need to avoid secondary stall by extended nose-down recovery, compared to lower altitudes).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the differences in airplane performance (e.g., thrust available) during high versus low altitude operations, the effects of those differences on stall recovery, and the anticipated altitude loss during a recovery.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the differences between transport category airplane certification and GA airplane certification regarding use of flight controls at high AOA. For example, if the roll control system is compromised and the ailerons are unable to produce the required roll recovery, the rudder may be used with care during stall prevention and recovery. To maintain structural integrity, it is important to guard against control reversals—avoid rapid full-scale reversal of control deflection
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate general awareness of example events. Although significant emphasis should be placed on preventing stall events, it is important for pilots to understand that, although rare, stall events continue to occur. Studying the causes and contributing factors of stall events give pilots more knowledge to help prevent or if necessary, recover from a stall event. A review of stall-related accidents, incidents, ASAP, FOQA, and ASRS data for the specific airplane type or class should be included in ground training.

Flight Profiles and Maneuvers	Conduct Stall Prevention and Recovery	Can explain the STICK PUSHER. For airplanes equipped with a stick pusher, stall recovery training includes ground training and practical training in an FFS. It is important for pilots to experience the sudden forward movement of the control yoke/stick during a stick pusher activation. From observations, most instructors state that, regardless of previous academic training, pilots usually resist the stick pusher on their first encounter. Usually, they immediately pull back on the control yoke/stick rather than releasing pressure as they have been taught. Therefore, pilots must receive practical stick pusher training in an FFS to develop the proper response (allowing the pusher to reduce AOA) when confronted with a stick pusher activation. Stick pusher training should be completed as a demonstration/practice exercise, including repetitions, until the pilot’s reaction is to permit the reduction in AOA even at low altitudes. Pilot response to a deliberate activation of the pusher is not a checked maneuver.
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
CRM	Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the characteristics of effective CRM
CRM	Understand Crew Resource Management (CRM)	Can evaluate the authority of the pilot in command
CRM	Understand Crew Resource Management (CRM)	Can discuss communication processes, decisions, and coordination, to include

		communication with Air Traffic Control, personnel performing flight locating and other operational functions, and passengers
CRM	Understand Crew Resource Management (CRM)	Can manage building and maintenance of a flight team
CRM	Understand Crew Resource Management (CRM)	Can discuss workload and time management
CRM	Understand Crew Resource Management (CRM)	Ensure situational awareness
CRM	Understand Crew Resource Management (CRM)	Can appreciate the effects of fatigue on performance, avoidance strategies and countermeasures
CRM	Understand Crew Resource Management (CRM)	Can appreciate the effects of stress and stress reduction strategies
CRM	Understand Crew Resource Management (CRM)	Can determine aeronautical decision-making and judgment training tailored to the operator's flight operations and aviation environment
CRM	Understand Crew Resource Management (CRM)	Can explain the airplane pilot competency framework and associated observable behaviors
CRM	Understand Crew Resource Management (CRM)	Can relate the airplane pilot competency framework to threat and error management
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Weight and Balance	Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Weight and Balance	Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Weight and Balance	Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Day 8 Ground School Learning Objectives

Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recognition
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear pilot technique
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff after liftoff
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can define windshear as any rapid change in wind direction or velocity
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can define severe windshear as a rapid change in wind direction or velocity causing airspeed changes greater than 15 knots or vertical speed changes greater than 500 feet per minute
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can define Increasing Headwind Shear as windshear in which headwind increases, causing an airspeed increase
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can define Decreasing Headwind Shear as windshear in which headwind decreases, causing an airspeed loss
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can define Increasing Tailwind Shear as windshear in which tailwind increases, causing an airspeed loss

Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can define Decreasing Tailwind Shear as windshear in which tailwind decreases, causing an airspeed increase
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter on the approach
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss takeoff precautions
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss approach precautions
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss the characteristics of a microburst
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss general windshear recovery technique
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recovery technique after liftoff/on approach
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recovery technique during takeoff/on runway
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss why other techniques of recovery reduce the chances of survival
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
MEL and CDL	Understand Auxiliary Power Unit (APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation

		List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - autopilot	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - emergency locator transmitter.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Avionics and communications - Flight Management System (FMS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - ground-based navigation systems and components	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - indicating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Radar	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document

		inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - terrain awareness/warning/alert systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - transponder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Emergency Equipment - emergency exits	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Crew and Passenger Equipment - passenger oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - circuit breakers and protection devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - controls	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - external and auxiliary power sources. (Ground power and APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - generators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document

		inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Envelope protection—angle of attack warning and protection and speed protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Fire & smoke detection, protection, and suppression - lavatory	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - powerplant	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - elevator	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - flaps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - rudder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - speed brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document

		inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - spoilers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - Ailerons	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - trim systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - additives	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Fuel system - capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - controls and indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - cross-feeding	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - drains	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fuel grade	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fuel substitutions	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document

		inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fueling and defueling procedures	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - transferring	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - allowable types of fluid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - capacity	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Hydraulic system - pressure	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - regulators/accumulators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - reservoirs	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection - anti-ice & de-ice.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection - pitot-static system protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document

		inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection airfoil surfaces	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection windshield	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - antiskid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - extension/retraction system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Landing Gear - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - nosewheel steering	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - shock absorbers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - tires	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Lighting	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document

		inoperative components of this system and explain related procedures
MEL and CDL	Understand Pitot Static System - Operation and power sources for other flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - pressurization	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - supply for ice protection systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Powerplant - turbine wheels	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - allowable types of oil	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - compressors	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - controls and indications	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - deicing, anti-icing	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - oil system capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document

		inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - thrust reverse	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain system or component limitations
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain immediate action items or memory items, if appropriate
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain system or component limitations
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain immediate action items or memory items, if appropriate
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use

		of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization - Unpressurized Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain system or component limitations

Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain immediate action items or memory items, if appropriate
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe

		the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain immediate action items or memory items, if appropriate
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system - Inadvertent Oxygen Mask Activation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system - Overweight Landing procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain system or component limitations

Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain immediate action items or memory items, if appropriate
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Lighting	Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Lighting	Understand Lighting	Can describe the operation of the airplane systems and components using correct terminology
Lighting	Understand Lighting	Can explain system or component limitations
Lighting	Understand Lighting	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Lighting	Understand Lighting	Can explain immediate action items or memory items, if appropriate

Lighting	Understand Lighting	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Lighting	Understand Lighting	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 1	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Preflight	Conduct Interior and exterior preflight	Can explain which items must be inspected per the OEM Manuals using pictorial preflight
Preflight	Conduct Interior and exterior preflight	Can explain the reasons for checking each item during preflight
Preflight	Conduct Interior and exterior preflight	Can describe how to detect possible defects
Preflight	Conduct Interior and exterior preflight	Can explain how to coordinate checklist with crew, if appropriate

Systems Integration Training Learning Objectives

SIT 1 Learning Objectives

Tasks	Knowledge & Cognitive Learning Objectives	Motor Skill Learning Objectives	Attitude Learning Objectives	Task Expectation Rating
Conduct Before Takeoff Checks			Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	Low
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks			Low
Conduct Before Takeoff Checks	Can describe how to detect malfunctions			Low
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition			Low
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures			Low
Conduct Before Takeoff Checks	Can describe how to conduct			Low

	a proper pre-takeoff contamination check			
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)			Low
Conduct Before Takeoff Checks	Can give a before takeoff briefing			Low
Conduct Before Takeoff Checks		Can determine the airplane's takeoff performance for actual conditions and planned departure runway		Low
Conduct Before Takeoff Checks		Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		Low
Conduct Before Takeoff Checks		Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		Low

Conduct Before Takeoff Checks		Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		Low
Conduct Before Takeoff Checks		Can determine airspeeds/V-speeds and set flight instruments appropriately		Low
Conduct Before Takeoff Checks		Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		Low
Conduct Before Takeoff Checks		Can perform configuration of navigation equipment for takeoff and departure clearances		Low
Conduct Before Takeoff Checks		Can configure communication equipment for takeoff and departure clearances		Low
Conduct Before Takeoff Checks		Can obtain and correctly interpret the takeoff and departure clearance		Low

Conduct Before Takeoff Checks		Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		Low
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing division of attention while conducting before takeoff checks	Low
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	Low
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are	Low

			set for actual conditions and the departure runway	
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	Low
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director controls for departure	Low
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	Low
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering	Low

			operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	Low
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status			Low
Conduct Interior and exterior preflight			Can identify, assess, and manage risks encompassing Inoperative equipment discovered prior to flight.	Low
Conduct Interior and exterior preflight			Can identify, assess, and manage risks encompassing external pressures and Aviation security concerns.	Low
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations without APU			Low

Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations with APU			Low
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU			Low
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations with APU			Low
Conduct Powerplant Start	Can explain procedures for starting engines under various conditions			Low
Conduct Powerplant Start	Can explain possible malfunctions during powerplant start, procedures to address the malfunction, and any associated limitations			Low
Conduct Powerplant Start	Can describe coordinating and communicating with ground personnel for powerplant start, if applicable			Low

Conduct Powerplant Start		Can ensure the ground safety procedures are followed during the before-start, start, and after-start phase		Low
Conduct Powerplant Start		Can coordinate with crew and complete the appropriate checklist(s) prior to and after powerplant start.		Low
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing malfunctions during powerplant start	Low
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing turbine powerplant safety	Low
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing managing situations where specific instructions or checklist items are not published	Low
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing	Low

			personnel, vehicles, vessels, foreign object debris, and other aircraft in the vicinity during powerplant start	
Conduct use of FMS			Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	Low
Conduct use of FMS		Can verify currency of aircraft navigation data.		Low
Conduct use of FMS		Can verify successful completion of RNAV system self-tests		Low
Conduct use of FMS		Can execute initialization of RNAV system position		Low
Conduct use of FMS		Can execute retrieval and flying of a DP or STAR with appropriate transition		Low

Conduct use of FMS		Can verify waypoints and flight plan programming		Low
Conduct use of FMS		Can use the cursor control device effectively		Low
Conduct use of TCAS		Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		Low
Conduct use of TCAS		Can demonstrate the proper use of controls including steps required to initiate a self-test.		Low
Conduct use of TCAS		Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if possible,		Low

		correcting the problem.		
Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology			Low
Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations			Low

Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document			Low

	inoperative components of this system and explain related procedures			
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the			Low

	proper use of the airplane system, subsystem or device			
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Low
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing improper management of a system failure	Low
Understand Avionics and communications - communication systems			Can identify, assess, and manage risks	Low

(e.g., data link, UHF/VHF/HF, satellite)			encompassing failure to monitor and manage automated systems.	
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology			Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations			Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate			Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration			Low

	Deviation List (CDL) to document inoperative components of this system and explain related procedures			
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing improper management of a system failure	Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain the features of the PlaneView System			Low

Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the functional characteristics of the cursor control device			Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Low
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Low
Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Avionics and communications - ground-based	Can describe the operation of the airplane systems and			Medium

navigation systems and components	components using correct terminology			
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Avionics and Communications - Instruments	Can interpret situation information displays, as applicable.			Low
Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system,			Low

	subsystem or device			
Understand Avionics and communications - terrain awareness/warning/alert systems	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - terrain awareness/warning/alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Electrical System - circuit	Can use the appropriate checklists and			Medium

breakers and protection devices	NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			
Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to			Low

	demonstrate or describe the proper use of the airplane system, subsystem or device			
Understand Electrical System -batteries	Can describe the operation of the airplane systems and components using correct terminology			Low
Understand Electrical System -batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low

Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Flight Controls - speed brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology			Medium

Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Fuel system - capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Fuel system - capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the			Low

	proper use of the airplane system, subsystem or device			
Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Hydraulic system - regulators/accumulators	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low

Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology			Medium

Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand OEM checklist philosophy			Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing	Low

			associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	
Understand OEM checklist philosophy			Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	Low
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system,			Low

	subsystem or device			
Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Low
Understand Pneumatic and environmental system - pressurization	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and			Low

	NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			

SIT 2 Learning Objectives

Tasks	**Knowledge & Cognitive Learning Objectives**	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Expectation Rating**
Conduct after landing, parking and securing	Can explain parking, shutdown, securing, and postflight inspection.			Low
Conduct after landing, parking and securing		Can demonstrate runway incursion avoidance procedures.		Low
Conduct after landing, parking and securing		Can comply with ATC instructions and perform radio calls as appropriate.		Low
Conduct after landing, parking and securing		Can coordinate with crew, if applicable, and execute the appropriate checklist(s) after clearing the runway.		Low
Conduct after landing, parking and securing		Can perform parking in the appropriate area, considering the safety of nearby persons and property.		Low

Conduct after landing, parking and securing		Can execute a postflight inspection and document discrepancies and servicing requirements, if any.		Low
Conduct after landing, parking and securing		Can perform securing the airplane.		Low
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing inappropriate activities and distractions.	Low
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions.	Low
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing propeller, turbofan inlet, and exhaust safety.	Low
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing airport specific security procedures.	Low
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing disembarking passengers.	Low

Conduct Arrival Procedures			Can manage the risk of errors when assigned a STAR and subsequently receives a change of landing runway, procedure or transition by verifying the appropriate changes are entered and available for navigation	Low
Conduct Arrival Procedures	Can use standard Terminal Arrival (STAR) charts, U.S. Terminal Procedures Publications, and IFR Enroute High and Low Altitude Charts			Low
Conduct Arrival Procedures	Can use a Flight Management System (FMS) or GPS to follow a STAR			Low
Conduct Arrival Procedures	Can explain two-way radio communication failure procedures during an arrival			Low
Conduct Arrival Procedures	Can explain ground-based and satellite-based			Low

	navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)			
Conduct Arrival Procedures		Can select, identify and use the appropriate communication and navigation facilities associated with the arrival		Low
Conduct Arrival Procedures		Can perform setup of FMS and avionics to include flight director and autopilot controls for the arrival, if applicable		Low
Conduct Arrival Procedures		Can use current and appropriate navigation publications or databases for the proposed flight		Low
Conduct Arrival Procedures		Can initiate two-way communications with the proper controlling agency		Low
Conduct Arrival Procedures		Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Low

Conduct Arrival Procedures		Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Low
Conduct Arrival Procedures		Can comply with all applicable charted procedures		Low
Conduct Arrival Procedures		Can comply with airspeed restrictions required by regulation, procedure, aircraft limitation or ATC		Low
Conduct Arrival Procedures		Can maintain rate of descent consistent with the route segment, airplane operating characteristics and safety		Low
Conduct Arrival Procedures		Can maintain the appropriate airspeed/V-speed ±10 knots, but not less than VRef if applicable, heading ±10°, altitude ±100 feet, and accurately track radials, courses, and bearings		Low
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures.	Low
Conduct Arrival Procedures			Can identify, assess, and manage risks,	Low

			encompassing failure to recognize limitations of traffic avoidance equipment.	
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing failure to use see and avoid techniques when possible.	Low
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing improper automation management.	Low
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing ATC instructions that modify an arrival or discontinue/resume the aircraft's lateral or vertical navigation on an arrival.	Low
Conduct Arrival Procedures	Can explain reasons other than visibility that a go around may suddenly be required			Low
Conduct Arrival Procedures	Can explain the characteristics			Low

	of a pilot braking action report			
Conduct Arrival Procedures	Can explain items to consider when a pilot braking action report is reliable			Low
Conduct Before Takeoff Checks			Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	Medium
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks			Medium
Conduct Before Takeoff Checks	Can describe how to detect malfunctions			Medium
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition			Medium
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures			Medium

Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check			Medium
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)			Medium
Conduct Before Takeoff Checks	Can give a before takeoff briefing			Medium
Conduct Before Takeoff Checks		Can determine the airplane's takeoff performance for actual conditions and planned departure runway		Medium
Conduct Before Takeoff Checks		Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		Medium
Conduct Before Takeoff Checks		Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		Medium
Conduct Before Takeoff Checks		Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		Medium

Conduct Before Takeoff Checks		Can determine airspeeds/V-speeds and set flight instruments appropriately		Medium
Conduct Before Takeoff Checks		Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		Medium
Conduct Before Takeoff Checks		Can perform configuration of navigation equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks		Can configure communication equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks		Can obtain and correctly interpret the takeoff and departure clearance		Medium
Conduct Before Takeoff Checks		Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing division of attention while	Medium

			conducting before takeoff checks	
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director controls for departure	Medium

Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	Medium
Conduct Departure Procedures	Can explain takeoff minimums			Low

Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)			Low
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure			Low
Conduct Departure Procedures	Can explain required climb gradients			Low
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts			Low
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP			Low
Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services			Low

	available to pilots			
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff			Low
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)			Low
Conduct Departure Procedures	Can explain communication failure procedures			Low
Conduct Departure Procedures		Can select the appropriate instrument departure procedure.		Low
Conduct Departure Procedures		Can select, identify and use the appropriate communication facilities associated with the procedure		Low
Conduct Departure Procedures		Can select, identify and use the appropriate navigation facilities associated with the procedure		Low

Conduct Departure Procedures		Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		Low
Conduct Departure Procedures		Can use current and appropriate navigation publications or databases for the proposed flight		Low
Conduct Departure Procedures		Can initiate two-way communications with the proper controlling agency		Low
Conduct Departure Procedures		Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Low
Conduct Departure Procedures		Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Low
Conduct Departure Procedures		Can comply with all applicable charted procedures		Low
Conduct Departure Procedures		Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		Low

Conduct Departure Procedures		Can execute the departure phase to a point where the transition to the en route environment is complete		Low
Conduct Departure Procedures			Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	Low
Conduct Departure Procedures			Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	Low
Conduct Departure Procedures			Can identify, assess, and manage risks, encompassing improper automation management	Low
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can execute use of LNAV mode(s).		Low

Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can execute use of VNAV mode(s).		Low
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can apply ATC procedures/phraseol ogy		Low
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can apply functionality of vector to final mode		Low
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance		Can perform the use of navigation systems including procedure selection and ILS look-alike principle:		Low

lines of minima using the wide area augmentation system				
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can perform flying of a procedure		Low
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can perform setup and interpretation of electronic displays and symbols.		Low
Conduct Holding	Can explain elements related to holding procedures, including reporting criteria, appropriate speeds, and recommended entry procedures for standard, nonstandard, published, and non- published			Low

	holding patterns.			
Conduct Holding	Can explain determining holding endurance based upon factors to include an expect further clearance (EFC) time, fuel on board, fuel flow while holding, fuel required to destination and alternate, etc., as appropriate.			Low
Conduct Holding	Can explain when to declare minimum fuel or a fuel-related emergency.			Low
Conduct Holding	Can explain use of automation for holding to include autopilot and flight management systems, if equipped.			Low
Conduct Holding		Can identify instrument navigation aids associated with the assigned hold.		Low

Conduct Holding		Can apply the appropriate entry procedure for a standard, nonstandard, published, or non-published holding pattern.		Low
Conduct Holding		Can change to the appropriate holding airspeed for the airplane and holding altitude to cross the holding fix at or below maximum holding airspeed		Low
Conduct Holding		Can comply with the holding pattern leg length and other restrictions, if applicable, associated with the holding pattern.		Low
Conduct Holding		Can comply with ATC reporting requirements.		Low
Conduct Holding		Can use proper wind correction procedures to maintain the desired pattern and to arrive over the fix as close as possible to a specified time.		Low
Conduct Holding		Can maintain the airspeed ±10 knots, altitude ±100 feet, headings ±10°, and accurately track a selected course, radial, or bearing.		Low
Conduct Holding		Can use automation to include autopilot, flight director controls, and		Low

		navigation displays associated with the assigned hold.		
Conduct Holding		Can calculate fuel reserve calculations based on EFC times.		Low
Conduct Holding			Can identify, assess, and manage risks, encompassing recalculating fuel reserves if assigned an unanticipated EFC time.	Low
Conduct Holding			Can identify, assess, and manage risks, encompassing scenarios and circumstances that could result in minimum fuel or the need to declare an emergency.	Low
Conduct Holding			Can describe scenarios that could lead to holding, including deteriorating weather at the planned destination.	Low
Conduct Holding			Can identify, assess, and manage risks, encompassing improper holding entry and improper wind correction while holding.	Low

Conduct Holding			Can identify, assess, and manage risks, encompassing holding while in icing conditions.	Low
Conduct Holding			Can identify, assess, and manage risks, encompassing improper automation management.	Low
Conduct Instrument Takeoff	Can describe procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use. Pilots should be aware of the operator's policy for responding to loss of suitable visual reference during takeoff, in the low and high-speed regimes, both before and after V1 (refer			Low

	to AC 120-62 for additional information and recommendations for training).			
Conduct Instrument Takeoff		Can perform applicable procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use.		Low
Conduct Instrument Takeoff			Can demonstrate familiarization with operator's policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or	Low

			stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Instrument Takeoff		Can execute normal takeoff at lowest applicable minima;		Low
Conduct Instrument Takeoff		Can perform takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		Low
Conduct Instrument Takeoff	Can explain operational factors that could affect an instrument takeoff (airports available in the			Low

	event of an emergency after takeoff).			
Conduct Instrument Takeoff		Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		Low
Conduct Instrument Takeoff		Can execute setting of the applicable avionics and flight instruments prior to initiating the takeoff		Low
Conduct Instrument Takeoff		Can perform radio calls as appropriate		Low
Conduct Instrument Takeoff		Can verify assigned/correct runway		Low
Conduct Instrument Takeoff		Can perform clearing the arrival area and execute taxiing into takeoff position and align the airplane on the runway centerline		Low
Conduct Instrument Takeoff		Can maintain centerline and proper flight control inputs during the takeoff roll		Low
Conduct Instrument Takeoff		can confirm takeoff power and proper engine and flight instrument indications prior to rotation making callouts, as appropriate, for the airplane or per the operator's procedures		Low

Conduct Instrument Takeoff		Can rotates and lift off at the recommended airspeed, establish the desired pitch attitude, and accelerate to the desired airspeed/ V-speed.		Low
Conduct Instrument Takeoff		Can execute a smooth transition from visual meteorological conditions (VMC) to actual or simulated instrument meteorological conditions (IMC).		Low
Conduct Instrument Takeoff		Can maintain desired heading ±5° and desired airspeeds ±5 knots.		Low
Conduct Instrument Takeoff		Can comply with ATC clearances and instructions issued by ATC, as appropriate		Low
Conduct Instrument Takeoff		Can execute appropriate after-takeoff checklist(s) in a timely manner		Low
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing selection of a runway based on aircraft performance and limitations, available distance, surface conditions,	Low

			lighting, and wind	
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing wake turbulence	Low
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for rejected takeoff	Low
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in takeoff phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	Low
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in climb phase of flight	Low

			with the ceiling or visibility below the minimums for an instrument approach at departure airport	
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	Low
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for low altitude maneuvering including stall, spin, or CFIT	Low
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for distractions, loss of situational awareness, or	Low

			improper task management.	
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status			Medium
Conduct Interior and exterior preflight			Can identify, assess, and manage risks encompassing Inoperative equipment discovered prior to flight.	Medium
Conduct Interior and exterior preflight			Can identify, assess, and manage risks encompassing external pressures and Aviation security concerns.	Medium
Conduct Landing from a Precision Approach	Can recognize significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH.			Low
Conduct Landing from a Precision Approach		Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach		Low

		fix (FAF), MDA, DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		
Conduct Landing from a Precision Approach	Can recognize ground or navigation system faults, failures or abnormalities at any point during the approach and landing.			Low
Conduct Landing from a Precision Approach		Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		Low
Conduct Landing from a Precision Approach			Can appreciate that pilots should be familiar with the need to report navigation system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown zone (TDZ) lights, centerline lights), or any	Low

			other discrepancies that could be pertinent to operations.	
Conduct Landing from a Precision Approach			Can demonstrate familiarization with operator’s policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants	Low

			and condition reporting.	
Conduct Landing from a Precision Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a precision approach.			Low
Conduct Landing from a Precision Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.			Low
Conduct Landing from a Precision Approach		Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point		Low

		where visual maneuvering is used to accomplish a normal landing.		
Conduct Landing from a Precision Approach		Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		Low
Conduct Landing from a Precision Approach		Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Low
Conduct Landing from a Precision Approach		Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		Low
Conduct Landing from a Precision Approach		Can demonstrate SRM or CRM, as appropriate.		Low
Conduct Landing from a Precision Approach		Can apply runway incursion avoidance procedures.		Low

Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing wake turbulence.	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for missed approach	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires,	Low

			vehicles, vessels, persons, and wildlife.	
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	Low
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for transitioning	Low

			from instrument to visual references for landing.	
Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure			Low
Conduct Missed Approach		Can execute a missed approach from the MDA, DA/DH, or AH.		Low

Conduct Missed Approach		Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		Low
Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.			Low
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.			Low
Conduct Missed Approach		Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		Low
Conduct Missed Approach		Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and		Low

		initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots.		
Conduct Missed Approach		Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		Low
Conduct Missed Approach		Can comply with the published or alternate missed approach procedure.		Low
Conduct Missed Approach		Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		Low
Conduct Missed Approach		Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		Low
Conduct Missed Approach		Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		Low
Conduct Missed Approach		Can demonstrate effective CRM		Low
Conduct Missed Approach		Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		Low

Conduct Missed Approach		Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator.		Low
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures.	Low
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	Low
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Low
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach	Low

			procedure before the MAP or to a go-around below DA/MDA.	
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	Low
Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach			Low
Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments			Low

	increase pilot workload and potential errors during a critical phase of flight.			
Conduct Nonprecision Approach	Can explain that the practice commonly referred to as “dive and drive,” can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.			Low
Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help			Low

	eliminate CFIT.			
Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point			Low
Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.			Low
Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous			Low

	descent final approach) technique.			
Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the “dive and drive” technique.			Low
Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off.			Low
Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization			Low

	; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.			
Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can			Low

	safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV systems, or by manually computing rate of descent.			
Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)			Low
Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.			Low
Conduct Nonprecision Approach			Can appreciate that there are environments in which using CDFA technique is not advisable or practical, for example airports that do not offer straight in nonprecision approaches.	Low

Conduct Nonprecision Approach	Can explain procedures and limitations associated with a nonprecision approach, including the differences between Localizer Performance (LP) and Lateral Navigation (LNAV) approach guidance			Low
Conduct Nonprecision Approach	Can explain navigation system displays and annunciations, modes of operation, and RNP lateral accuracy values associated with an RNAV (GPS) approach.			Low
Conduct Nonprecision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation			Low

	data, signal integrity).			
Conduct Nonprecision Approach	Can explain criteria for a stabilized approach, to include energy management concepts.			Low
Conduct Nonprecision Approach		Can perform the nonprecision instrument approaches selected by the instructor/evaluator		Low
Conduct Nonprecision Approach		Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		Low
Conduct Nonprecision Approach		Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		Low
Conduct Nonprecision Approach		Can Comply with all clearances issued by ATC.		Low
Conduct Nonprecision Approach		Can recognize if any flight instrumentation is inaccurate or		Low

		inoperative, and take appropriate action.		
Conduct Nonprecision Approach		Can coordinate with ATC if unable to comply with a clearance.		Low
Conduct Nonprecision Approach		Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Low
Conduct Nonprecision Approach		Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Low
Conduct Nonprecision Approach		Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Low
Conduct Nonprecision Approach		Can maintain a stabilized descent to the appropriate altitude.		Low

Conduct Nonprecision Approach		Can maintain no more than ¼ scale CDI deflection, airspeed ±5 knots of selected value, and altitude above MDA +50/-0 feet (to the VDP or MAP) during the final approach segment		Low
Conduct Nonprecision Approach		Can execute the missed approach procedure if the required visual references are not distinctly visible and identifiable at the appropriate point or altitude for the approach profile, or execute a normal landing from a straight-in or circling approach.		Low
Conduct Nonprecision Approach		Can use a Multi-Function Display (MFD) and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		Low
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Failure to follow the correct approach procedure (e.g., descending too early, etc.).	Low

Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Selecting an incorrect navigation frequency.	Low
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Failure to manage automated navigation and auto flight systems.	Low
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Failure to ensure proper airplane configuration during an approach and missed approach.	Low
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	Low
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Deteriorating weather	Low

			conditions on approach.	
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Operating below the minimum descent altitude (MDA) or continuing a descent below decision altitude (DA) without proper visual references.	Low
Conduct Normal Approach and Landing		Can execute normal landings at the lowest applicable minima for each authorized flight guidance and/or visual system.		Low
Conduct Normal Approach and Landing		Can perform manual rollout in low visibility at applicable minima. (except for aircraft using an automatic fail operational (FO) rollout system)		Low
Conduct Normal Approach and Landing		Can perform landings at the limiting environmental conditions authorized for that operator with respect to wind, crosswind components, and runway surface friction characteristics		Low

Conduct Normal Approach and Landing	Can explain stabilized approach, to include energy management concepts.			Low
Conduct Normal Approach and Landing	Can explain effects of atmospheric conditions, including wind, on approach and landing performance.			Low
Conduct Normal Approach and Landing	Can explain wind correction techniques on approach and landing.			Low
Conduct Normal Approach and Landing	Can identify airport and runway markings, signs, and lights			Low
Conduct Normal Approach and Landing		Can coordinate with crew and execute after landing checklists(s).		Low
Conduct Normal Approach and Landing		Can perform radio calls as appropriate		Low
Conduct Normal Approach and Landing		Can maintain a ground track that ensures the desired traffic pattern will be flown taking into consideration obstructions and ATC		Low
Conduct Normal Approach and Landing		Can confirm the airplane is aligned with the		Low

		correct/assigned runway or landing surface.		
Conduct Normal Approach and Landing		Can scan runway or landing surface and adjoining area for traffic and obstructions.		Low
Conduct Normal Approach and Landing		Can select a suitable touchdown point considering wind, landing surface, and obstructions.		Low
Conduct Normal Approach and Landing		Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		Low
Conduct Normal Approach and Landing		Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		Low
Conduct Normal Approach and Landing		Can perform smooth, timely, and correct control application before, during, and after touchdown.		Low
Conduct Normal Approach and Landing		Can execute touch down with the runway centerline between the main landing gear at the appropriate speed and pitch attitude at		Low

		the runway aiming point markings -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		
Conduct Normal Approach and Landing		Can execute deceleration to taxi speed (20 knots or less on dry pavement, 10 knots or less on contaminated pavement) to within the calculated landing distance plus 25% for the actual conditions with the runway centerline between the main landing gear		Low
Conduct Normal Approach and Landing		Can execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.		Low
Conduct Normal Approach and Landing		Can apply runway incursion avoidance procedures.		Low
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing selection of a runway or approach path	Low

			and touchdown area-based aircraft limitations, available distance, surface conditions, and wind.	
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing wake turbulence.	Low
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing Go-Around/Rejected Landing	Low
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing land and Hold Short Operations (LAHSO)	Low
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Low
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing low altitude	Low

			maneuvering including stall, spin, or CFIT.	
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, incorrect airport surface approach and landing, or improper task management.	Low
Conduct Normal Takeoff and Climb		Can perform takeoff in limiting crosswinds, winds, gusts, and runway surface friction to levels authorized. Training should be done at weights or on runways that represent a critical field length		Low
Conduct Normal Takeoff and Climb	Can describe the effects of atmospheric conditions, including wind, on takeoff and climb performance			Low
Conduct Normal Takeoff and Climb	Can describe the appropriate V-speeds for takeoff and climb			Low
Conduct Normal Takeoff and Climb	Can describe the appropriate aircraft configuration and power			Low

	setting for takeoff and climb			
Conduct Normal Takeoff and Climb	Can identify airport and runway markings, signs, and lights			Low
Conduct Normal Takeoff and Climb		Can coordinate with crew and complete the appropriate checklist(s) prior to takeoff in a timely manner		Low
Conduct Normal Takeoff and Climb		Can perform radio calls as appropriate		Low
Conduct Normal Takeoff and Climb		Can verify assigned/correct runway		Low
Conduct Normal Takeoff and Climb		Can verify the airplane is configured for takeoff		Low
Conduct Normal Takeoff and Climb		Can execute clearing of the area and taxi into takeoff position and align the airplane on the runway centerline		Low
Conduct Normal Takeoff and Climb		Can maintain centerline and proper flight control inputs during the takeoff roll		Low
Conduct Normal Takeoff and Climb		Can confirm takeoff power and proper engine and flight instrument indications prior to rotation and perform callouts as appropriate, for the airplane or per the		Low

		operator's procedures		
Conduct Normal Takeoff and Climb		Can perform rotation and lift off at the recommended airspeed		Low
Conduct Normal Takeoff and Climb		Can maintain a power setting and a pitch attitude to maintain the desired climb airspeed/V-speed, ±5 knots for each climb segment		Low
Conduct Normal Takeoff and Climb		Can maintain desired heading ±5°		Low
Conduct Normal Takeoff and Climb		Can perform Retraction of the landing gear and flaps in accordance with manufacturer or operator procedures and limitations, as appropriate		Low
Conduct Normal Takeoff and Climb		Can perform wake turbulence avoidance		Low
Conduct Normal Takeoff and Climb		Can follow noise abatement procedures		Low
Conduct Normal Takeoff and Climb		Can execute appropriate after-takeoff checklist(s) in a timely manner		Low
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing selection of a runway, or runway intersection	Low

			aircraft limitations, available distance, surface conditions, and wind	
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing wake turbulence	Low
Conduct Normal Takeoff and Climb			Can demonstrate proper planning for rejected takeoff	Low
Conduct Normal Takeoff and Climb			Can demonstrate proper planning for engine failure in takeoff phase of flight	Low
Conduct Normal Takeoff and Climb			Can demonstrate proper planning for engine failure in climb phase of flight	Low
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing improper aircraft configuration or settings (e.g., trim, flaps, autobrakes, etc.)	Low
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles,	Low

			vessels, persons, and wildlife	
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	Low
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations without APU			Medium
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations with APU			Medium
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU			Medium
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations with APU			Medium
Conduct Powerplant Start	Can explain procedures for starting engines under			Medium

	various conditions			
Conduct Powerplant Start	Can explain possible malfunctions during powerplant start, procedures to address the malfunction, and any associated limitations			Medium
Conduct Powerplant Start	Can describe coordinating and communicating with ground personnel for powerplant start, if applicable			Medium
Conduct Powerplant Start		Can ensure the ground safety procedures are followed during the before-start, start, and after- start phase		Medium
Conduct Powerplant Start		Can coordinate with crew and complete the appropriate checklist(s) prior to and after powerplant start.		Medium
Conduct Powerplant Start		Can identify an abnormal start or malfunction and execute the correct procedure		Low
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing malfunctions	Medium

			during powerplant start	
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing turbine powerplant safety	Medium
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing managing situations where specific instructions or checklist items are not published	Medium
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing personnel, vehicles, vessels, foreign object debris, and other aircraft in the vicinity during powerplant start	Medium
Conduct Precision Approach	Can describe normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations,			Low

	appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures			
Conduct Precision Approach		Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		Low

Conduct Precision Approach	Can describe procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.			Low
Conduct Precision Approach		Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		Low
Conduct Precision Approach	Can recognize the limits of acceptable aircraft position and flightpath tracking during approach, flare and rollout. This should be addressed using appropriate displays or annunciations for either automatic or manual landing systems.			Low

Conduct Precision Approach			Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors (F/D), or other system (e.g., HUD, SVGS, etc.) performance. For systems such as HUDs that have a limited field of view (FOV), or synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.	Low
Conduct Precision Approach		Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, or circling minima, if		Low

		applicable); according to the operator's manuals, charts and checklists, on the aircraft type, model and series flown.		
Conduct Precision Approach		Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		Low
Conduct Precision Approach		Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		Low
Conduct Precision Approach		Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored approach, or call-outs);		Low
Conduct Precision Approach			Can demonstrate familiarization with airport and runway characteristics typically experienced;	Low
Conduct Precision Approach	Can identify nearby critical terrain or obstruction environment;			Low

Conduct Precision Approach		Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and		Low
Conduct Precision Approach		Can respond appropriately to aircraft and ground system failures.		Low
Conduct Precision Approach	Can explain procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in the case of inoperative equipment.			Low
Conduct Precision Approach	Can explain navigation			Low

	system displays, annunciations, and modes of operation.			
Conduct Precision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).			Low
Conduct Precision Approach	Can explain stabilized approach criteria, to include energy management concepts.			Low
Conduct Precision Approach		Can perform the precision instrument approaches selected by the instructor/evaluator.		Low
Conduct Precision Approach		Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		Low

Conduct Precision Approach		Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		Low
Conduct Precision Approach		Can comply in a timely manner with all clearances, instructions, and procedures.		Low
Conduct Precision Approach		Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		Low
Conduct Precision Approach		Can coordinate with ATC if unable to comply with a clearance.		Low
Conduct Precision Approach		Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Low
Conduct Precision Approach		Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Low

Conduct Precision Approach		Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Low
Conduct Precision Approach		Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		Low
Conduct Precision Approach		Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots		Low
Conduct Precision Approach		Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and		Low

		identifiable upon reaching the DA/DH.		
Conduct Precision Approach		Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		Low
Conduct Precision Approach		Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		Low
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing failure to follow the correct approach procedure (e.g., descending below the glideslope, etc.).	Low
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing selecting an incorrect navigation frequency.	Low

Conduct Precision Approach			Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	Low
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Low
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	Low
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	Low
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing continuing to descend below the Decision	Low

			Altitude (DA)/Decision Height (DH) when the required visual references are not visible.	
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can verify currency and integrity of aircraft navigation data		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can verify successful completion of RNP system self-tests;		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO		Can perform initialization navigation system position		Low

standards for RNP operations.				
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform adherence to speed and/or altitude constraints associated with RNP operations		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		Low

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can verify waypoints and flight plan programming;		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform flying direct to a waypoint		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform flying a course/track to a waypoint		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace,		Can perform interception of a course/track		Low

and in foreign countries which adopt ICAO standards for RNP operations.				
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform flying vectors, and rejoining an RNP route/procedure from the ‘heading’ mode;		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform selecting/arming the navigation system for an ILS or GLS transition		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform insertion and deletion of a route discontinuity;		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform removal and reselection of a navigation sensor input;		Low

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform changing of the arrival airport and alternate airport		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can verify the RNP value set in the flight management system (FMS) matches the equipment capability and authorizations as annotated in the flight plan		Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform parallel offset function if capability exists		Low
Conduct use of FMS		Can perform use of the automatic throttle, flight management		Low

		computer, or other speed management system, if applicable.		
Conduct use of FMS			Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	Medium
Conduct use of FMS		Can verify currency of aircraft navigation data.		Medium
Conduct use of FMS		Can perform flying a course/track to a waypoint.		Low
Conduct use of FMS		Can perform interception of a course/track		Low
Conduct use of FMS		Can comply with a vectored off and execute rejoining a procedure.		Low
Conduct use of FMS		Can determine cross-track error/deviation		Low
Conduct use of FMS		Can execute insertion and deletion of a route discontinuity		Low
Conduct use of FMS		Can execute removal and reselection of		Low

		navigation sensor inputs.		
Conduct use of FMS		Can confirm exclusion of a specific navigation aid or navigation aid type.		Low
Conduct use of FMS		Can execute insertion and deletion of a lateral offset		Low
Conduct use of FMS		Can execute a change of the arrival airport and alternate airport		Low
Conduct use of FMS		Can execute insertion and delete a holding pattern		Low
Conduct use of FMS		Can verify successful completion of RNAV system self-tests		Medium
Conduct use of FMS		Can execute initialization of RNAV system position		Medium
Conduct use of FMS		Can execute retrieval and flying of a DP or STAR with appropriate transition		Medium
Conduct use of FMS		Can comply with speed and/or altitude constraints associated with a DP or STAR.		Low
Conduct use of FMS		Can execute making a runway change associated with a DP or STAR		Low
Conduct use of FMS		Can verify waypoints and flight plan programming		Medium

Conduct use of FMS		Can perform a manual or automatic runway update (with takeoff point shift, if applicable)		Low
Conduct use of FMS		Can perform flying direct to a waypoint		Low
Conduct use of FMS		Can perform a complex SID consisting of multiple altitude and speed constraints		Low
Conduct use of FMS		Can perform a complex STAR consisting of multiple altitude and speed constraints		Low
Conduct use of FMS		Can input a lat/long waypoint to the FMS		Low
Conduct use of FMS		Can demonstrate general awareness of all three styles of flight director		Low
Conduct use of FMS		Can identify symbology available in synthetic vision system		Low
Conduct use of FMS		Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		Low
Conduct use of FMS		Can use the cursor control device effectively		Medium
Conduct use of FMS		Can perform transition between automatic (FMS-controlled) to manual mode and back in the event of a flightpath deviation due to		Low

		input error or system malfunction.		
Conduct use of TCAS		Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		Medium
Conduct use of TCAS		Can demonstrate the proper use of controls including steps required to initiate a self-test.		Medium
Conduct use of TCAS		Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if possible, correcting the problem.		Medium
Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of			Medium

	the airplane system, subsystem or device			
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Avionics and communications - communication systems (e.g., data	Can use the appropriate checklists and NORMAL procedures to			Medium

link, UHF/VHF/HF, satellite)	demonstrate or describe the proper use of the airplane system, subsystem or device			
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium

Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List			Medium

	(CDL) to document inoperative components of this system and explain related procedures			
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing improper management of a system failure	Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable			Low

Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of			Medium

	this system and explain related procedures			
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing improper management of a system failure	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain the features of the PlaneView System			Medium
Understand Avionics and communications - Electronic Flight	Can describe the functional characteristics			Medium

Instrument Systems (EFIS)	of the cursor control device			
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - ground-based navigation systems and components	Can describe the operation of the airplane systems and components using correct terminology			Medium

Understand Avionics and communications - indicating devices		Can interpret flight path vector symbology as it relates to the PFD and HUD, both caged and uncaged		Low
Understand Avionics and communications - indicating devices	Can interpret PFD mode annunciations			Low
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and Communications - Instruments	Can interpret situation information displays, as applicable.			Medium
Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to			Low

	demonstrate or describe the proper use of the airplane system, subsystem or device			
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can apply monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page)		Low
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can demonstrate familiarization with automatic and/or manual setting of the required RNP value		Low
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can demonstrate familiarization with the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System (GBAS) Landing System (GLS)		Low

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can demonstrate how offsets are applied, the functionality of their particular navigation system and the need to advise air traffic control (ATC) if this functionality is not available		Low
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can apply receiver/transmitter (R/T) phraseology for RNP applications		Low
Understand Avionics and communications - terrain awareness/warning/alert systems	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - terrain awareness/warning/alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and			Medium

	components using correct terminology			
Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight			Medium

Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining takeoff performance (e.g.,			Can identify, assess, and manage risks encompassing	Medium

balance field length, VMCG) per AFM			airplane icing and its effect on performance and stall warning, and Runway excursions	
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase			Medium

	of flight and apply these factors to a specific chart, table, graph, or other performance data			
Understand determining accelerate-stop / accelerate-go distance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium

Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of numerous part 25 requirements	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed			Medium
Understand determining accelerate-stop /	Can explain the importance of timely			Medium

accelerate-go distance per AFM	decisions in relation V_1			
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.			Medium

Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain its importance			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)			Medium
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance			Medium
Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for "all engine" or "engine inoperative" missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around			Medium

	procedures, acceleration segments or transition following an engine failure between the specified “all-engine lateral flightpath” (or radar vectors) and any specified “engine-inoperative lateral flightpath,” using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.			
Understand determining climb performance per AFM	Can explain considerations for OEI departure development			Medium
Understand determining climb performance per AFM	Can state the definition of takeoff segment			Medium
Understand determining climb performance per AFM	Can state the definitions of gross and net flightpath			Medium
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to			Medium

	determine performance			
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining climb performance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium

Understand determining climb performance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining climb performance per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining climb performance per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	Medium
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators			Medium
Understand determining climb performance per AFM	Can locate FAA TALPA videos online			Medium
Understand determining climb performance per AFM	Can describe the segments of an instrument			Medium

	departure procedure			
Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures			Medium
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight			Medium

Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining cruise performance (e.g., optimum and			Can identify, assess, and manage risks encompassing	Medium

maximum operating altitudes) per AFM			airplane icing and its effect on performance and stall warning, and Runway excursions	
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase			Medium

	of flight and apply these factors to a specific chart, table, graph, or other performance data			
Understand determining descent performance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium

Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining fuel			Can explain the adverse effects of exceeding an	Medium

requirements per AFM			airplane limitation or the airplane operating envelope.	
Understand determining fuel requirements per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight			Medium

Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining performance with an inoperative			Can identify, assess, and manage risks encompassing	Medium

powerplant for all phases of flight per AFM			airplane icing and its effect on performance and stall warning, and Runway excursions	
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations			Medium

	for all phases of flight			
Understand determining weight and balance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining weight and balance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium

Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Electrical System - batteries	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Electrical System - batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the			Medium

	proper use of the airplane system, subsystem or device			
Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Flight Controls - speed brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium

Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Fuel system - capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology			Medium

Understand Fuel system - capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the			Medium

	proper use of the airplane system, subsystem or device			
Understand Hydraulic system - regulators/accumulators	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium

Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology			Medium

Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand OEM checklist philosophy			Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	Medium
Understand OEM checklist philosophy			Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format	Medium

			for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology			Medium

Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Pneumatic and environmental system - pressurization	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium

SIT 3 Learning Objectives

Tasks	**Knowledge & Cognitive Learning Objectives**	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Expectation Rating**
Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach			Medium
Understand determining landing	Can explain the importance of			Medium

performance per AFM	accurate and timely assessments of landing distance			
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances			Medium
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing			Medium
Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways			Medium
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for			Medium

	any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			
Understand determining landing performance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining landing performance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining landing performance per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining landing performance per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium

Understand determining landing performance per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Conduct after landing, parking and securing	Can explain parking, shutdown, securing, and postflight inspection.			Medium
Conduct after landing, parking and securing		Can demonstrate runway incursion avoidance procedures.		Medium
Conduct after landing, parking and securing		Can comply with ATC instructions and perform radio calls as appropriate.		Medium
Conduct after landing, parking and securing		Can coordinate with crew, if applicable, and execute the appropriate checklist(s) after clearing the runway.		Medium
Conduct after landing, parking and securing		Can perform parking in the appropriate area, considering the safety of nearby persons and property.		Medium
Conduct after landing, parking and securing		Can execute a postflight inspection and document discrepancies and servicing requirements, if any.		Medium

Conduct after landing, parking and securing		Can perform securing the airplane.		Medium
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing inappropriate activities and distractions.	Medium
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions.	Medium
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing propeller, turbofan inlet, and exhaust safety.	Medium
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing airport specific security procedures.	Medium
Conduct after landing, parking and securing			Can identify, assess, and manage risks, encompassing disembarking passengers.	Medium
Conduct Arrival Procedures			Can manage the risk of errors when assigned a STAR and subsequently	Medium

			receives a change of landing runway, procedure or transition by verifying the appropriate changes are entered and available for navigation	
Conduct Arrival Procedures	Can use standard Terminal Arrival (STAR) charts, U.S. Terminal Procedures Publications, and IFR Enroute High and Low Altitude Charts			Medium
Conduct Arrival Procedures	Can use a Flight Management System (FMS) or GPS to follow a STAR			Medium
Conduct Arrival Procedures	Can explain two-way radio communication failure procedures during an arrival			Medium
Conduct Arrival Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)			Medium

Conduct Arrival Procedures		Can select, identify and use the appropriate communication and navigation facilities associated with the arrival		Medium
Conduct Arrival Procedures		Can perform setup of FMS and avionics to include flight director and autopilot controls for the arrival, if applicable		Medium
Conduct Arrival Procedures		Can use current and appropriate navigation publications or databases for the proposed flight		Medium
Conduct Arrival Procedures		Can initiate two-way communications with the proper controlling agency		Medium
Conduct Arrival Procedures		Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Medium
Conduct Arrival Procedures		Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Medium
Conduct Arrival Procedures		Can comply with all applicable charted procedures		Medium
Conduct Arrival Procedures		Can comply with airspeed restrictions		Medium

		required by regulation, procedure, aircraft limitation or ATC		
Conduct Arrival Procedures		Can maintain rate of descent consistent with the route segment, airplane operating characteristics and safety		Medium
Conduct Arrival Procedures		Can maintain the appropriate airspeed/V-speed ±10 knots, but not less than VRef if applicable, heading ±10°, altitude ±100 feet, and accurately track radials, courses, and bearings		Medium
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures.	Medium
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing failure to recognize limitations of traffic avoidance equipment.	Medium
Conduct Arrival Procedures			Can identify, assess, and manage risks,	Medium

			encompassing failure to use see and avoid techniques when possible.	
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing improper automation management.	Medium
Conduct Arrival Procedures			Can identify, assess, and manage risks, encompassing ATC instructions that modify an arrival or discontinue/resume the aircraft's lateral or vertical navigation on an arrival.	Medium
Conduct Arrival Procedures	Can explain reasons other than visibility that a go around may suddenly be required			Medium
Conduct Arrival Procedures	Can explain the characteristics of a pilot braking action report			Medium
Conduct Arrival Procedures	Can explain items to consider when a pilot braking action report is reliable			Medium

Conduct Before Takeoff Checks			Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	Medium
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks			Medium
Conduct Before Takeoff Checks	Can describe how to detect malfunctions			Medium
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition			Medium
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures			Medium
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check			Medium
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting			Medium

	crosswinds, low-visibility)			
Conduct Before Takeoff Checks	Can give a before takeoff briefing			Medium
Conduct Before Takeoff Checks		Can determine the airplane's takeoff performance for actual conditions and planned departure runway		Medium
Conduct Before Takeoff Checks		Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		Medium
Conduct Before Takeoff Checks		Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		Medium
Conduct Before Takeoff Checks		Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		Medium
Conduct Before Takeoff Checks		Can determine airspeeds/V-speeds and set flight instruments appropriately		Medium
Conduct Before Takeoff Checks		Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		Medium

Conduct Before Takeoff Checks		Can perform configuration of navigation equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks		Can configure communication equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks		Can obtain and correctly interpret the takeoff and departure clearance		Medium
Conduct Before Takeoff Checks		Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing division of attention while conducting before takeoff checks	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing an unexpected	Medium

			change in the runway to be used for departure	
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director controls for departure	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior	Medium

			to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	Medium
Conduct Before Takeoff Checks			Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	Medium
Conduct Departure Procedures	Can explain takeoff minimums			Medium
Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)			Medium
Conduct Departure Procedures	Can explain Standard			Medium

	Instrument Departures (SID), including RNAV departure			
Conduct Departure Procedures	Can explain required climb gradients			Medium
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts			Medium
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP			Medium
Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots			Medium
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff			Medium
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)			Medium
Conduct Departure Procedures	Can explain communication failure procedures			Medium

Conduct Departure Procedures		Can select the appropriate instrument departure procedure.		Medium
Conduct Departure Procedures		Can select, identify and use the appropriate communication facilities associated with the procedure		Medium
Conduct Departure Procedures		Can select, identify and use the appropriate navigation facilities associated with the procedure		Medium
Conduct Departure Procedures		Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		Medium
Conduct Departure Procedures		Can use current and appropriate navigation publications or databases for the proposed flight		Medium
Conduct Departure Procedures		Can initiate two-way communications with the proper controlling agency		Medium
Conduct Departure Procedures		Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Medium

Conduct Departure Procedures		Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Medium
Conduct Departure Procedures		Can comply with all applicable charted procedures		Medium
Conduct Departure Procedures		Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		Medium
Conduct Departure Procedures		Can execute the departure phase to a point where the transition to the en route environment is complete		Medium
Conduct Departure Procedures			Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	Medium
Conduct Departure Procedures			Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and	Medium

			avoid techniques	
Conduct Departure Procedures			Can identify, assess, and manage risks, encompassing improper automation management	Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can respond appropriately to engine failure prior to or during an approach.		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).			Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain go-around/rejected landing procedures with a powerplant failure.			Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain how to determine a suitable airport.			Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		Low

Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can maintain the operating powerplant(s) within acceptable operating limits.		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can perform communication with ATC and the evaluator, as appropriate for the situation.		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Low

Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can perform smooth, timely, and correct control application before, during, and after touchdown.		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Low
Conduct Emergency Procedure - Approach and		Can maintain positive aircraft control throughout the landing using drag and braking		Low

Landing with a Powerplant Failure		devices, as appropriate, to come to a stop.		
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can coordinate with crew and execute after landing checklists(s).		Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure			Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure inflight or during an approach.	Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure			Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure			Can identify, assess, and manage risks, encompassing improper airplane configuration.	Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure			Can identify, assess, and manage risks, encompassing low altitude maneuvering	Low

			including stall, spin, or CFIT.	
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Low
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure			Can identify, assess, and manage risks, encompassing performing a go-around/rejected landing with a powerplant failure.	Low
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can explain declaring an emergency and selection of a suitable airport or landing location			Low
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		Low
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup		Can perform communication with ATC and the evaluator, as appropriate for the situation.		Low

instrumentation, or partial panel				
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel			Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Low
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel			Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	Low
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel			Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	Low
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Low
Conduct Emergency Procedure - Powerplant Failure		Can execute continued takeoff following failures including engine failure after V1,		Low

During Takeoff at V_1		and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.			Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions			Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and		Low

		operating limitations		
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to maintain best performance and trim		Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can maintain the appropriate heading, ±5°, when powerplant failure occurs		Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		Low
Conduct Emergency Procedure - Powerplant Failure		Can perform communication with ATC and the evaluator, as		Low

During Takeoff at V_1		appropriate for the situation.		
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1			Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions, environment, obstructions, and LAHSO operations.	Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1			Can identify, assess, and manage risks, encompassing failure to brief the plan for a powerplant failure during takeoff, in a crew environment.	Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1			Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Low

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1			Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1			Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with an inoperative powerplant (AMEL, AMES).	Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1			Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	Low
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1			Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Low
Conduct Emergency Procedure - Powerplant Failure			Can identify, assess, and manage risks, encompassing distractions,	Low

During Takeoff at V_1			loss of situational awareness, or improper task management.	
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can execute continued takeoff following failures including engine failure after V1, and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.			Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions			Low

Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and operating limitations		Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to maintain best performance and trim		Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can maintain the appropriate heading, ±5°, when powerplant failure occurs		Low

Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can perform communication with ATC and the evaluator, as appropriate for the situation.		Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions, environment, obstructions, and LAHSO operations.	Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing failure to brief the plan for a powerplant failure during takeoff, in a	Low

			crew environment.	
Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with an inoperative powerplant (AMEL, AMES).	Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	Low

Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Low
Conduct Emergency Procedure - Powerplant Failure During Second Segment			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).			Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain missed approach considerations with a powerplant failure.			Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain how to determine a suitable airport.			Low
Conduct Emergency Procedure - Precision Approach with Powerplant		Can recognize and correctly identify powerplant failure, execute memory items, and maintain		Low

Failure (manual control)		positive airplane control.		
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can maintain the operating powerplant(s) within acceptable operating limits.		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can perform radio calls as appropriate		Low
Conduct Emergency Procedure - Precision Approach with Powerplant		Can assess and proceed toward the nearest suitable airport.		Low

Failure (manual control)				
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can coordinate with crew and execute the approach and landing checklists(s).		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Low

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can maintain a stabilized approach, adjusting pitch and power as required, allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications.		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can maintain a stabilized final approach from the FAF to the DA/DH allowing no more than ¼- scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots.		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can maintain directional control and appropriate crosswind correction throughout the approach and landing or missed approach.		Low

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can immediately execute the missed approach procedure if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH,		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can execute a transition to a normal landing approach when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering upon reaching the DA/DH		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can perform smooth, timely, and correct control application before, during, and after touchdown or during the missed approach.		Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure inflight or during an approach.	Low

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing improper airplane configuration.	Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing landing with a powerplant failure.	Low

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing missed approach with a powerplant failure.	Low
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)			Can identify, assess, and manage risks, encompassing maneuvering in IMC with a powerplant failure.	Low
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can execute use of LNAV mode(s).		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area		Can execute use of VNAV mode(s).		Medium

augmentation system				
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can apply ATC procedures/phraseology		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can apply functionality of vector to final mode		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of		Can perform the use of navigation systems including procedure selection and ILS look-alike principle:		Medium

minima using the wide area augmentation system				
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can perform flying of a procedure		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system		Can perform setup and interpretation of electronic displays and symbols.		Medium
Conduct Holding	Can explain elements related to holding procedures, including reporting criteria, appropriate speeds, and recommended entry procedures for standard,			Medium

	nonstandard, published, and non- published holding patterns.			
Conduct Holding	Can explain determining holding endurance based upon factors to include an expect further clearance (EFC) time, fuel on board, fuel flow while holding, fuel required to destination and alternate, etc., as appropriate.			Medium
Conduct Holding	Can explain when to declare minimum fuel or a fuel-related emergency.			Medium
Conduct Holding	Can explain use of automation for holding to include autopilot and flight management systems, if equipped.			Medium
Conduct Holding		Can identify instrument navigation aids associated with the assigned hold.		Medium
Conduct Holding		Can apply the appropriate entry procedure for a standard, nonstandard, published, or non-published holding pattern.		Medium

Conduct Holding		Can change to the appropriate holding airspeed for the airplane and holding altitude to cross the holding fix at or below maximum holding airspeed		Medium
Conduct Holding		Can comply with the holding pattern leg length and other restrictions, if applicable, associated with the holding pattern.		Medium
Conduct Holding		Can comply with ATC reporting requirements.		Medium
Conduct Holding		Can use proper wind correction procedures to maintain the desired pattern and to arrive over the fix as close as possible to a specified time.		Medium
Conduct Holding		Can maintain the airspeed ±10 knots, altitude ±100 feet, headings ±10°, and accurately track a selected course, radial, or bearing.		Medium
Conduct Holding		Can use automation to include autopilot, flight director controls, and navigation displays associated with the assigned hold.		Medium
Conduct Holding		Can calculate fuel reserve calculations		Medium

		based on EFC times.		
Conduct Holding			Can identify, assess, and manage risks, encompassing recalculating fuel reserves if assigned an unanticipated EFC time.	Medium
Conduct Holding			Can identify, assess, and manage risks, encompassing scenarios and circumstances that could result in minimum fuel or the need to declare an emergency.	Medium
Conduct Holding			Can describe scenarios that could lead to holding, including deteriorating weather at the planned destination.	Medium
Conduct Holding			Can identify, assess, and manage risks, encompassing improper holding entry and improper wind correction while holding.	Medium
Conduct Holding			Can identify, assess, and manage risks, encompassing holding while	Medium

			in icing conditions.	
Conduct Holding			Can identify, assess, and manage risks, encompassing improper automation management.	Medium
Conduct Instrument Takeoff	Can describe procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use. Pilots should be aware of the operator’s policy for responding to loss of suitable visual reference during takeoff, in the low and high-speed regimes, both before and after V1 (refer to AC 120-62 for additional information and recommendations for training).			Medium
Conduct Instrument Takeoff		Can perform applicable procedures during takeoff to address the transition from		Medium

		visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use.		
Conduct Instrument Takeoff			Can demonstrate familiarization with operator's policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or	Medium

			markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Instrument Takeoff		Can execute normal takeoff at lowest applicable minima;		Medium
Conduct Instrument Takeoff		Can perform takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		Medium
Conduct Instrument Takeoff	Can explain operational factors that could affect an instrument takeoff (airports available in the event of an emergency after takeoff).			Medium
Conduct Instrument Takeoff		Can coordinate with crew and execute the appropriate checklist(s) prior to		Medium

		takeoff in a timely manner		
Conduct Instrument Takeoff		Can execute setting of the applicable avionics and flight instruments prior to initiating the takeoff		Medium
Conduct Instrument Takeoff		Can perform radio calls as appropriate		Medium
Conduct Instrument Takeoff		Can verify assigned/correct runway		Medium
Conduct Instrument Takeoff		Can perform clearing the arrival area and execute taxiing into takeoff position and align the airplane on the runway centerline		Medium
Conduct Instrument Takeoff		Can maintain centerline and proper flight control inputs during the takeoff roll		Medium
Conduct Instrument Takeoff		can confirm takeoff power and proper engine and flight instrument indications prior to rotation making callouts, as appropriate, for the airplane or per the operator’s procedures		Medium
Conduct Instrument Takeoff		Can rotates and lift off at the recommended airspeed, establish the desired pitch attitude, and accelerate to the		Medium

		desired airspeed/ V-speed.		
Conduct Instrument Takeoff		Can execute a smooth transition from visual meteorological conditions (VMC) to actual or simulated instrument meteorological conditions (IMC).		Medium
Conduct Instrument Takeoff		Can maintain desired heading ±5° and desired airspeeds ±5 knots.		Medium
Conduct Instrument Takeoff		Can comply with ATC clearances and instructions issued by ATC, as appropriate		Medium
Conduct Instrument Takeoff		Can execute appropriate after-takeoff checklist(s) in a timely manner		Medium
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing selection of a runway based on aircraft performance and limitations, available distance, surface conditions, lighting, and wind	Medium
Conduct Instrument Takeoff			Can identify, assess, and manage risks,	Medium

			encompassing wake turbulence	
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for rejected takeoff	Medium
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in takeoff phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	Medium
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in climb phase of flight with the ceiling or visibility below the minimums	Medium

			for an instrument approach at departure airport	
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	Medium
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for low altitude maneuvering including stall, spin, or CFIT	Medium
Conduct Instrument Takeoff			Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for distractions, loss of situational	Medium

			awareness, or improper task management.	
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status			Medium
Conduct Interior and exterior preflight			Can identify, assess, and manage risks encompassing Inoperative equipment discovered prior to flight.	Medium
Conduct Interior and exterior preflight			Can identify, assess, and manage risks encompassing external pressures and Aviation security concerns.	Medium
Conduct Landing from a Precision Approach	Can recognize significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH.			Medium
Conduct Landing from a Precision Approach		Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA,		Medium

		DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		
Conduct Landing from a Precision Approach	Can recognize ground or navigation system faults, failures or abnormalities at any point during the approach and landing.			Medium
Conduct Landing from a Precision Approach		Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		Medium
Conduct Landing from a Precision Approach			Can appreciate that pilots should be familiar with the need to report navigation system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown zone (TDZ) lights, centerline lights), or any other	Medium

			discrepancies that could be pertinent to operations.	
Conduct Landing from a Precision Approach			Can demonstrate familiarization with operator's policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway	Medium

			contaminants and condition reporting.	
Conduct Landing from a Precision Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a precision approach.			Medium
Conduct Landing from a Precision Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.			Medium
Conduct Landing from a Precision Approach		Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point where visual maneuvering is used to accomplish a normal landing.		Medium

Conduct Landing from a Precision Approach		Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		Medium
Conduct Landing from a Precision Approach		Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Medium
Conduct Landing from a Precision Approach		Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		Medium
Conduct Landing from a Precision Approach		Can demonstrate SRM or CRM, as appropriate.		Medium
Conduct Landing from a Precision Approach		Can apply runway incursion avoidance procedures.		Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based	Medium

			on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for missed approach	Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium

Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	Medium
Conduct Landing from a Precision Approach			Can identify, assess, and manage risks, encompassing planning for transitioning from instrument to visual	Medium

			references for landing.	
Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure			Medium
Conduct Missed Approach		Can execute a missed approach from the MDA, DA/DH, or AH.		Medium
Conduct Missed Approach		Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		Medium

Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.			Medium
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.			Medium
Conduct Missed Approach		Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		Medium
Conduct Missed Approach		Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots.		Medium
Conduct Missed Approach		Can coordinate with crew and execute the appropriate procedures and		Medium

		checklist(s) in a timely manner.		
Conduct Missed Approach		Can comply with the published or alternate missed approach procedure.		Medium
Conduct Missed Approach		Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		Medium
Conduct Missed Approach		Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		Medium
Conduct Missed Approach		Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		Medium
Conduct Missed Approach		Can demonstrate effective CRM		Medium
Conduct Missed Approach		Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		Medium
Conduct Missed Approach		Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix,		Medium

		or other clearance limit, as appropriate, or as directed by the evaluator.		
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures.	Medium
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	Medium
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP	Medium

			or to a go-around below DA/MDA.	
Conduct Missed Approach			Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	Medium
Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach			Medium
Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments increase pilot workload and potential errors during a critical phase of flight.			Medium

Conduct Nonprecision Approach	Can explain that the practice commonly referred to as “dive and drive,” can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.			Medium
Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help eliminate CFIT.			Medium
Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to			Medium

	the landing touchdown point			
Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.			Medium
Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous descent final approach) technique.			Medium
Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the "dive and drive" technique.			Medium
Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized			Medium

	approach procedures and has no level-off.			
Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.			Medium

Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV systems, or by manually computing rate of descent.			Medium
Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)			Medium
Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.			Medium
Conduct Nonprecision Approach			Can appreciate that there are environments in which using CDFA technique is not advisable or practical, for example airports that do not offer	Medium

			straight in non-precision approaches.	
Conduct Nonprecision Approach	Can explain procedures and limitations associated with a nonprecision approach, including the differences between Localizer Performance (LP) and Lateral Navigation (LNAV) approach guidance			Medium
Conduct Nonprecision Approach	Can explain navigation system displays and annunciations, modes of operation, and RNP lateral accuracy values associated with an RNAV (GPS) approach.			Medium
Conduct Nonprecision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).			Medium
Conduct Nonprecision Approach	Can explain criteria for a stabilized			Medium

	approach, to include energy management concepts.			
Conduct Nonprecision Approach		Can perform the nonprecision instrument approaches selected by the instructor/evaluator		Medium
Conduct Nonprecision Approach		Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		Medium
Conduct Nonprecision Approach		Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		Medium
Conduct Nonprecision Approach		Can Comply with all clearances issued by ATC.		Medium
Conduct Nonprecision Approach		Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		Medium
Conduct Nonprecision Approach		Can coordinate with ATC if unable to comply with a clearance.		Medium

Conduct Nonprecision Approach		Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Medium
Conduct Nonprecision Approach		Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Medium
Conduct Nonprecision Approach		Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Medium
Conduct Nonprecision Approach		Can maintain a stabilized descent to the appropriate altitude.		Medium
Conduct Nonprecision Approach		Can maintain no more than ¼ scale CDI deflection, airspeed ±5 knots of selected value, and altitude above MDA +50/-0 feet		Medium

		(to the VDP or MAP) during the final approach segment		
Conduct Nonprecision Approach		Can execute the missed approach procedure if the required visual references are not distinctly visible and identifiable at the appropriate point or altitude for the approach profile, or execute a normal landing from a straight-in or circling approach.		Medium
Conduct Nonprecision Approach		Can use a Multi-Function Display (MFD) and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		Medium
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Failure to follow the correct approach procedure (e.g., descending too early, etc.).	Medium
Conduct Nonprecision Approach			Can identify, assess, and manage risks,	Medium

			encompassing Selecting an incorrect navigation frequency.	
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Failure to manage automated navigation and auto flight systems.	Medium
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	Medium
Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Deteriorating weather conditions on approach.	Medium

Conduct Nonprecision Approach			Can identify, assess, and manage risks, encompassing Operating below the minimum descent altitude (MDA) or continuing a descent below decision altitude (DA) without proper visual references.	Medium
Conduct Normal Approach and Landing		Can execute normal landings at the lowest applicable minima for each authorized flight guidance and/or visual system.		Medium
Conduct Normal Approach and Landing		Can perform manual rollout in low visibility at applicable minima. (except for aircraft using an automatic fail operational (FO) rollout system)		Medium
Conduct Normal Approach and Landing		Can perform landings at the limiting environmental conditions authorized for that operator with respect to wind, crosswind components, and runway surface		Medium

		friction characteristics		
Conduct Normal Approach and Landing	Can explain stabilized approach, to include energy management concepts.			Medium
Conduct Normal Approach and Landing	Can explain effects of atmospheric conditions, including wind, on approach and landing performance.			Medium
Conduct Normal Approach and Landing	Can explain wind correction techniques on approach and landing.			Medium
Conduct Normal Approach and Landing	Can identify airport and runway markings, signs, and lights			Medium
Conduct Normal Approach and Landing		Can coordinate with crew and execute after landing checklists(s).		Medium
Conduct Normal Approach and Landing		Can perform radio calls as appropriate		Medium
Conduct Normal Approach and Landing		Can maintain a ground track that ensures the desired traffic pattern will be flown taking into consideration obstructions and ATC		Medium

Conduct Normal Approach and Landing		Can confirm the airplane is aligned with the correct/assigned runway or landing surface.		Medium
Conduct Normal Approach and Landing		Can scan runway or landing surface and adjoining area for traffic and obstructions.		Medium
Conduct Normal Approach and Landing		Can select a suitable touchdown point considering wind, landing surface, and obstructions.		Medium
Conduct Normal Approach and Landing		Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		Medium
Conduct Normal Approach and Landing		Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		Medium
Conduct Normal Approach and Landing		Can perform smooth, timely, and correct control application before, during, and after touchdown.		Medium

Conduct Normal Approach and Landing		Can execute touch down with the runway centerline between the main landing gear at the appropriate speed and pitch attitude at the runway aiming point markings -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Medium
Conduct Normal Approach and Landing		Can execute deceleration to taxi speed (20 knots or less on dry pavement, 10 knots or less on contaminated pavement) to within the calculated landing distance plus 25% for the actual conditions with the runway centerline between the main landing gear		Medium
Conduct Normal Approach and Landing		Can execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.		Medium

Conduct Normal Approach and Landing		Can apply runway incursion avoidance procedures.		Medium
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing selection of a runway or approach path and touchdown area-based aircraft limitations, available distance, surface conditions, and wind.	Medium
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing Go-Around/Rejected Landing	Medium
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing land and Hold Short Operations (LAHSO)	Medium
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing	Medium

			collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Normal Approach and Landing			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, incorrect airport surface approach and landing, or improper task management.	Medium
Conduct Normal Takeoff and Climb		Can perform takeoff in limiting crosswinds, winds, gusts, and runway surface friction to levels authorized. Training should be done at weights or on runways that represent a critical field length		Medium
Conduct Normal Takeoff and Climb	Can describe the effects of atmospheric			Medium

	conditions, including wind, on takeoff and climb performance			
Conduct Normal Takeoff and Climb	Can describe the appropriate V-speeds for takeoff and climb			Medium
Conduct Normal Takeoff and Climb	Can describe the appropriate aircraft configuration and power setting for takeoff and climb			Medium
Conduct Normal Takeoff and Climb	Can identify airport and runway markings, signs, and lights			Medium
Conduct Normal Takeoff and Climb		Can coordinate with crew and complete the appropriate checklist(s) prior to takeoff in a timely manner		Medium
Conduct Normal Takeoff and Climb		Can perform radio calls as appropriate		Medium
Conduct Normal Takeoff and Climb		Can verify assigned/correct runway		Medium
Conduct Normal Takeoff and Climb		Can verify the airplane is configured for takeoff		Medium
Conduct Normal Takeoff and Climb		Can execute clearing of the area and taxi into takeoff position and align the airplane on the runway centerline		Medium
Conduct Normal Takeoff and Climb		Can maintain centerline and proper flight control inputs		Medium

		during the takeoff roll		
Conduct Normal Takeoff and Climb		Can confirm takeoff power and proper engine and flight instrument indications prior to rotation and perform callouts as appropriate, for the airplane or per the operator's procedures		Medium
Conduct Normal Takeoff and Climb		Can perform rotation and lift off at the recommended airspeed		Medium
Conduct Normal Takeoff and Climb		Can maintain a power setting and a pitch attitude to maintain the desired climb airspeed/V-speed, ±5 knots for each climb segment		Medium
Conduct Normal Takeoff and Climb		Can maintain desired heading ±5°		Medium
Conduct Normal Takeoff and Climb		Can perform Retraction of the landing gear and flaps in accordance with manufacturer or operator procedures and limitations, as appropriate		Medium
Conduct Normal Takeoff and Climb		Can perform wake turbulence avoidance		Medium
Conduct Normal Takeoff and Climb		Can follow noise abatement procedures		Medium

Conduct Normal Takeoff and Climb		Can execute appropriate after-takeoff checklist(s) in a timely manner		Medium
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing selection of a runway, or runway intersection aircraft limitations, available distance, surface conditions, and wind	Medium
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing wake turbulence	Medium
Conduct Normal Takeoff and Climb			Can demonstrate proper planning for rejected takeoff	Medium
Conduct Normal Takeoff and Climb			Can demonstrate proper planning for engine failure in takeoff phase of flight	Medium
Conduct Normal Takeoff and Climb			Can demonstrate proper planning for engine failure in climb phase of flight	Medium

Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing improper aircraft configuration or settings (e.g., trim, flaps, autobrakes, etc.)	Medium
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	Medium
Conduct Normal Takeoff and Climb			Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can execute procedure with smoothness and accuracy		Low
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can operate the airplane within its limitations		Low
Conduct PFD malfunction		Can maintain control of the airplane at all times		Low

procedure (AGM 1 or DU1)		in such a manner that the successful outcome of the procedure is never in doubt		
Conduct PFD malfunction procedure (AGM 1 or DU1)			Can apply aeronautical knowledge to execution of the task	Low
Conduct PFD malfunction procedure (AGM 1 or DU1)			Can apply crew coordination	Low
Conduct PFD malfunction procedure (AGM 1 or DU1)			Can conduct effective communication with the other crew members	Low
Conduct PFD malfunction procedure (AGM 1 or DU1)			Can manage crew cooperation	Low
Conduct PFD malfunction procedure (AGM 1 or DU1)			Can maintain a general survey of the aircraft operation by appropriate supervision	Low
Conduct PFD malfunction procedure (AGM 1 or DU1)			Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	Low
Conduct PFD malfunction procedure (AGM 1 or DU1)			Can demonstrate good judgement and airmanship	Low

Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations without APU			Medium
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations with APU			Medium
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU			Medium
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations with APU			Medium
Conduct Powerplant Start	Can explain procedures for starting engines under various conditions			Medium
Conduct Powerplant Start	Can explain possible malfunctions during powerplant start, procedures to address the malfunction, and any associated limitations			Medium
Conduct Powerplant Start	Can describe coordinating and communicating with ground personnel for powerplant start, if applicable			Medium

Conduct Powerplant Start		Can ensure the ground safety procedures are followed during the before-start, start, and after- start phase		Medium
Conduct Powerplant Start		Can coordinate with crew and complete the appropriate checklist(s) prior to and after powerplant start.		Medium
Conduct Powerplant Start		Can identify an abnormal start or malfunction and execute the correct procedure		Medium
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing malfunctions during powerplant start	Medium
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing turbine powerplant safety	Medium
Conduct Powerplant Start			Can identify, assess, and manage risks encompassing managing situations where specific instructions or checklist items are not published	Medium

Conduct Powerplant Start			Can identify, assess, and manage risks encompassing personnel, vehicles, vessels, foreign object debris, and other aircraft in the vicinity during powerplant start	Medium
Conduct Precision Approach	Can describe normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures			Medium
Conduct Precision Approach		Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal		Medium

		operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		
Conduct Precision Approach	Can describe procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.			Medium
Conduct Precision Approach		Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		Medium
Conduct Precision Approach	Can recognize the limits of acceptable aircraft position and flightpath tracking			Medium

	during approach, flare and rollout. This should be addressed using appropriate displays or annunciations for either automatic or manual landing systems.			
Conduct Precision Approach			Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors (F/D), or other system (e.g., HUD, SVGS, etc.) performance. For systems such as HUDs that have a limited field of view (FOV), or synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a	Medium

			display limit capability.	
Conduct Precision Approach		Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, or circling minima, if applicable); according to the operator's manuals, charts and checklists, on the aircraft type, model and series flown.		Medium
Conduct Precision Approach		Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		Medium
Conduct Precision Approach		Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		Medium
Conduct Precision Approach		Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored		Medium

		approach, or call-outs);		
Conduct Precision Approach			Can demonstrate familiarization with airport and runway characteristics typically experienced;	Medium
Conduct Precision Approach	Can identify nearby critical terrain or obstruction environment;			Medium
Conduct Precision Approach		Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and		Medium
Conduct Precision Approach		Can respond appropriately to aircraft and ground system failures.		Medium

Conduct Precision Approach	Can explain procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in the case of inoperative equipment.			Medium
Conduct Precision Approach	Can explain navigation system displays, annunciations, and modes of operation.			Medium
Conduct Precision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).			Medium
Conduct Precision Approach	Can explain stabilized approach criteria, to include energy management concepts.			Medium
Conduct Precision Approach		Can perform the precision instrument approaches selected by the instructor/evaluator.		Medium

Conduct Precision Approach		Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		Medium
Conduct Precision Approach		Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		Medium
Conduct Precision Approach		Can comply in a timely manner with all clearances, instructions, and procedures.		Medium
Conduct Precision Approach		Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		Medium
Conduct Precision Approach		Can coordinate with ATC if unable to comply with a clearance.		Medium
Conduct Precision Approach		Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Medium

Conduct Precision Approach		Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Medium
Conduct Precision Approach		Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Medium
Conduct Precision Approach		Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		Medium
Conduct Precision Approach		Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either		Medium

		the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots		
Conduct Precision Approach		Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH.		Medium
Conduct Precision Approach		Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		Medium
Conduct Precision Approach		Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		Medium
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing failure to	Medium

			follow the correct approach procedure (e.g., descending below the glideslope, etc.).	
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing selecting an incorrect navigation frequency.	Medium
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	Medium
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing an unstable approach, including	Medium

			excessive descent rates.	
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	Medium
Conduct Precision Approach			Can identify, assess, and manage risks, encompassing continuing to descend below the Decision Altitude (DA)/Decision Height (DH) when the required visual references are not visible.	Medium
Conduct Rejected Takeoff		Can execute Rejected takeoff from a point prior to V1 (including an engine failure);		Low
Conduct Rejected Takeoff		Can perform rejected takeoff requiring transfer of control (if applicable) for low-visibility takeoff minima where a flight guidance and/or vision system is required		Low
Conduct Rejected Takeoff		Can perform rejected takeoff with failure of the flight guidance		Low

		device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		
Conduct Rejected Takeoff	Can describe safety considerations following a rejected takeoff			Low
Conduct Rejected Takeoff	Can explain the procedure for accomplishing a rejected takeoff			Low
Conduct Rejected Takeoff	Can explain accelerate/stop distance			Low
Conduct Rejected Takeoff	Can describe conditions and situations that could warrant a rejected takeoff (e.g., takeoff warning systems, powerplant failure, other systems warning/failure)			Low
Conduct Rejected Takeoff	Can define relevant V-speeds for a rejected takeoff			Low
Conduct Rejected Takeoff		Can execute aborted takeoff if the powerplant failure occurs at a point during the takeoff where the abort procedure can be initiated and the airplane can be		Low

		safely stopped on the remaining runway		
Conduct Rejected Takeoff		Can execute prompt reduction of power and maintain positive aircraft control using drag and braking devices, as appropriate, to come to a stop		Low
Conduct Rejected Takeoff		Can coordinate with crew, if applicable, and complete the appropriate procedures, checklist(s), and radio calls following a rejected takeoff in a timely manner		Low
Conduct Rejected Takeoff			Can identify, assess, and manage risks, encompassing a powerplant failure or other malfunction during takeoff.	Low
Conduct Rejected Takeoff			Can identify, assess, and manage risks, encompassing failure to maintain directional control following a rejected takeoff	Low
Conduct Rejected Takeoff			Can identify, assess, and manage risks,	Low

			encompassing rejecting takeoff with inadequate stopping distance	
Conduct Rejected Takeoff			Can identify, assess, and manage risks, encompassing a high-speed abort distraction, loss of situational awareness, or improper task management	Low
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can verify currency and integrity of aircraft navigation data		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO		Can verify successful completion of RNP system self-tests;		Medium

standards for RNP operations.				
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform initialization navigation system position		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform adherence to speed and/or altitude constraints associated with RNP operations		Medium

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can verify waypoints and flight plan programming;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform flying direct to a waypoint		Medium
Conduct RNP operations in the United States, oceanic and remote continental		Can perform flying a course/track to a waypoint		Medium

airspace, and in foreign countries which adopt ICAO standards for RNP operations.				
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform interception of a course/track		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform flying vectors, and rejoining an RNP route/procedure from the 'heading' mode;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform selecting/arming the navigation system for an ILS or GLS transition		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform insertion and deletion of a route discontinuity;		Medium

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform removal and reselection of a navigation sensor input;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can perform changing of the arrival airport and alternate airport		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can verify the RNP value set in the flight management system (FMS) matches the equipment capability and authorizations as annotated in the flight plan		Medium
Conduct RNP operations in the United States, oceanic and remote		Can perform parallel offset function if capability exists		Medium

continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.				
Conduct use of FMS		Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		Medium
Conduct use of FMS			Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	Medium
Conduct use of FMS		Can verify currency of aircraft navigation data.		High
Conduct use of FMS		Can perform flying a course/track to a waypoint.		Medium
Conduct use of FMS		Can perform interception of a course/track		Medium
Conduct use of FMS		Can comply with a vectored off and execute rejoining a procedure.		Medium

Conduct use of FMS		Can determine cross-track error/deviation		Medium
Conduct use of FMS		Can execute insertion and deletion of a route discontinuity		Medium
Conduct use of FMS		Can execute removal and reselection of navigation sensor inputs.		Medium
Conduct use of FMS		Can confirm exclusion of a specific navigation aid or navigation aid type.		Medium
Conduct use of FMS		Can execute insertion and deletion of a lateral offset		Medium
Conduct use of FMS		Can execute a change of the arrival airport and alternate airport		Medium
Conduct use of FMS		Can execute insertion and delete a holding pattern		Medium
Conduct use of FMS		Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS		Can execute initialization of RNAV system position		High
Conduct use of FMS		Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS		Can comply with speed and/or altitude constraints		Medium

		associated with a DP or STAR.		
Conduct use of FMS		Can execute making a runway change associated with a DP or STAR		Medium
Conduct use of FMS		Can verify waypoints and flight plan programming		High
Conduct use of FMS		Can perform a manual or automatic runway update (with takeoff point shift, if applicable)		Medium
Conduct use of FMS		Can perform flying direct to a waypoint		Medium
Conduct use of FMS		Can perform a complex SID consisting of multiple altitude and speed constraints		Medium
Conduct use of FMS		Can perform a complex STAR consisting of multiple altitude and speed constraints		Medium
Conduct use of FMS		Can input a lat/long waypoint to the FMS		Medium
Conduct use of FMS		Can demonstrate general awareness of all three styles of flight director		Medium
Conduct use of FMS		Can identify symbology available in synthetic vision system		Medium

Conduct use of FMS		Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		Medium
Conduct use of FMS		Can use the cursor control device effectively		High
Conduct use of FMS		Can perform transition between automatic (FMS-controlled) to manual mode and back in the event of a flightpath deviation due to input error or system malfunction.		Medium
Conduct use of TCAS		Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		High
Conduct use of TCAS		Can demonstrate the proper use of controls including steps required to initiate a self-test.		High
Conduct use of TCAS		Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if		High

		possible, correcting the problem.		
Understand Auxiliary Power Unit (APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium
Understand Auxiliary Power Unit (APU)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Auxiliary Power Unit (APU)	Can explain system or component limitations			Medium
Understand Auxiliary Power Unit (APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium
Understand Auxiliary Power Unit (APU)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium

Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Auxiliary Power Unit (APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			Medium
Understand Auxiliary Power Unit (APU)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium
Understand Auxiliary Power Unit (APU)			Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Medium
Understand Auxiliary Power Unit (APU)			Can identify, assess, and manage risks encompassing improper	Medium

			management of a system failure	
Understand Auxiliary Power Unit (APU)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology			Medium

Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium

Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium

Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium
Understand Avionics and communications - communication systems (e.g., data link,			Can identify, assess, and manage risks encompassing failure to follow appropriate	Medium

UHF/VHF/HF, satellite)			checklists or procedures	
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing improper management of a system failure	Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite) - Radio Failure / Mistune During a Dual Coupled ILS Approach	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium

Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium

Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing improper management of a system failure	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain the features of the PlaneView System			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the functional characteristics of the cursor control device			Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane			Medium

Messages and Procedures	system, subsystem, or device			
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications -	Can describe the operation of the airplane systems			High

ground-based navigation systems and components	and components using correct terminology			
Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - indicating devices		Can interpret flight path vector symbology as it relates to the PFD and HUD, both caged and uncaged		Medium
Understand Avionics and communications - indicating devices	Can interpret PFD mode annunciations			Medium
Understand Avionics and communications - indicating devices - Charts Function DU 2 and 3 Inoperative procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - indicating devices - Charts Function Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium

Understand Avionics and communications - indicating devices - Equipment Loss While in RVSM Airspace procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - indicating devices - Video Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain system or component limitations			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			Medium

Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain immediate action items or memory items, if appropriate			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)			Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Medium

Understand Avionics and communications - Inertial Navigation Systems (INS)			Can identify, assess, and manage risks encompassing improper management of a system failure	Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - Inertial Navigation Systems (INS) - IRS Align in Motion procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Avionics and Communications - Instruments	Can interpret situation information displays, as applicable.			Medium
Understand Avionics and Communications - Instruments	Can describe proper application of controlling and/or advisory RVR, appropriate runway light settings, and proper determination of RVR values reported at foreign facilities.			Medium

Understand Avionics and Communications - Instruments	Can describe proper application of MDA, DA/DH, or AH, including proper use and setting of altimeter bugs, use of the inner marker (IM) where authorized or required due to irregular underlying terrain, and appropriate altimeter setting procedures for the barometric altimeter consistent with the operator's practice of using either altimeter setting referenced to airport ambient local pressure (QNH) or altimeter setting referenced to airport field elevation (QFE).			Medium
Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Low

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can apply monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page)		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can demonstrate familiarization with automatic and/or manual setting of the required RNP value		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can demonstrate familiarization with the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System (GBAS) Landing System (GLS)		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote		Can demonstrate how offsets are applied, the functionality of their particular navigation system		Medium

continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		and the need to advise air traffic control (ATC) if this functionality is not available		
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can apply receiver/transmitter (R/T) phraseology for RNP applications		Medium
Understand Avionics and communications - terrain awareness/warning/ alert systems	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Avionics and communications - terrain awareness/warning/ alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to			High

	demonstrate or describe the proper use of the airplane system, subsystem or device			
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining takeoff performance (e.g., balance field			Can explain the adverse effects of exceeding an airplane limitation or the	Medium

length, VMCG) per AFM			airplane operating envelope.	
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium

Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium

Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM			Can appreciate that take off distance numbers provided by the AFM are the most restrictive	Medium

			result of numerous part 25 requirements	
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept			Medium
Understand determining	Can explain why V_1 can be no less			Medium

accelerate-stop / accelerate-go distance per AFM	than V_{MCG} nor can be no more than V_R			
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain its importance			Medium
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)			Medium
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance			Medium

Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for “all engine” or “engine inoperative” missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified “all-engine lateral flightpath” (or radar vectors) and any specified “engine-inoperative lateral flightpath,” using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.			Medium
Understand determining climb performance per AFM	Can explain considerations for OEI departure development			Medium

Understand determining climb performance per AFM	Can state the definition of takeoff segment			Medium
Understand determining climb performance per AFM	Can state the definitions of gross and net flightpath			Medium
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining climb performance per AFM			Can explain the adverse effects of exceeding an airplane	Medium

			limitation or the airplane operating envelope.	
Understand determining climb performance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining climb performance per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining climb performance per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	Medium
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators			Medium
Understand determining climb performance per AFM	Can locate FAA TALPA videos online			Medium

Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure			Medium
Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures			Medium
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these			Medium

	factors to a specific chart, table, graph, or other performance data			
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium

Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining descent performance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane	Medium

			operating envelope.	
Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining descent performance per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium

Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining fuel requirements per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining fuel requirements per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining performance with an inoperative powerplant for all	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium

phases of flight per AFM				
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight			Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data			Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining performance with an inoperative			Can identify, assess, and manage risks encompassing	Medium

powerplant for all phases of flight per AFM			Inaccurate use of performance charts, tables, and data	
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM			Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium

Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance			Medium
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight			Medium
Understand determining weight and balance per AFM			Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining weight and balance per AFM			Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			High

Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Electrical System - generators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			Medium
Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane			Medium

	system, subsystem or device			
Understand Electrical System - batteries	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Electrical System - batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Flight Controls - speed brakes	Can use the appropriate checklists and			Medium

	NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			
Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Fuel system - capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology			High

Understand Fuel system - capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology			Medium
Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Hydraulic system -	Can describe the operation of the airplane systems			High

regulators/accumulators	and components using correct terminology			
Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium

Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance			Medium

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of indicated airspeed during a stabilized approach			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings -250/+500 feet, or where there are no			Medium

	runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.			
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/suppleme ntal data			Medium
Understand Mitigating Risks of	Can discuss the chain of events that lead to an			Medium

a Runway Overrun Upon Landing	overrun in this example, and relate it to their own experiences			
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can			Medium

	contribute to an aircraft overrun			
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can contribute to a runway overrun			Medium
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival			Medium
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the difference between the generic samples in table 3-2 where cumulative errors are made, and table 3-3 where errors are not made			Medium

Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain how use of published approach guidance in visual conditions can reduce errors			Medium
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the characteristics of effective CRM			Medium
Understand OEM checklist philosophy			Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	Medium
Understand OEM checklist philosophy			Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format	Medium

			for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Pneumatic and environmental system - controls,	Can use the appropriate checklists and ABNORMAL			Medium

indicators, and regulating devices	procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			
Understand Pneumatic and environmental system - pressurization	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			Medium

Simulator Training Learning Objectives

SIM 1 Learning Objectives

SIM 1 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**
Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Conduct after landing, parking and securing	Can explain parking, shutdown, securing, and postflight inspection.
Conduct Arrival Procedures	Can use standard Terminal Arrival (STAR) charts, U.S. Terminal Procedures Publications, and IFR Enroute High and Low Altitude Charts
Conduct Arrival Procedures	Can use a Flight Management System (FMS) or GPS to follow a STAR

Conduct Arrival Procedures	Can explain two-way radio communication failure procedures during an arrival
Conduct Arrival Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Arrival Procedures	Can explain reasons other than visibility that a go around may suddenly be required
Conduct Arrival Procedures	Can explain the characteristics of a pilot braking action report
Conduct Arrival Procedures	Can explain items to consider when a pilot braking action report is reliable
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks
Conduct Before Takeoff Checks	Can describe how to detect malfunctions
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)
Conduct Before Takeoff Checks	Can give a before takeoff briefing
Conduct Clean Configuration Stall prevention	Can explain aerodynamics associated with stalls in a clean configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance
Conduct Clean Configuration Stall prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Clean Configuration Stall prevention	Can explain factors and situations that Can lead to a stall during cruise flight and actions that Can be taken to prevent it
Conduct Clean Configuration Stall prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or

	autothrottle/autothrust, if applicable to the aircraft
Conduct Clean Configuration Stall prevention	Can explain fundamentals of stall recovery
Conduct Clean Configuration Stall prevention	Can explain the effects of altitude on performance (e.g., thrust available) and flight control effectiveness during a recovery
Conduct Departure Procedures	Can explain takeoff minimums
Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure
Conduct Departure Procedures	Can explain required climb gradients
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP
Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Departure Procedures	Can explain communication failure procedures
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can explain declaring an emergency and selection of a suitable airport or landing location

Conduct Go-Around/Rejected Landing	Can describe Proper airborne system use for go-around, including consideration of height loss during transition to a go-around, performance assurance for obstacle clearance, management of any necessary mode changes, and assurance of appropriate vertical and lateral flightpath tracking.
Conduct Go-Around/Rejected Landing	Can explain stabilized approach, to include energy management concepts.
Conduct Go-Around/Rejected Landing	Can explain effects of atmospheric conditions, including wind and density altitude on a go-around or rejected landing.
Conduct Go-Around/Rejected Landing	Can explain wind correction techniques on takeoff/departure and approach/landing.
Conduct Go-Around/Rejected Landing	Can explain situations and considerations on approach that could require a go-around/rejected landing, to include the inability to comply with a LAHSO clearance.
Conduct Go-Around/Rejected Landing	Can explain Go-around/rejected landing procedures, the importance of a timely decision, and appropriate airspeed/V-speeds for the maneuver.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Landing Configuration Stall Prevention	Can explain aerodynamics associated with stalls in the landing configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance, aircraft attitude, and sideslip effects
Conduct Landing Configuration Stall Prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Landing Configuration Stall Prevention	Can explain factors and situations that Can lead to a stall when configured for landing and actions that Can be taken to prevent it

Conduct Landing Configuration Stall Prevention	Can explain the effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Conduct Landing Configuration Stall Prevention	Can explain fundamentals of stall recovery
Conduct Landing from a Precision Approach	Can recognize significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH.
Conduct Landing from a Precision Approach	Can recognize ground or navigation system faults, failures or abnormalities at any point during the approach and landing.
Conduct Landing from a Precision Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a precision approach.
Conduct Landing from a Precision Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.
Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure
Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Normal Approach and Landing	Can explain stabilized approach, to include energy management concepts.

Conduct Normal Approach and Landing	Can explain effects of atmospheric conditions, including wind, on approach and landing performance.
Conduct Normal Approach and Landing	Can explain wind correction techniques on approach and landing.
Conduct Normal Approach and Landing	Can identify airport and runway markings, signs, and lights
Conduct Normal Takeoff and Climb	Can describe the effects of atmospheric conditions, including wind, on takeoff and climb performance
Conduct Normal Takeoff and Climb	Can describe the appropriate V-speeds for takeoff and climb
Conduct Normal Takeoff and Climb	Can describe the appropriate aircraft configuration and power setting for takeoff and climb
Conduct Normal Takeoff and Climb	Can identify airport and runway markings, signs, and lights
Conduct Partial Flap Configuration Stall Prevention	Can explain aerodynamics associated with stalls in a partial flap configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance
Conduct Partial Flap Configuration Stall Prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Partial Flap Configuration Stall Prevention	Can explain factors and situations that Can lead to a stall during takeoff or while on approach and actions that Can be taken to prevent it
Conduct Partial Flap Configuration Stall Prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Conduct Partial Flap Configuration Stall Prevention	Can explain fundamentals of stall recovery
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations without APU
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations with APU
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU

Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations with APU
Conduct Powerplant Start	Can explain procedures for starting engines under various conditions
Conduct Powerplant Start	Can explain possible malfunctions during powerplant start, procedures to address the malfunction, and any associated limitations
Conduct Powerplant Start	Can describe coordinating and communicating with ground personnel for powerplant start, if applicable
Conduct Precision Approach	Can describe normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures
Conduct Precision Approach	Can describe procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.
Conduct Precision Approach	Can recognize the limits of acceptable aircraft position and flightpath tracking during approach, flare and rollout. This should be addressed using appropriate displays or annunciations for either automatic or manual landing systems.
Conduct Precision Approach	Can identify nearby critical terrain or obstruction environment;
Conduct Precision Approach	Can explain procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in the case of inoperative equipment.
Conduct Precision Approach	Can explain navigation system displays, annunciations, and modes of operation.

Conduct Precision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Precision Approach	Can explain stabilized approach criteria, to include energy management concepts.
Conduct Recovery from Unusual Flight Attitudes	Can explain procedures for recovery from unusual attitudes in this aircraft type
Conduct Recovery from Unusual Flight Attitudes	Can explain unusual flight attitude causal factors, including physiological factors, system and equipment failures, and environmental factors
Conduct Recovery from Unusual Flight Attitudes	Can explain and reference the operating envelope and structural limitations for the airplane
Conduct Recovery from Unusual Flight Attitudes	Can explain the effects of engine location, wing design, and other specific design characteristics that could affect aircraft control during the recovery in this aircraft type
Conduct Steep Turns	Can explain energy management required during steep turns
Conduct Steep Turns	Can explain aerodynamics associated with steep turns, to include: Coordinated and uncoordinated flight
Conduct Steep Turns	Can explain aerodynamics associated with steep turns, to include: Overbanking tendencies as relevant to this aircraft type
Conduct Steep Turns	Can explain maneuvering speed, including the impact of weight changes
Conduct Steep Turns	Can explain load factor and accelerated stalls as relevant to this aircraft type
Conduct Steep Turns	Can explain relationship between rate and radius of turn
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights
Conduct Taxi	Can describe proper procedures for entering or crossing runways

Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew
Conduct Taxi	Can identify the runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)
Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and

	approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain system or component limitations
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain immediate action items or memory items, if appropriate

Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - autopilot	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - autopilot	Can explain system or component limitations
Understand Avionics and communications - autopilot	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - autopilot	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - autopilot	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - autopilot	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology

Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to

	document inoperative components of this system and explain related procedures
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite) - Radio Failure / Mistune During a Dual Coupled ILS Approach	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain the features of the PlaneView System
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the functional characteristics of the cursor control device
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Flight Management System (FMS)	Can explain that DPs and STARs are flown as RNAV 1 procedures. RNAV routes are flown as RNAV 2 unless otherwise specified
Understand Avionics and communications - Flight Management System (FMS)	Can explain that at system initialization, pilots must confirm the navigation database is current and verify the aircraft's present position.
Understand Avionics and communications - Flight Management System (FMS)	Can explain that RNAV DPs and STAR procedures must be retrieved by procedure name from the onboard navigation database and conform to the charted procedure
Understand Avionics and communications - Flight Management System (FMS)	Can explain that whenever possible, RNAV routes should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. Selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted
Understand Avionics and communications - Flight Management System (FMS)	Can explain that manual entry of waypoints using latitude/longitude or place/bearing is not permitted
Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must not change any RNAV DP or STAR database waypoint type from a flyby to a flyover or vice versa.

Understand Avionics and communications - Flight Management System (FMS)	Can explain that flightcrews should crosscheck the cleared flight plan against charts or other applicable resources, as well as the navigation system textual display and the aircraft map display, if applicable
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verification of assigned route and correct entry of transitions into RNAV System/FMS
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying their aircraft navigation system is operating correctly and the correct runway and DP (including any applicable en route transition) are entered and properly depicted prior to flight
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying proper entry of their ATC assigned route upon initial clearance and after any subsequent change of route.
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying their aircraft navigation system is operating correctly and the transition and arrival runway is entered and properly displayed
Understand Avionics and communications - Flight Management System (FMS)	Can explain that For DPs, the pilot must be able to engage RNAV equipment to follow flight guidance for lateral RNAV no later than 500 feet above airport elevation.
Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must use a lateral deviation indicator (or equivalent navigation map display), flight director and/or autopilot in lateral navigation mode on RNAV 1 routes. The full-scale course deviation indicator (CDI) deflection value of ±1 NM is acceptable

Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots of aircraft without GPS/GNSS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement
Understand Avionics and communications - Flight Management System (FMS)	Can describe the depiction of waypoint types (flyover and flyby) and path terminators
Understand Avionics and communications - Flight Management System (FMS)	Can describe the required navigation equipment for operation on RNAV routes, DPs, and STARs (for example, DME/DME/IRU and GPS/GNSS)
Understand Avionics and communications - Flight Management System (FMS)	Can describe system specific levels of automation, mode annunciations, mode changes, alerts, interactions, reversions and degradation
Understand Avionics and communications - Flight Management System (FMS)	Can describe the functional interaction with other aircraft systems
Understand Avionics and communications - Flight Management System (FMS)	Can describe the meaning and appropriateness of route discontinuities as well as related flightcrew procedures
Understand Avionics and communications - Flight Management System (FMS)	Can describe the monitoring procedures for each phase of flight (for example, monitor PROG or LEGS page)
Understand Avionics and communications - Flight Management System (FMS)	Can explain the types of navigation sensors (for example, DME, IRU, GPS/GNSS) utilized by the RNAV system and associated system prioritization/weighting/logic
Understand Avionics and communications - Flight Management System (FMS)	Can explain turn anticipation regarding speed and altitude effects
Understand Avionics and communications - Flight Management System (FMS)	Can describe proper interpretation of electronic displays and symbols
Understand Avionics and communications - Flight Management System (FMS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Avionics and communications - Flight Management System (FMS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Flight Management System (FMS)	Can explain system or component limitations
Understand Avionics and communications - Flight Management System (FMS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Flight Management System (FMS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Flight Management System (FMS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - Flight Management System (FMS) - FMS Powers Up in Single or Independent Mode procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the onboard navigation data must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and relevant coded terminal airspace procedures for the departure, arrival, and alternate airfields.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the pilot must notify ATC of any loss of the RNAV capability, together with the proposed course of action. If unable to comply with the requirements of an RNAV procedure, pilots must advise ATC as soon as possible.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 1 requires a total system error of not more than 1 nautical mile (NM) for 95 percent of the total flight time.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 2 requires a total system error of not more than 2 NM for 95 percent of the total flight time

Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that Receiver Autonomous Integrity Monitoring (RAIM) is a technique used within a GPS receiver/processor to monitor GPS signal performance and is achieved by a consistency check among redundant measurements.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that an Instrument Departure Procedure (DP) is a published instrument flight rules (IFR) procedure providing obstruction clearance from the terminal area to the en route structure.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that there are two types of DPs: Standard Instrument Departures (SIDs) and Obstacle Departure Procedures (ODPs)
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a SID is a published IFR air traffic control (ATC) DP providing obstacle clearance and a transition from the terminal area to the en route structure.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that SIDs are primarily designed for air traffic system enhancement to expedite traffic flow and to reduce pilot/controller workload.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that ODPs are recommended for obstruction clearance and may be flown without ATC clearance unless an alternate DP (SID or radar vector) has been specifically assigned by ATC.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a Standard Terminal Arrival (STAR) is a published IFR ATC arrival procedure that provides a transition from the en route structure to the terminal area
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that an RNAV route within the high or low altitude structure of the contiguous United States, is designated by a “Q” or “T”
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs relies on normal descent profiles and identifies minimum segment altitude requirements

Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that pilots operating aircraft with an approved barometric vertical navigation (baro-VNAV) system may continue to use their baro-VNAV system while executing U.S. RNAV routes, DPs, and STARs, however operators must ensure compliance with all altitude constraints as published in the procedure by reference to the barometric altimeter
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs does not require the pilot to monitor ground-based Navigational Aids (NAVAID) used in position updating unless required by the Airplane Flight Manual (AFM), pilot's operating handbook (POH), or the operating manual for their avionics
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs bases obstacle clearance assessments on the associated required RNAV system performance
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain system or component limitations
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Avionics and communications - Global Navigation Satellite System (GNSS) - GPS / SBAS Reception Loss During RNAV (GPS) Approach to Minima procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the performance requirement and the fail-down capabilities of the system
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe alternate airport requirements and selection of an alternate airport.
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the meaning and proper use of aircraft equipment/navigation suffixes
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can explain instrument procedure characteristics as determined from chart depiction and textual description
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can state that manual change of waypoints included in the approach is prohibited
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can differentiate between ILS flight guidance cues and LPV guidance cues
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can obtain required navigation equipment for approach operations using WAAS or any operational restrictions/limitations, as outlined in the AFM, RFM, AFMS, OpSpec, MSpec, or LOA.

Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradations.
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe functional integration with other aircraft systems
Understand Avionics and communications - ground-based navigation systems and components	Can describe the navigation systems to be used, such as the instrument landing system (ILS) with its associated critical area protection criteria, marker beacons, distance measuring equipment (DME), compass locators, or other relevant systems should be addressed to the extent necessary for safe operations. For Ground Based Augmentation System (GBAS) Landing System (GLS)), any characteristics or constraints regarding that method of navigation must be addressed (e.g., proper procedure waypoint selection and use, integrity assurance, loss of satellite availability or failure, terrain masking).
Understand Avionics and communications - ground-based navigation systems and components	Can identify Visual aids including Approach Lighting Systems (ALS), runway lighting systems, markings/lighting associated with declared distances, taxiway lighting, color coding of the centerline lighting for distance remaining, Low-Visibility Operations (LVO)/Surface Movement Guidance and Control System (SMGCS) lighting, and any other lighting systems relevant to an AWO environment should be addressed.
Understand Avionics and communications - ground-based navigation systems and components	Can identify automatic or perform manual input requiring parameters, such as inbound course or automatic/manually tuned navigation frequencies, the importance of checking that proper selections have been made to ensure appropriate system performance, and the

	sequence and management of any mode changes.
Understand Avionics and communications - ground-based navigation systems and components	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - ground-based navigation systems and components	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - ground-based navigation systems and components	Can explain system or component limitations
Understand Avionics and communications - ground-based navigation systems and components	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - ground-based navigation systems and components	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - ground-based navigation systems and components	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and Communications - HUD	Can identify all HUD symbology
Understand Avionics and Communications - HUD	Can explain the FPV
Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD

Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Understand Avionics and Communications - HUD	Can describe crew briefings and callouts
Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Understand Avionics and communications - indicating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - indicating devices	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - indicating devices	Can explain system or component limitations
Understand Avionics and communications - indicating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - indicating devices	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - indicating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - indicating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - indicating devices	Can interpret PFD mode annunciations
Understand Avionics and communications - indicating devices - Charts Function DU 2 and 3 Inoperative procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - indicating devices - Charts Function Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - indicating devices - Equipment Loss While in RVSM Airspace procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Avionics and communications - indicating devices - Video Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain system or component limitations
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - Inertial Navigation Systems (INS) - IRS Align in Motion procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and Communications - Instruments	Can interpret situation information displays, as applicable.
Understand Avionics and Communications - Instruments	Can describe proper application of controlling and/or advisory RVR, appropriate runway light settings, and proper determination of RVR values reported at foreign facilities.

Understand Avionics and Communications - Instruments	Can describe proper application of MDA, DA/DH, or AH, including proper use and setting of altimeter bugs, use of the inner marker (IM) where authorized or required due to irregular underlying terrain, and appropriate altimeter setting procedures for the barometric altimeter consistent with the operator's practice of using either altimeter setting referenced to airport ambient local pressure (QNH) or altimeter setting referenced to airport field elevation (QFE).
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe the meaning and proper use of aircraft equipment/navigation capability codes used on the flight plan
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain instrument procedure characteristics as determined from chart depiction and textual description
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret the depiction of waypoint types (flyover and flyby) as well as associated aircraft flightpaths
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain that a waypoint may be a flyover in one procedure and the same waypoint may also be a flyby in another procedure;
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list required equipment for RNP operations
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret aircraft automation, mode annunciations, changes, alerts, interactions, reversions, and degradations

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain functional integration with other aircraft systems
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the meaning of route discontinuities and appropriate flightcrew procedures;
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list the types of navigation sensors used by the RNP system and their annunciations
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain turn anticipation with consideration to speed and altitude effects
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret electronic displays and symbols
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe appropriate selection of course deviation indicator (CDI) scaling (lateral deviation display scaling)
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the importance of maintaining the published path and maximum airspeeds while performing RNP operations with Radius to Fix (RF) legs (if applicable)
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret the depiction of path terminators, associated aircraft flightpaths, altitude, and speed restrictions
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe flightcrew contingency procedures for a loss of RNP capability; and

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the performance requirement to couple the autopilot (AP)/flight director (FD) to the navigation system's lateral guidance on RNP procedures, if required
Understand Avionics and Communications - Supporting Systems	Can interpret Other associated instrumentation and displays including any head-up display, guidance system, vision system, monitoring displays, status displays, mode annunciation displays, failure or warning annunciations, and associated system status displays that may be relevant. When such airborne systems are used as the basis for category(s) of minima (e.g., HUD or SVGS for Special Authorization (SA) CAT I; AP, F/D, or HUD for CAT I Landing Minima with Reduced Lighting (RVR 1800)), training should address the relationships between the various system components and the minima for which they are required.
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain it's importance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance

Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for “all engine” or “engine inoperative” missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified “all-engine lateral flightpath” (or radar vectors) and any specified “engine-inoperative lateral flightpath,” using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Understand determining climb performance per AFM	Can state the definition of take off segment
Understand determining climb performance per AFM	Can state the definitions of gross and net flighpath
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure

Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand Envelope protection—angle of attack warning and protection and speed protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Envelope protection—angle of attack warning and protection and speed protection	Can describe the operation of the airplane systems and components using correct terminology
Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain system or component limitations
Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain immediate action items or memory items, if appropriate
Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Envelope protection—angle of attack warning and protection and speed protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Lighting	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Lighting	Can describe the operation of the airplane systems and components using correct terminology
Understand Lighting	Can explain system or component limitations
Understand Lighting	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Lighting	Can explain immediate action items or memory items, if appropriate
Understand Lighting	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Lighting	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Lighting	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the charcteristics of indicated airspeed during a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why mulitple small errors during landing can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the difference between the generic samples in table 3-2 where cumualtive errors are made, and table 3-3 where errors are not made
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain how use of published approach guidance in visual conditions can reduce errors

Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the characteristics of effective CRM
Understand OEM checklist philosohpy	Can state the initial critical pilot responses promptly and without reference to a checklist: Stall protection/stall warning activation.
Understand Powerplant - allowable types of oil	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - allowable types of oil	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - allowable types of oil	Can explain system or component limitations
Understand Powerplant - allowable types of oil	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - allowable types of oil	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - allowable types of oil	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - allowable types of oil	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - allowable types of oil	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Specific Flight Characteristics	Can describe Any aircraft characteristics relevant to all weather operations, such as flight deck visibility cutoff angles and the effect on flight deck visibility of proper eye height, seat position or instrument lighting intensities related to transition through areas of varying brightness levels. Pilots should be aware of the effects on flight visibility related to use of different flap settings, approach speeds, use of various landing or taxi lights, and proper procedures for use of windshield wipers and rain repellent. If windshield defog, anti-ice, or de-icing systems affect forward visibility, pilots should be aware of those effects and be familiar with proper settings for use of that equipment related to low-visibility landing.
Understand Specific Flight Characteristics	Can describe Visual reference information and address aircraft geometry limitations on visual references, actions to take with loss or partial loss of visual references, risks of inappropriate use of visual references, and necessary visual references for continuation after MDA or DA/DH. Issues discussed in Chapter 4, Procedures, for continuation or discontinuation of an approach should be comprehensively addressed.
Understand Specific Flight Characteristics	Can identify expected minimum visual references that occur on approach when the weather is at acceptable minimum conditions as well as the expected sequence of visual cues during an approach in which the visibility is at or above the specified landing minima. Training on this topic should include identifying required visual references over a range of actual or simulated low-visibility

Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of impending stall indications and understanding of the need to initiate the stall recovery procedure at an impending stall.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of full stall indication (see paragraph 1-7) with the realization that most swept-wing transport category aircraft exhibit full stall characteristics different from those typically experienced in General Aviation (GA) aircraft used during certification training.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: For airplanes equipped with a stick pusher, recommended recovery actions in response to stick pusher activation.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Avoiding cyclical or oscillatory control inputs to prevent exceeding the structural limits of the airplane.

Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Structural considerations, including explanation of limit load, ultimate load, and the dangers of combining accelerative and rolling moments (i.e., the rolling pull) during recovery.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: The necessity for smooth, deliberate, and positive control inputs to avoid unacceptable load factors and secondary stalls.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: AOA must be reduced prior to controlling roll.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Effectiveness of control surfaces and the order in which the control surfaces lose and regain their effectiveness (e.g., spoilers, ailerons, etc.).

Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: If a terrain awareness warning system (TAWS) warning is encountered during recovery from a low altitude stall event, recovery from the stall warning should take precedence. Once the airplane recovers from the stall event, then execute the TAWS escape maneuver.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: AOA versus pitch angle.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Rate of onset including rate of airspeed decay (both low and high).
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Airplane configuration and condition including weight, center of gravity (CG), landing gear, flaps/slats, spoilers/speed brakes, etc.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Asymmetric loading including thrust asymmetries, wing loading due to roll or yaw transients or uncoordinated flight.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: G loading.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Bank angle.

Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust and lift vectors.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust required versus thrust available.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Wind shear.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Altitude.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mach effects.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Situational Awareness.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mode confusion, including unexpected/unannounced mode changes.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: unexpected transition from automated to manual flight.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Contamination (ice), including the effect of icing on stall speed and stall warnings.

Understand Stall Prevention and Recovery	Can demonstrate an understanding of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.
Understand Stall Prevention and Recovery	Can explain specific stall and low-speed buffet characteristics unique to the airplane type and any implications for the expected flight operations and airplane-specific stall recovery procedure (e.g., underwing mounted engines, t-tail, propellers, etc.).
Understand Stall Prevention and Recovery	Can describe thrust settings and its application.
Understand Stall Prevention and Recovery	Can describe autothrottle/autothrust protection.
Understand Stall Prevention and Recovery	Can demonstrate awareness of autoflight mode indications.
Understand Stall Prevention and Recovery	Can explain incorrect use of (including input errors) flightpath automated systems.
Understand Stall Prevention and Recovery	Can explain the operation and function of stall protection systems in normal, abnormal, and emergency situations, including the hazards of overriding or ignoring stall protection system indications. Awareness of the factors that may lead such systems to fail, as well as degraded modes, indications, or behaviors that may occur with system failures.
Understand Stall Prevention and Recovery	Can explain buffet boundary and margins in flight planning and operational flying.
Understand Stall Prevention and Recovery	Can explain the lower margins for stall onset and recovery (i.e., coffin corner) and possible buffet cueing differences on the high-speed versus the low-speed margin.
Understand Stall Prevention and Recovery	Can explain the principles of high-altitude aerodynamics, performance capabilities, and limitations; including high altitude operations and flight techniques (i.e., the need to avoid secondary stall by extended nose-down recovery, compared to lower altitudes).

Understand Stall Prevention and Recovery	Can explain the differences in airplane performance (e.g., thrust available) during high versus low altitude operations, the effects of those differences on stall recovery, and the anticipated altitude loss during a recovery.
Understand Stall Prevention and Recovery	Can explain the differences between transport category airplane certification and GA airplane certification regarding use of flight controls at high AOA. For example, if the roll control system is compromised and the ailerons are unable to produce the required roll recovery, the rudder may be used with care during stall prevention and recovery. To maintain structural integrity, it is important to guard against control reversals—avoid rapid full-scale reversal of control deflection
Understand Stall Prevention and Recovery	Can demonstrate general awareness of example events. Although significant emphasis should be placed on preventing stall events, it is important for pilots to understand that, although rare, stall events continue to occur. Studying the causes and contributing factors of stall events give pilots more knowledge to help prevent or if necessary, recover from a stall event. A review of stall-related accidents, incidents, ASAP, FOQA, and ASRS data for the specific airplane type or class should be included in ground training.

Conduct Stall Prevention and Recovery	Can explain the STICK PUSHER. For airplanes equipped with a stick pusher, stall recovery training includes ground training and practical training in an FFS. It is important for pilots to experience the sudden forward movement of the control yoke/stick during a stick pusher activation. From observations, most instructors state that, regardless of previous academic training, pilots usually resist the stick pusher on their first encounter. Usually, they immediately pull back on the control yoke/stick rather than releasing pressure as they have been taught. Therefore, pilots must receive practical stick pusher training in an FFS to develop the proper response (allowing the pusher to reduce AOA) when confronted with a stick pusher activation. Stick pusher training should be completed as a demonstration/practice exercise, including repetitions, until the pilot's reaction is to permit the reduction in AOA even at low altitudes. Pilot response to a deliberate activation of the pusher is not a checked maneuver.

Tasks	Motor Skill Learning Objectives	Attitude Learning Objectives	Task Expectation Rating
Understand determining landing performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Conduct after landing, parking and securing	Can demonstrate runway incursion avoidance procedures.		Medium

Conduct after landing, parking and securing	Can comply with ATC instructions and perform radio calls as appropriate.		Medium
Conduct after landing, parking and securing	Can coordinate with crew, if applicable, and execute the appropriate checklist(s) after clearing the runway.		Medium
Conduct after landing, parking and securing	Can perform parking in the appropriate area, considering the safety of nearby persons and property.		Medium
Conduct after landing, parking and securing	Can execute a postflight inspection and document discrepancies and servicing requirements, if any.		Medium
Conduct after landing, parking and securing	Can perform securing the airplane.		Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions.	Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions.	Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing propeller,	Medium

		turbofan inlet, and exhaust safety.	
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing airport specific security procedures.	Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing disembarking passengers.	Medium
Conduct Arrival Procedures		Can manage the risk of errors when assigned a STAR and subsequently receives a change of landing runway, procedure or transition by verifying the appropriate changes are entered and available for navigation	Medium
Conduct Arrival Procedures	Can select, identify and use the appropriate communication and navigation facilities associated with the arrival		Medium
Conduct Arrival Procedures	Can perform setup of FMS and avionics to include flight director and autopilot controls for the arrival, if applicable		Medium

Conduct Arrival Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		Medium
Conduct Arrival Procedures	Can initiate two-way communications with the proper controlling agency		Medium
Conduct Arrival Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Medium
Conduct Arrival Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Medium
Conduct Arrival Procedures	Can comply with all applicable charted procedures		Medium
Conduct Arrival Procedures	Can comply with airspeed restrictions required by regulation, procedure, aircraft limitation or ATC		Medium
Conduct Arrival Procedures	Can maintain rate of descent consistent with the route segment, airplane operating characteristics and safety		Medium
Conduct Arrival Procedures	Can maintain the appropriate airspeed/V-speed ±10 knots, but not less than VRef if applicable, heading ±10°, altitude ±100		Medium

	feet, and accurately track radials, courses, and bearings		
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures.	Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to recognize limitations of traffic avoidance equipment.	Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to use see and avoid techniques when possible.	Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing improper automation management.	Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing ATC instructions that modify an arrival or discontinue/resu	Medium

		me the aircraft's lateral or vertical navigation on an arrival.	
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	Medium
Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual conditions and planned departure runway		Medium
Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		Medium
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		Medium
Conduct Before Takeoff Checks	Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		Medium

Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		Medium
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		Medium
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		Medium
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing division of attention while	Medium

		conducting before takeoff checks	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director controls for departure	Medium

Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	Medium
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		Medium

Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		Medium
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		Medium
Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		Medium
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		Medium
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		Medium
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Medium
Conduct Departure Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Medium
Conduct Departure Procedures	Can comply with all applicable charted procedures		Medium

Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		Medium
Conduct Departure Procedures	Can execute the departure phase to a point where the transition to the en route environment is complete		Medium
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	Medium
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	Medium
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper automation management	Medium
Conduct Emergency Procedure - Flight by	Can coordinate with crew and execute the appropriate		Medium

reference to standby flight instruments, backup instrumentation, or partial panel	checklist(s) in a timely manner		
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can perform communication with ATC and the evaluator, as appropriate for the situation.		Medium
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Medium
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	Medium
Conduct Emergency Procedure - Flight by reference to		Can identify, assess, and manage risks, encompassing failure to consider	Medium

standby flight instruments, backup instrumentation, or partial panel		altitude, wind, terrain, and obstructions in an emergency.	
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can execute use of LNAV mode(s).		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance	Can execute use of VNAV mode(s).		Medium

without vertical guidance lines of minima using the wide area augmentation system			
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can apply ATC procedures/phraseology		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can apply functionality of vector to final mode		Medium

Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform the use of navigation systems including procedure selection and ILS look-alike principle:		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform flying of a procedure		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer	Can perform setup and interpretation of electronic displays and symbols.		Medium

performance without vertical guidance lines of minima using the wide area augmentation system			
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing Inoperative equipment discovered prior to flight.	High
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing external pressures and Aviation security concerns.	High
Conduct Landing from a Precision Approach	Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		Medium
Conduct Landing from a Precision Approach	Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		Medium

Conduct Landing from a Precision Approach		Can appreciate that pilots should be familiar with the need to report navigation system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown zone (TDZ) lights, centerline lights), or any other discrepancies that could be pertinent to operations.	Medium
Conduct Landing from a Precision Approach		Can demonstrate familiarization with operator’s policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking	Medium

		reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Landing from a Precision Approach	Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point where visual maneuvering is used to accomplish a normal landing.		Medium
Conduct Landing from a Precision Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		Medium
Conduct Landing from a Precision Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the		Medium

	approach threshold of the runway		
Conduct Landing from a Precision Approach	Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		Medium
Conduct Landing from a Precision Approach	Can demonstrate SRM or CRM, as appropriate.		Medium
Conduct Landing from a Precision Approach	Can apply runway incursion avoidance procedures.		Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing	Medium

		planning for missed approach	
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing	Medium

		planning for attempting to land from an unstable approach.	
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for transitioning from instrument to visual references for landing.	Medium
Conduct Missed Approach	Can execute a missed approach from the MDA, DA/DH, or AH.		Medium
Conduct Missed Approach	Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		Medium
Conduct Missed Approach	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		Medium
Conduct Missed Approach	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and		Medium

	at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots.		
Conduct Missed Approach	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		Medium
Conduct Missed Approach	Can comply with the published or alternate missed approach procedure.		Medium
Conduct Missed Approach	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		Medium
Conduct Missed Approach	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		Medium
Conduct Missed Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		Medium
Conduct Missed Approach	Can demonstrate effective CRM		Medium
Conduct Missed Approach	Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		Medium

Conduct Missed Approach	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator.		Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures.	Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP or to a	Medium

		go-around below DA/MDA.	
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	Medium
Conduct Normal Approach and Landing	Can execute normal landings at the lowest applicable minima for each authorized flight guidance and/or visual system.		Medium
Conduct Normal Approach and Landing	Can perform manual rollout in low visibility at applicable minima. (except for aircraft using an automatic fail operational (FO) rollout system)		Medium
Conduct Normal Approach and Landing	Can perform landings at the limiting environmental conditions authorized for that operator with respect to wind, crosswind components, and runway surface friction characteristics		Medium
Conduct Normal Approach and Landing	Can coordinate with crew and execute after landing checklists(s).		Medium
Conduct Normal	Can perform radio calls as appropriate		Medium

Approach and Landing			
Conduct Normal Approach and Landing	Can maintain a ground track that ensures the desired traffic pattern will be flown taking into consideration obstructions and ATC		Medium
Conduct Normal Approach and Landing	Can confirm the airplane is aligned with the correct/assigned runway or landing surface.		Medium
Conduct Normal Approach and Landing	Can scan runway or landing surface and adjoining area for traffic and obstructions.		Medium
Conduct Normal Approach and Landing	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		Medium
Conduct Normal Approach and Landing	Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		Medium
Conduct Normal Approach and Landing	Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		Medium
Conduct Normal Approach and Landing	Can perform smooth, timely, and correct control application		Medium

	before, during, and after touchdown.		
Conduct Normal Approach and Landing	Can execute touch down with the runway centerline between the main landing gear at the appropriate speed and pitch attitude at the runway aiming point markings -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Medium
Conduct Normal Approach and Landing	Can execute deceleration to taxi speed (20 knots or less on dry pavement, 10 knots or less on contaminated pavement) to within the calculated landing distance plus 25% for the actual conditions with the runway centerline between the main landing gear		Medium
Conduct Normal Approach and Landing	Can execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.		Medium
Conduct Normal Approach and Landing	Can apply runway incursion avoidance procedures.		Medium

Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing selection of a runway or approach path and touchdown area-based aircraft limitations, available distance, surface conditions, and wind.	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing Go-Around/Rejected Landing	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing land and Hold Short Operations (LAHSO)	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium

Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, incorrect airport surface approach and landing, or improper task management.	Medium
Conduct Normal Takeoff and Climb	Can perform takeoff in limiting crosswinds, winds, gusts, and runway surface friction to levels authorized. Training should be done at weights or on runways that represent a critical field length		High
Conduct Normal Takeoff and Climb	Can coordinate with crew and complete the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Normal Takeoff and Climb	Can perform radio calls as appropriate		High
Conduct Normal Takeoff and Climb	Can verify assigned/correct runway		High

Conduct Normal Takeoff and Climb	Can verify the airplane is configured for takeoff		High
Conduct Normal Takeoff and Climb	Can execute clearing of the area and taxi into takeoff position and align the airplane on the runway centerline		High
Conduct Normal Takeoff and Climb	Can maintain centerline and proper flight control inputs during the takeoff roll		High
Conduct Normal Takeoff and Climb	Can confirm takeoff power and proper engine and flight instrument indications prior to rotation and perform callouts as appropriate, for the airplane or per the operator’s procedures		High
Conduct Normal Takeoff and Climb	Can perform rotation and lift off at the recommended airspeed		High
Conduct Normal Takeoff and Climb	Can maintain a power setting and a pitch attitude to maintain the desired climb airspeed/V-speed, ±5 knots for each climb segment		High
Conduct Normal Takeoff and Climb	Can maintain desired heading ±5°		High
Conduct Normal Takeoff and Climb	Can perform Retraction of the landing gear and flaps in accordance with manufacturer or operator procedures		High

	and limitations, as appropriate		
Conduct Normal Takeoff and Climb	Can perform wake turbulence avoidance		High
Conduct Normal Takeoff and Climb	Can follow noise abatement procedures		High
Conduct Normal Takeoff and Climb	Can execute appropriate after-takeoff checklist(s) in a timely manner		High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing selection of a runway, or runway intersection aircraft limitations, available distance, surface conditions, and wind	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing wake turbulence	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for rejected takeoff	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for engine failure in takeoff phase of flight	High

Conduct Normal Takeoff and Climb		Can demonstrate proper planning for engine failure in climb phase of flight	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing improper aircraft configuration or settings (e.g., trim, flaps, autobrakes, etc.)	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can execute procedure with smoothness and accuracy		Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can operate the airplane within its limitations		Medium

Conduct PFD malfunction procedure (AGM 1 or DU1)	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply aeronautical knowledge to execution of the task	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply crew coordination	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can conduct effective communication with the other crew members	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can manage crew cooperation	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can maintain a general survey of the aircraft operation by appropriate supervision	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	Medium

Conduct PFD malfunction procedure (AGM 1 or DU1)		Can demonstrate good judgement and airmanship	Medium
Conduct Powerplant Start	Can ensure the ground safety procedures are followed during the before-start, start, and after- start phase		High
Conduct Powerplant Start	Can coordinate with crew and complete the appropriate checklist(s) prior to and after powerplant start.		High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing malfunctions during powerplant start	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing turbine powerplant safety	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing managing situations where specific instructions or checklist items are not published	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing personnel,	High

		vehicles, vessels, foreign object debris, and other aircraft in the vicinity during powerplant start	
Conduct Precision Approach	Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		Medium
Conduct Precision Approach	Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		Medium

Conduct Precision Approach		Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors (F/D), or other system (e.g., HUD, SVGS, etc.) performance. For systems such as HUDs that have a limited field of view (FOV), or synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.	Medium
Conduct Precision Approach	Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, or circling minima, if applicable); according to the operator's manuals, charts and checklists, on the		Medium

	aircraft type, model and series flown.		
Conduct Precision Approach	Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		Medium
Conduct Precision Approach	Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		Medium
Conduct Precision Approach	Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored approach, or call-outs);		Medium
Conduct Precision Approach		Can demonstrate familiarization with airport and runway characteristics typically experienced;	Medium
Conduct Precision Approach	Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing		Medium

	runway altitudes, precipitation conditions, turbulence, and icing conditions); and		
Conduct Precision Approach	Can respond appropriately to aircraft and ground system failures.		Medium
Conduct Precision Approach	Can perform the precision instrument approaches selected by the instructor/evaluator.		Medium
Conduct Precision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		Medium
Conduct Precision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		Medium
Conduct Precision Approach	Can comply in a timely manner with all clearances, instructions, and procedures.		Medium
Conduct Precision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		Medium

Conduct Precision Approach	Can coordinate with ATC if unable to comply with a clearance.		Medium
Conduct Precision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Medium
Conduct Precision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Medium
Conduct Precision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Medium
Conduct Precision Approach	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		Medium

Conduct Precision Approach	Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots		Medium
Conduct Precision Approach	Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH.		Medium
Conduct Precision Approach	Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		Medium
Conduct Precision Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		Medium

Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to follow the correct approach procedure (e.g., descending below the glideslope, etc.).	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing selecting an incorrect navigation frequency.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing an unstable approach, including	Medium

		excessive descent rates.	
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing continuing to descend below the Decision Altitude (DA)/Decision Height (DH) when the required visual references are not visible.	Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		Medium

in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform initialization navigation system position		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Medium

ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform adherence to speed and/or altitude constraints associated with RNP operations		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		Medium

RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify waypoints and flight plan programming;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		Medium

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform interception of a course/track		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform selecting/arming the navigation system for an ILS or GLS transition		Medium
Conduct RNP operations in the United	Can perform insertion and deletion of a route discontinuity;		Medium

States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify the RNP value set in the flight management system (FMS) matches the equipment capability and authorizations as annotated in the flight plan		Medium
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		Medium

Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	High
Conduct use of FMS	Can verify currency of aircraft navigation data.		High
Conduct use of FMS	Can perform flying a course/track to a waypoint.		Medium
Conduct use of FMS	Can perform interception of a course/track		Medium
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		Medium
Conduct use of FMS	Can determine cross-track error/deviation		Medium
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		Medium
Conduct use of FMS	Can execute removal and reselection of navigation sensor inputs.		High
Conduct use of FMS	Can confirm exclusion of a specific navigation aid or navigation aid type.		High
Conduct use of FMS	Can execute insertion and deletion of a lateral offset		Medium

Conduct use of FMS	Can execute a change of the arrival airport and alternate airport		Medium
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High
Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		Medium
Conduct use of FMS	Can execute making a runway change associated with a DP or STAR		Medium
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform a manual or automatic runway update (with takeoff point shift, if applicable)		Medium
Conduct use of FMS	Can perform flying direct to a waypoint		Medium
Conduct use of FMS	Can perform a complex SID consisting of multiple altitude and speed constraints		Medium
Conduct use of FMS	Can perform a complex STAR consisting of multiple altitude and speed constraints		Medium
Conduct use of FMS	Can demonstrate general awareness of		Medium

	all three styles of flight director		
Conduct use of FMS	Can identify symbology available in synthetic vision system		Medium
Conduct use of FMS	Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		Medium
Conduct use of FMS	Can use the cursor control device effectively		High
Conduct use of TCAS	Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including steps required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if possible, correcting the problem.		High
Understand Avionics and communications - communication systems (e.g., data link,		Can identify, assess, and manage risks encompassing failure to detect system	High

UHF/VHF/HF, satellite)		malfunctions or failures.	
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium
Understand Avionics and communications - Electronic Flight Instrument		Can identify, assess, and manage risks encompassing failure to follow appropriate	Medium

Systems (EFIS)		checklists or procedures	
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing improper management of a system failure	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - indicating devices	Can interpret flight path vector symbology as it relates to the PFD and HUD, both caged and uncaged		Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Inertial		Can identify, assess, and manage risks encompassing	High

Navigation Systems (INS)		improper management of a system failure	
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page)		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with automatic and/or manual setting of the required RNP value		Medium

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System (GBAS) Landing System (GLS)		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate how offsets are applied, the functionality of their particular navigation system and the need to advise air traffic control (ATC) if this functionality is not available		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign	Can apply receiver/transmitter (R/T) phraseology for RNP applications		Medium

countries which adopt ICAO standards for RNP operations.			
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining		Can identify, assess, and	Medium

takeoff performance (e.g., balance field length, VMCG) per AFM		manage risks encompassing runway excursions	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining accelerate-stop		Can identify, assess, and manage risks	Medium

/ accelerate-go distance per AFM		encompassing runway excursions	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of numerous part 25 requirements	Medium
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and	Medium

		stall warning, and runway excursions	
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining		Can identify, assess, and	Medium

cruise performance (e.g., optimum and maximum operating altitudes) per AFM		manage risks encompassing runway excursions	
Understand determining descent performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining		Can identify, assess, and	Medium

descent performance per AFM		manage risks encompassing runway excursions	
Understand determining fuel requirements per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining fuel requirements per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and	Medium

		actual performance	
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining weight and balance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand OEM checklist philosophy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft	Medium

		to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	
Understand OEM checklist philosophy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	Medium

SIM 1 Tasks and Expectations

Tasks	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Expectation Rating**
Understand determining landing		Can identify, assess, and manage risks	Medium

performance per AFM		encompassing Inaccurate use of performance charts, tables, and data	
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Conduct after landing, parking and securing	Can demonstrate runway incursion avoidance procedures.		Medium
Conduct after landing, parking and securing	Can comply with ATC instructions and perform radio calls as appropriate.		Medium
Conduct after landing, parking and securing	Can coordinate with crew, if applicable, and execute the appropriate checklist(s) after clearing the runway.		Medium

Conduct after landing, parking and securing	Can perform parking in the appropriate area, considering the safety of nearby persons and property.		Medium
Conduct after landing, parking and securing	Can execute a postflight inspection and document discrepancies and servicing requirements, if any.		Medium
Conduct after landing, parking and securing	Can perform securing the airplane.		Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions.	Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions.	Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing propeller, turbofan inlet, and exhaust safety.	Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing airport specific security procedures.	Medium
Conduct after landing, parking and securing		Can identify, assess, and manage risks,	Medium

		encompassing disembarking passengers.	
Conduct Arrival Procedures		Can manage the risk of errors when assigned a STAR and subsequently receives a change of landing runway, procedure or transition by verifying the appropriate changes are entered and available for navigation	Medium
Conduct Arrival Procedures	Can select, identify and use the appropriate communication and navigation facilities associated with the arrival		Medium
Conduct Arrival Procedures	Can perform setup of FMS and avionics to include flight director and autopilot controls for the arrival, if applicable		Medium
Conduct Arrival Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		Medium
Conduct Arrival Procedures	Can initiate two-way communications with the proper controlling agency		Medium
Conduct Arrival Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Medium
Conduct Arrival Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Medium

Conduct Arrival Procedures	Can comply with all applicable charted procedures		Medium
Conduct Arrival Procedures	Can comply with airspeed restrictions required by regulation, procedure, aircraft limitation or ATC		Medium
Conduct Arrival Procedures	Can maintain rate of descent consistent with the route segment, airplane operating characteristics and safety		Medium
Conduct Arrival Procedures	Can maintain the appropriate airspeed/V-speed ±10 knots, but not less than VRef if applicable, heading ±10°, altitude ±100 feet, and accurately track radials, courses, and bearings		Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures.	Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to recognize limitations of traffic avoidance equipment.	Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to use see and avoid techniques when possible.	Medium

Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing improper automation management.	Medium
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing ATC instructions that modify an arrival or discontinue/resume the aircraft's lateral or vertical navigation on an arrival.	Medium
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	Medium
Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual conditions and planned departure runway		Medium

Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		Medium
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		Medium
Conduct Before Takeoff Checks	Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		Medium
Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		Medium
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		Medium
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		Medium
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		Medium
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing division of attention while	Medium

		conducting before takeoff checks	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director	Medium

		controls for departure	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	Medium
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	Medium

Conduct Clean Configuration Stall prevention	Can maintain coordinated flight in simulated or actual instrument conditions throughout the maneuver		Medium
Conduct Clean Configuration Stall prevention	Can perform smooth adjustment of pitch attitude, bank angle (15°-30°), and power setting either manually or with the autopilot engaged		Medium
Conduct Clean Configuration Stall prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		Medium
Conduct Clean Configuration Stall prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		Medium
Conduct Clean Configuration Stall prevention	Can execute a return to the desired flight path		Medium
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing factors and situations that could lead to an inadvertent stall, spin, and loss of control during cruise flight	Medium
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	Medium

Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing failure to recognize and recover at the stall warning	Medium
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing improper stall recovery procedure	Medium
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	Medium
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing effect of environmental elements on aircraft performance while in cruise flight as it relates to stalls (e.g., turbulence, microbursts, and high-density altitude)	Medium

Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing distractions, loss of situational awareness, or improper task management	Medium
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		Medium
Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		Medium
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		Medium
Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		Medium
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		Medium
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		Medium
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		Medium
Conduct Departure Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		Medium
Conduct Departure Procedures	Can comply with all applicable charted procedures		Medium

Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		Medium
Conduct Departure Procedures	Can execute the departure phase to a point where the transition to the en route environment is complete		Medium
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	Medium
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	Medium
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper automation management	Medium

Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and positioning of the aircraft relative to continuation of the approach to landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	Low
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		Medium
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can perform communication with ATC and the evaluator, as appropriate for the situation.		Medium

Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Medium
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	Medium
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	Medium
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium
Conduct Go-Around/Rejected Landing	Can describe, perform airborne system use for go-around, including consideration of height loss during transition to a go-around, performance assurance for obstacle clearance, management of any necessary mode changes, and		Medium

	assurance of appropriate vertical and lateral flightpath tracking.		
Conduct Go-Around/Rejected Landing	Can initiate a timely decision to go-around/reject the landing.		Medium
Conduct Go-Around/Rejected Landing	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		Medium
Conduct Go-Around/Rejected Landing	Can perform establishing a positive rate of climb and the appropriate airspeed/V-speed, ±5 knots.		Medium
Conduct Go-Around/Rejected Landing	Can execute configuration and trimming of the airplane, when appropriate.		Medium
Conduct Go-Around/Rejected Landing	Can perform radio calls as appropriate		Medium
Conduct Go-Around/Rejected Landing	Can maintain the ground track, heading, or course appropriate for the conditions, or as specified by ATC.		Medium
Conduct Go-Around/Rejected Landing	Can execute the appropriate procedures and checklist(s) in a timely manner.		Medium
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing delayed recognition of the need for a go-around/rejected landing.	Medium
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing	Medium

		delayed performance of a go-around at low altitude.	
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing improper application of power.	Medium
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing improper airplane configuration.	Medium
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires vessels, vessels, persons, and wildlife.	Medium
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing distractions,	Medium

		loss of situational awareness, or improper task management.	
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing managing a go-around/rejected landing after accepting a LAHSO clearance.	Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can execute use of LNAV mode(s).		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can execute use of VNAV mode(s).		Medium

Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can apply ATC procedures/phraseology		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can apply functionality of vector to final mode		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform the use of navigation systems including procedure selection and ILS look-alike principle:		Medium

Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform flying of a procedure		Medium
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform setup and interpretation of electronic displays and symbols.		Medium
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing Inoperative equipment discovered prior to flight.	High
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing external pressures and Aviation security concerns.	High

Conduct Landing Configuration Stall Prevention	Can perform smooth adjustment of pitch attitude, bank angle (15°-30°), and power setting either manually or with the autopilot engaged		Medium
Conduct Landing Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		Medium
Conduct Landing Configuration Stall Prevention	Can perform establishment of the landing configuration (i.e., lift/drag devices set and landing gear extended) and maintain coordinated flight in simulated or actual instrument conditions throughout the maneuver		Medium
Conduct Landing Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		Medium
Conduct Landing Configuration Stall Prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		Medium
Conduct Landing Configuration Stall Prevention	Can execute retraction of the flaps or other lift/drag devices to the recommended setting, retract the landing gear after a positive rate of climb is established and return to the desired flight path		Medium
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing factors and situations that could lead to an inadvertent stall, spin, and loss of control during landing	Medium

Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	Medium
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing failure to recognize and recover at the stall warning	Medium
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing improper stall recovery procedure	Medium
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	Medium
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing the effect of environmental elements on	Medium

		aircraft performance while landing as it relates to stalls (e.g., turbulence, icing, microbursts, and high-density altitude)	
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing stalls at a low altitude	Medium
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing distractions, loss of situational awareness, or improper task management	Medium
Conduct Landing from a Precision Approach	Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		Medium
Conduct Landing from a Precision Approach	Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		Medium

Conduct Landing from a Precision Approach		Can appreciate that pilots should be familiar with the need to report navigation system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown zone (TDZ) lights, centerline lights), or any other discrepancies that could be pertinent to operations.	Medium
Conduct Landing from a Precision Approach		Can demonstrate familiarization with operator's policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as	Medium

		directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Landing from a Precision Approach	Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point where visual maneuvering is used to accomplish a normal landing.		Medium
Conduct Landing from a Precision Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		Medium
Conduct Landing from a Precision Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500		Medium

	feet from the approach threshold of the runway		
Conduct Landing from a Precision Approach	Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		Medium
Conduct Landing from a Precision Approach	Can demonstrate SRM or CRM, as appropriate.		Medium
Conduct Landing from a Precision Approach	Can apply runway incursion avoidance procedures.		Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for	Medium

		missed approach	
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or	Medium

		improper task management.	
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	Medium
Conduct Landing from a Precision Approach		Can identify, assess, and manage risks, encompassing planning for transitioning from instrument to visual references for landing.	Medium
Conduct Missed Approach	Can execute a missed approach from the MDA, DA/DH, or AH.		Medium
Conduct Missed Approach	Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		Medium
Conduct Missed Approach	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		Medium

Conduct Missed Approach	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots.		Medium
Conduct Missed Approach	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		Medium
Conduct Missed Approach	Can comply with the published or alternate missed approach procedure.		Medium
Conduct Missed Approach	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		Medium
Conduct Missed Approach	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		Medium
Conduct Missed Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		Medium
Conduct Missed Approach	Can demonstrate effective CRM		Medium
Conduct Missed Approach	Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		Medium
Conduct Missed Approach	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator.		Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to	Medium

		follow prescribed procedures.	
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP or to a go-around below DA/MDA.	Medium
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to manage	Medium

		automated navigation and auto flight systems.	
Conduct Normal Approach and Landing	Can execute normal landings at the lowest applicable minima for each authorized flight guidance and/or visual system.		Medium
Conduct Normal Approach and Landing	Can perform manual rollout in low visibility at applicable minima. (except for aircraft using an automatic fail operational (FO) rollout system)		Medium
Conduct Normal Approach and Landing	Can perform landings at the limiting environmental conditions authorized for that operator with respect to wind, crosswind components, and runway surface friction characteristics		Medium
Conduct Normal Approach and Landing	Can coordinate with crew and execute after landing checklists(s).		Medium
Conduct Normal Approach and Landing	Can perform radio calls as appropriate		Medium
Conduct Normal Approach and Landing	Can maintain a ground track that ensures the desired traffic pattern will be flown taking into consideration obstructions and ATC		Medium
Conduct Normal Approach and Landing	Can confirm the airplane is aligned with the correct/assigned runway or landing surface.		Medium
Conduct Normal Approach and Landing	Can scan runway or landing surface and adjoining area for traffic and obstructions.		Medium
Conduct Normal Approach and Landing	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		Medium

Conduct Normal Approach and Landing	Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		Medium
Conduct Normal Approach and Landing	Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		Medium
Conduct Normal Approach and Landing	Can perform smooth, timely, and correct control application before, during, and after touchdown.		Medium
Conduct Normal Approach and Landing	Can execute touch down with the runway centerline between the main landing gear at the appropriate speed and pitch attitude at the runway aiming point markings -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Medium
Conduct Normal Approach and Landing	Can execute deceleration to taxi speed (20 knots or less on dry pavement, 10 knots or less on contaminated pavement) to within the calculated landing distance plus 25% for the actual conditions with the runway centerline between the main landing gear		Medium
Conduct Normal Approach and Landing	Can execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.		Medium
Conduct Normal Approach and Landing	Can apply runway incursion avoidance procedures.		Medium

Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing selection of a runway or approach path and touchdown area-based aircraft limitations, available distance, surface conditions, and wind.	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing Go-Around/Rejected Landing	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing land and Hold Short Operations (LAHSO)	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft,	Medium

		terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, incorrect airport surface approach and landing, or improper task management.	Medium
Conduct Normal Takeoff and Climb	Can perform takeoff in limiting crosswinds, winds, gusts, and runway surface friction to levels authorized. Training should be done at weights or on runways that represent a critical field length		High
Conduct Normal Takeoff and Climb	Can coordinate with crew and complete the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Normal Takeoff and Climb	Can perform radio calls as appropriate		High
Conduct Normal Takeoff and Climb	Can verify assigned/correct runway		High

Conduct Normal Takeoff and Climb	Can verify the airplane is configured for takeoff		High
Conduct Normal Takeoff and Climb	Can execute clearing of the area and taxi into takeoff position and align the airplane on the runway centerline		High
Conduct Normal Takeoff and Climb	Can maintain centerline and proper flight control inputs during the takeoff roll		High
Conduct Normal Takeoff and Climb	Can confirm takeoff power and proper engine and flight instrument indications prior to rotation and perform callouts as appropriate, for the airplane or per the operator's procedures		High
Conduct Normal Takeoff and Climb	Can perform rotation and lift off at the recommended airspeed		High
Conduct Normal Takeoff and Climb	Can maintain a power setting and a pitch attitude to maintain the desired climb airspeed/V-speed, ±5 knots for each climb segment		High
Conduct Normal Takeoff and Climb	Can maintain desired heading ±5°		High
Conduct Normal Takeoff and Climb	Can perform Retraction of the landing gear and flaps in accordance with manufacturer or operator procedures and limitations, as appropriate		High
Conduct Normal Takeoff and Climb	Can perform wake turbulence avoidance		High
Conduct Normal Takeoff and Climb	Can follow noise abatement procedures		High
Conduct Normal Takeoff and Climb	Can execute appropriate after-takeoff checklist(s) in a timely manner		High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing selection of a runway, or runway	High

		intersection aircraft limitations, available distance, surface conditions, and wind	
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing wake turbulence	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for rejected takeoff	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for engine failure in takeoff phase of flight	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for engine failure in climb phase of flight	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing improper aircraft configuration or settings (e.g., trim, flaps,	High

		autobrakes, etc.)	
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Partial Flap Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		Medium
Conduct Partial Flap Configuration Stall Prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		Medium
Conduct Partial Flap Configuration Stall Prevention	Can execute retraction of the flaps or other lift/drag devices to the recommended setting, retract the landing gear after a positive rate of climb is established, and return to the desired flight path		Medium

Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing factors and situations that could lead to an inadvertent stall and loss of control during takeoff or while on approach	Medium
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	Medium
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing failure to recognize and recover at the stall warning	Medium
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing improper stall recovery procedure	Medium
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing secondary	Medium

		stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing the effect of environmental elements on aircraft performance while in a partial flap configuration as it relates to stalls (e.g., turbulence, microbursts, and high-density altitude)	Medium
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can execute procedure with smoothness and accuracy		Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can operate the airplane within its limitations		Medium

Conduct PFD malfunction procedure (AGM 1 or DU1)	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply aeronautical knowledge to execution of the task	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply crew coordination	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can conduct effective communicatio n with the other crew members	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can manage crew cooperation	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can maintain a general survey of the aircraft operation by appropriate supervision	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	Medium
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can demonstrate good	Medium

		judgement and airmanship	
Conduct Powerplant Start	Can ensure the ground safety procedures are followed during the before-start, start, and after- start phase		High
Conduct Powerplant Start	Can coordinate with crew and complete the appropriate checklist(s) prior to and after powerplant start.		High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing malfunctions during powerplant start	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing turbine powerplant safety	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing managing situations where specific instructions or checklist items are not published	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing personnel, vehicles, vessels, foreign object debris, and	High

		other aircraft in the vicinity during powerplant start	
Conduct Precision Approach	Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		Medium
Conduct Precision Approach	Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		Medium
Conduct Precision Approach		Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors (F/D), or other system (e.g., HUD, SVGS, etc.) performance. For systems	Medium

		such as HUDs that have a limited field of view (FOV), or synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.	
Conduct Precision Approach	Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, or circling minima, if applicable); according to the operator's manuals, charts and checklists, on the aircraft type, model and series flown.		Medium
Conduct Precision Approach	Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		Medium
Conduct Precision Approach	Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		Medium
Conduct Precision Approach	Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored approach, or call-outs);		Medium
Conduct Precision Approach		Can demonstrate familiarization	Medium

		with airport and runway characteristics typically experienced;	
Conduct Precision Approach	Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and		Medium
Conduct Precision Approach	Can respond appropriately to aircraft and ground system failures.		Medium
Conduct Precision Approach	Can perform the precision instrument approaches selected by the instructor/evaluator.		Medium
Conduct Precision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		Medium
Conduct Precision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		Medium
Conduct Precision Approach	Can comply in a timely manner with all clearances, instructions, and procedures.		Medium
Conduct Precision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		Medium

Conduct Precision Approach	Can coordinate with ATC if unable to comply with a clearance.		Medium
Conduct Precision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Medium
Conduct Precision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Medium
Conduct Precision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Medium
Conduct Precision Approach	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		Medium
Conduct Precision Approach	Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots		Medium
Conduct Precision Approach	Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and		Medium

	identifiable upon reaching the DA/DH.		
Conduct Precision Approach	Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		Medium
Conduct Precision Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to follow the correct approach procedure (e.g., descending below the glideslope, etc.).	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing selecting an incorrect navigation frequency.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to	Medium

		manage automated navigation and auto flight systems.	
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	Medium
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing continuing to descend below the Decision Altitude (DA)/Decision Height (DH) when the	Medium

		required visual references are not visible.	
Conduct Recovery From Unusual Flight Attitudes	Can use instrument cross-check and interpretation to identify a nose low unusual attitude		Medium
Conduct Recovery From Unusual Flight Attitudes	Can use instrument cross-check and interpretation to identify a nose high unusual attitude		Medium
Conduct Recovery From Unusual Flight Attitudes	Can apply the appropriate pitch, bank, and power corrections, in the correct sequence, to return to a stabilized level flight attitude		Medium
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing situations that could lead to loss of control or unusual flight attitudes (e.g., stress, task saturation, and distractions).	Medium
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing exceeding the operating envelope during the recovery	Medium
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing failure to	Medium

		recognize an unusual flight attitude and follow the proper recover procedure	
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing exceeding the operating envelope during the recovery	Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		Medium

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform initialization navigation system position		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform adherence to speed and/or altitude constraints associated with RNP operations		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		Medium

and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify waypoints and flight plan programming;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		Medium

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform interception of a course/track		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform selecting/arming the navigation system for an ILS or GLS transition		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform insertion and deletion of a route discontinuity;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can verify the RNP value set in the flight management system (FMS) matches the equipment capability and		Medium

and in foreign countries which adopt ICAO standards for RNP operations.	authorizations as annotated in the flight plan		
Conduct Steep Turns	Can maintain the manufacturer's recommended airspeed; or if one is not available, an airspeed not to exceed VA		Medium
Conduct Steep Turns	Can maintain at least a 45° bank solely by reference to instruments and make a coordinated steep turn of at least 180°		Medium
Conduct Steep Turns	Can perform reversal of direction and establish at least a 45° bank solely by reference to instruments and make a coordinated steep turn of at least 180°		Medium
Conduct Steep Turns	Can perform smooth pitch, bank, and power adjustments as needed		Medium
Conduct Steep Turns	Can maintain the entry altitude ±100 feet, airspeed ±10 knots, bank ±5°, and roll out on the specified heading, ±10°		Medium
Conduct Steep Turns	Can maintain avoidance of any indications of impending stall, abnormal flight attitude, or exceedance of any structural or operating limitation		Medium
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing spatial disorientation when conducting a steep turn while flying by reference to instruments	Medium

Conduct Steep Turns		Can identify, assess, and manage risks, encompassing failure to maintain coordinated flight	Medium
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	Medium
Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		Medium
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft characteristics (e.g., single HUD).		Medium
Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		Medium

Conduct Taxi	Can use an airport diagram or taxi chart during taxi		Medium
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		Medium
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		Medium
Conduct Taxi	Can maintain situational awareness during taxi		Medium
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		Medium
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		Medium
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		Medium
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	Medium
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions	Medium
Conduct Taxi		Can identify, assess, and manage risks,	Medium

		encompassing a taxi route or departure runway change	
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	Medium
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	Medium
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot who is taxiing the aircraft	Medium
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations	Medium

		of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or accomplishing checklists	
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	Medium
Conduct Taxi		Can maintain a sterile cockpit during taxi operations	Medium
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		Medium
Conduct Taxi		Can manage the risk of expectation bias, and follow the	Medium

		clearance or instructions that are actually received, and not the ones they expected to receive.	
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	Medium
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	Medium
Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	Medium

Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	Medium
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		Medium
Conduct Taxi		Can comply with hold short or crossing clearance when approaching an entrance to a runway.	Medium
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communications with ATC to regain orientation.	Medium
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic	Medium

		Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	Medium
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any doubt, speaks up and resolve the uncertainty before taxi		Medium
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when	Medium

		it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: “I’m heads-down, right turn ahead at Alpha,” or “I’m back, any changes?”	Medium
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or	Medium

		transmitted during that flightcrew member's absence from the ATC frequency should be reviewed and confirmed upon his or her return.	
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	Medium
Conduct Taxi		Can state "approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach	Medium

		paths, and coordinate verbally (e.g., “clear right/left” or that the scan area is not clear).	
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft’s parking area after landing	Medium
Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		Medium
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		Medium
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		Medium
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		Medium

Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	Medium
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		Medium
Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	High
Conduct use of FMS	Can verify currency of aircraft navigation data.		High

Conduct use of FMS	Can perform flying a course/track to a waypoint.		Medium
Conduct use of FMS	Can perform interception of a course/track		Medium
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		Medium
Conduct use of FMS	Can determine cross-track error/deviation		Medium
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		Medium
Conduct use of FMS	Can execute removal and reselection of navigation sensor inputs.		High
Conduct use of FMS	Can confirm exclusion of a specific navigation aid or navigation aid type.		High
Conduct use of FMS	Can execute insertion and deletion of a lateral offset		Medium
Conduct use of FMS	Can execute a change of the arrival airport and alternate airport		Medium
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High
Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		Medium
Conduct use of FMS	Can execute making a runway change associated with a DP or STAR		Medium
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform a manual or automatic runway update (with takeoff point shift, if applicable)		Medium
Conduct use of FMS	Can perform flying direct to a waypoint		Medium

Conduct use of FMS	Can perform a complex SID consisting of multiple altitude and speed constraints		Medium
Conduct use of FMS	Can perform a complex STAR consisting of multiple altitude and speed constraints		Medium
Conduct use of FMS	Can demonstrate general awareness of all three styles of flight director		Medium
Conduct use of FMS	Can identify symbology available in synthetic vision system		Medium
Conduct use of FMS	Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		Medium
Conduct use of FMS	Can use the cursor control device effectively		High
Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		Low
Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		Low
Conduct use of HUD	Can relate glidepath angle to the symbolic runway.		Low
Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		Low
Conduct use of HUD	Can perform recovery from unusual attitudes using HUD		Medium
Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		Medium
Conduct use of TCAS	Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including steps required to initiate a self-test.		High

Conduct use of TCAS	Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if possible, correcting the problem.		High
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Avionics and communications - autopilot		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - autopilot		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - autopilot		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - autopilot		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications -		Can identify, assess, and manage risks	High

communication systems (e.g., data link, UHF/VHF/HF, satellite)		encompassing failure to follow appropriate checklists or procedures	
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	Medium
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	Medium
Understand Avionics and communications - Electronic Flight		Can identify, assess, and manage risks encompassing improper	Medium

Instrument Systems (EFIS)		management of a system failure	
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	Medium
Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with		Can appreciate flightcrew contingency procedures for a loss of GPS and/or WAAS capability to emphasize	High

vertical guidance lines of minima using the wide area augmentation system		maintaining separation from terrain, obstacles and other aircraft.	
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system		Can appreciate impact of aircraft integrations that incorporate both (WAAS) LPV capability and baro-VNAV capability.	High
Understand Avionics and communications - ground-based navigation systems and components		Can appreciate that ground systems and NAVAIDs are considered to include characteristics of the airport, electronic navigation aids, lighting, markings, other systems (e.g., RVR), and any other relevant information necessary for safe AWO operations.	High
Understand Avionics and communications - ground-based navigation systems and components		Can appreciate the importance of checking that proper selections have been made to ensure	High

		appropriate system performance, and the sequence and management of any mode changes.	
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and		Can identify, assess, and manage risks	High

communications - indicating devices		encompassing failure to detect system malfunctions or failures.	
Understand Avionics and communications - indicating devices		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - indicating devices		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - indicating devices		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - indicating devices	Can interpret flight path vector symbology as it relates to the PFD and HUD, both caged and uncaged		Medium
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page)		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace,	Can demonstrate familiarization with automatic and/or manual setting of the required RNP value		Medium

and in foreign countries which adopt ICAO standards for RNP operations.			
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System (GBAS) Landing System (GLS)		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can appreciate the importance of awareness of possible false vertical and lateral captures during a transition on an ILS capture	High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate how offsets are applied, the functionality of their particular navigation system and the need to advise air traffic control (ATC) if this functionality is not available		Medium
Understand Avionics and communications - RNP operations in	Can apply receiver/transmitter (R/T) phraseology for RNP applications		Medium

the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.			
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall	Medium

		warning, and Runway excursions	
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on	Medium

		performance and stall warning, and Runway excursions	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining accelerate-stop / accelerate-go distance per AFM		Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of numerous part 25 requirements	Medium
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible	Medium

		differences between calculated performance and actual performance	
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance	Medium

		and actual performance	
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining descent performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing possible differences	Medium

		between calculated performance and actual performance	
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining fuel requirements per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	Medium
Understand determining fuel requirements per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining performance with an inoperative powerplant for all		Can explain the adverse effects of exceeding an airplane	Medium

phases of flight per AFM		limitation or the airplane operating envelope.	
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	Medium
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	Medium
Understand determining weight		Can explain the adverse effects of	Medium

and balance per AFM		exceeding an airplane limitation or the airplane operating envelope.	
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	Medium
Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing failure to monitor and	High

		manage automated systems.	
Understand evacuation procedures and crew duties		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Lighting		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Lighting		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Lighting		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Lighting		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand OEM checklist philosophy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	Medium
Understand OEM checklist philosophy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some	Medium

		individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing failure to monitor and	High

		manage automated systems.	
Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer’s recommended procedures or procedures applicable to the operator.		Low
Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		Low
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		Low

Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		Low
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when conducting an approach without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		Low

Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		Low
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		Low
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100 feet during an EFVS-100 operation.		Low
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		Low
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use		Low

	of display, controls, modes and associated systems, and adjustments for brightness and contrast under day and night conditions.		
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings.		Low
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument ap proaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		Low
Conduct EFVS Operations	Can determine enhanced flight visibility.		Low
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		Low
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		Low
Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and crew coordination procedures when using an EFVS.		Low

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include reducing AOA is the proper way to recover from a stall event. Pilots must accept that reducing the airplane's AOA will normally result in altitude loss. The amount of altitude loss will be affected by the airplane's operational environment (e.g., entry altitude, airplane weight, density altitude, bank angle, airplane configuration, etc.). At high altitudes, stall recovery will likely require losing several thousand feet.		Medium
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include declaring an emergency if necessary. Do not delay recovery due to degrading airspeed or a stall event to obtain air traffic control (ATC) clearance to a lower altitude.		Medium
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include understanding that early recognition and return of the airplane to a controlled and safe state are the most important factors in surviving stall events. Only after recovering to a safe maneuvering speed and AOA should the pilot focus on establishing an assigned heading, altitude, and airspeed.		Medium

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include an abrupt pitch-up or trim change can occur when the autopilot unexpectedly disconnects during a stall event. This dramatic pitch-up or trim change typically adds an unexpected physical challenge to the pilot when trying to reduce AOA. In some airplanes, this may be aggravated by an additional pitch up when the pilot increases thrust during stall recovery.		Medium
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include secondary stall warnings are indicative of a pilot prioritizing minimum loss of altitude over proper stall recovery or flight control inputs that are too aggressive. In some airplanes, depending on AOA representations, it may be difficult to determine the point where the pitch can begin to be increased and a momentary secondary stall warning may be encountered. A secondary stall warning is acceptable as long as AOA is promptly reduced and the airplane's limitations are not exceeded.		Medium

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include air carriers should develop stall prevention evaluation strategies that are a direct reflection to the aircraft type. Between different aircraft types and variations of an aircraft type there is a broad range of available airspeed/AOA/energy information to the pilot. Therefore, an evaluation of a stall prevention with an attitude direction indicator (ADI) that has sufficient information to determine the flight envelope (pitch limit indicators, speed tape with low-speed awareness, airspeed trend needles) should be more stringent. Obviously with this expectation, the assumption is made that the air carrier's stall training prepares the pilot to interpret this information in low energy states. Conversely, a stall prevention evaluation of a pilot that has limited flight envelope information could allow momentary reactivations of the stall warning after the pilot has reduced the AOA to cease the stall warning and is attempting to return the aircraft to safe flight.		Medium
Conduct Stall Prevention and Recovery	Can recognize how changes to factors such as weight, G loading, CG, bank angle, altitude, and icing affect the handling characteristics and stall speeds of the airplane.		Medium

Conduct Stall Prevention and Recovery	Can appreciate inappropriate use or inadequate monitoring of autoflight modes can be a contributing factor to a stall event. For example, climbing in vertical speed can lead to a stall event when pilots do not notice the airspeed reducing as the altitude increases; whereas, climbing in modes such as indicated airspeed or flight level change can protect against unnoticed deceleration in a climb.		Medium
Conduct Stall Prevention and Recovery	Can recognize impending stall characteristics for the specific airplane, including buffeting of a severity that may make it difficult to read the instruments.		Medium
Conduct Stall Prevention and Recovery	Can recognize and review of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.		Medium
Conduct Stall Prevention and Recovery	Can recognize noises associated with stick shakers, autopilot, and autothrottle/autothrust disconnect alarms can cause confusion in the cockpit.		Medium
Conduct Stall Prevention and Recovery	Can appreciate the effects of malfunctioning or deferred equipment on stall protection and stick pusher systems.		Medium
Conduct Stall Prevention and Recovery	Can differentiate between high and low altitude stalls, pitch rate sensitivity of flight controls (due to lack of aerodynamic damping), and amount of altitude loss required for recovery.		Medium

Conduct Stall Prevention and Recovery	Can appreciate the altitude effects of thrust available for recovery, and lack of airflow through engines at high AOA (reinforces reduction of AOA must precede any increase of thrust).		Medium
Conduct Stall Prevention and Recovery	Can appreciate USING SURPRISE IN TRAINING. Surprise has been a factor in stall incidents and accidents. Although it may be difficult to create surprise in the training environment, if achieved, surprise events may provide a powerful lesson for the crew. The goal of using surprise in training is to provide the crew with a surprise experience to reinforce timely application of the effective recovery technique under potentially confusing circumstances. Considerable care should be used in surprise training to avoid a negative learning experience. Surprise should not be used during checking. Stall prevention training should incorporate event conditions and variables typical of an unintentional stall that are likely to result in surprise due to the unexpected stall development, presentation, and behavior.		Medium

Conduct and Checking: Stall Prevention and Recovery	CHECKING CRITERIA. Checking of prevention, recognition, and recovery from an impending stall should be evaluated on the timely and proper response to the impending stall including effective use of available energy; the criteria should not focus on altitude loss. The check pilot should consider the variables present at the time of the impending stall and their effect on the recovery. Checking criteria are: • Prompt recognition of impending stall, • Correct application of the stall recovery procedure, and • Recovering without exceeding the airplane's limitations.		Medium
Conduct Stall Prevention and Recovery	Can appreciate the STICK PUSHER. For airplanes equipped with a stick pusher, stall recovery training includes ground training and practical training in an FFS. It is important for pilots to experience the sudden forward movement of the control yoke/stick during a stick pusher activation. From observations, most instructors state that, regardless of previous academic training, pilots usually resist the stick pusher on their first encounter. Usually, they immediately pull back on the control yoke/stick rather than releasing pressure as they have been taught. Therefore, pilots must receive practical stick pusher training in an FFS to develop		High

	the proper response (allowing the pusher to reduce AOA) when confronted with a stick pusher activation. Stick pusher training should be completed as a demonstration/practice exercise, including repetitions, until the pilot's reaction is to permit the reduction in AOA even at low altitudes. Pilot response to a deliberate activation of the pusher is not a checked maneuver.		
Conduct Stall Prevention and Recovery	Can conduct a stick pusher demonstration. See Appendix 2, Demonstration 2 for details.		High

SIM 2 Learning Objectives

SIM 2 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**
Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing

Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks
Conduct Before Takeoff Checks	Can describe how to detect malfunctions
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)
Conduct Before Takeoff Checks	Can give a before takeoff briefing
Conduct Departure Procedures	Can explain takeoff minimums
Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure
Conduct Departure Procedures	Can explain required climb gradients
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP

Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Departure Procedures	Can explain communication failure procedures
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain the flight characteristics and controllability associated with maneuvering the airplane with powerplant(s) inoperative to include the importance of drag reduction.
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain powerplant restart procedures and conditions where a restart attempt is appropriate.
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions
Conduct OEI Climb to En Route Altitude	Can explain the OEI climb to en route altitude OEM procedure to include an understanding of the difference between climbing at V_{SE} vs. a greater speed per the OEM procedure.
Conduct Holding	Can explain elements related to holding procedures, including reporting criteria, appropriate speeds, and recommended entry procedures for standard, nonstandard, published, and non-published holding patterns.
Conduct Holding	Can explain determining holding endurance based upon factors to include an expect further clearance (EFC) time, fuel on board, fuel flow while holding, fuel required to destination and alternate, etc., as appropriate.
Conduct Holding	Can explain when to declare minimum fuel or a fuel-related emergency.

Conduct Holding	Can explain use of automation for holding to include autopilot and flight management systems, if equipped.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure
Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach
Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments increase pilot workload and potential errors during a critical phase of flight.
Conduct Nonprecision Approach	Can explain that the practice commonly referred to as “dive and drive,” can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.
Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help eliminate CFIT.

Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point
Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.
Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous descent final approach) technique.
Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the “dive and drive” technique.
Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off.
Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.
Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV systems, or by manually computing rate of descent.
Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)
Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.

Conduct Nonprecision Approach	Can explain procedures and limitations associated with a nonprecision approach, including the differences between Localizer Performance (LP) and Lateral Navigation (LNAV) approach guidance
Conduct Nonprecision Approach	Can explain navigation system displays and annunciations, modes of operation, and RNP lateral accuracy values associated with an RNAV (GPS) approach.
Conduct Nonprecision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Nonprecision Approach	Can explain criteria for a stabilized approach, to include energy management concepts.
Conduct Visual Approach (VFR Procedures)	Can explain the visual approach procedure.
Conduct Pushback	Can describe the published OEM pushback procedure for operations with engines not running, starting the right engine during pushback, and both engines running prior to pushback.
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights
Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew

Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)
Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU

Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand Auxiliary Power Unit (APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Auxiliary Power Unit (APU)	Can describe the operation of the airplane systems and components using correct terminology
Understand Auxiliary Power Unit (APU)	Can explain system or component limitations
Understand Auxiliary Power Unit (APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Auxiliary Power Unit (APU)	Can explain immediate action items or memory items, if appropriate
Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Auxiliary Power Unit (APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Understand Avionics and communications -	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Electronic Flight Instrument Systems (EFIS)	
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain the features of the PlaneView System
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the functional characteristics of the cursor control device
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Avionics and Communications - HUD	Can identify all HUD symbology
Understand Avionics and Communications - HUD	Can explain the FPV
Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD
Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Understand Avionics and Communications - HUD	Can describe crew briefings and callouts
Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Understand Avionics and communications - indicating devices	Can interpret PFD mode annunciations
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can define TA (Traffic Advisory) as Aural voice and display information provided by TCAS to a flightcrew, identifying the location of nearby traffic that meets certain minimum separation criteria
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe TCAS on-ground performance
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the see-and-avoid concept is still valid even with TCAS
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can define Increase, reversal, crossing, and weakened Ras
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that That TCAS II assures separation from aircraft equipped with an altitude-reporting transponder;
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain the detection and protection provided by TCAS against altitude-reporting and non-altitude-reporting intruders

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the system detects multiple aircraft
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain TCAS to TCAS coordination
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate the potential impact of not following RAs
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can differentiate between TCAS surveillance range versus display range
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain when an intruder will not be displayed
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain the normal, expected pilot response to TAs, RAs, use of displayed traffic information to establish visual contact, and constraints on maneuvering based solely on Tas.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state RA inhibit altitudes
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can discuss the risks inherent to an inability to comply with an RA due to aircraft performance limitations after an engine failure, and appropriate response to RAs in limiting performance conditions, such as during heavy weight takeoff or while en route at maximum altitude for a particular weight.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain communication and coordination with ATC related to or following a TCAS event, when to contact ATC, and accepted TCAS phraseology.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can identify TCAS symbology

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain radar altimeter inputs to TCAS, and weather radar/electronic flight information system (EFIS) interfaces
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate familiarization with AFM provisions including information on TCAS modes of operation; normal and atypical flightcrew operating procedures; and response to TAs, RAs, and any AFM limitations.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate familiarization with MEL procedures related to TCAS
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe appropriate pilot response to TCAS RAs and TAs, ATC clearance compliances and nuisance alerts.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can sate that TCAS interrogates other transponder-equipped aircraft within a nominal range of 14 nautical miles (NM).
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TCAS surveillance range can be reduced in geographic areas with a large number of ground interrogators and/or TCAS II equipped aircraft
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state that TAs can be issued against any transponder-equipped aircraft which responds to the ICAO Mode C interrogations, even if the aircraft does not have altitude reporting capability.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state that RAs can be issued only against aircraft that are reporting altitude and only in the vertical plane
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state that RAs issued against a TCAS-equipped intruder are coordinated to ensure the issuance of complementary RAs

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that TCAS advisories are based on time to CPA rather than distance. The time must be short and vertical separation must be small, or projected to be small, before an advisory can be issued. The separation standards provided by Air Traffic Services (ATS) are different from the missed distances against which TCAS issues an alert
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that the time must be short and vertical separation must be small, or projected to be small, before an advisory can be issued.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the separation standards provided by Air Traffic Services (ATS) are different from the missed distances against which TCAS issues an alert
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the thresholds for issuing a TA or RA vary with altitude, and are larger at higher altitudes.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TA tau threshold (trigger point) varies from 20 to 48 seconds before the projected CPA and the RA tau threshold varies from 15 to 35 seconds
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that RAs are chosen to provide the desired vertical missed distance at CPA. As a result, RAs can instruct a climb or descent through the intruder aircraft's altitude.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TCAS will neither track nor display non-transponder-equipped aircraft, nor aircraft not responding to TCAS Mode C interrogations.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that TCAS will automatically fail if the input from the aircraft's barometric altimeter, radio altimeter, or transponder is lost
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TCAS may not display all proximate transponder-equipped aircraft in areas of high-density traffic.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that, Because of design limitations, the bearing displayed by TCAS is not sufficiently accurate to support the initiation of horizontal maneuvers based solely on the traffic display

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that Because of design limitations, TCAS will not track intruders with a Vertical Speed (VS) in excess of 10,000 feet per minute (fpm). In addition, the design implementation may result in some short-term errors in the tracked VS of an intruder during periods of high vertical acceleration by the intruder
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that Ground proximity warning system (GPWS) warnings and windshear warnings take precedence over TCAS advisories. When either a GPWS or windshear warning is active, TCAS aural annunciations will be inhibited.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that "INCREASE DESCENT" RAs are inhibited below 1,450 (±100) feet AGL
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that "DESCEND" RAs are inhibited below 1,100 (±100) feet AGL.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that all RAs are inhibited below 1,000 (±100) feet AGL.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that all TCAS aural annunciations are inhibited below 500 (±100) feet AGL.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that. If your aircraft type provides RA climb and increase climb commands at certified ceiling, the commands are to be followed.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate that low display ranges are used in the terminal area and the higher display ranges are used in the en route environment and in the transition between the terminal and en route environment.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate that if available, recommended usage of the "ABOVE/BELOW" mode selector. "ABOVE" mode should be used during climb and the "BELOW" mode should be used during descent.

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate that the configuration of the display does not affect the TCAS surveillance volume.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate the benefits of selecting lower ranges when an advisory is issued, in order to increase display resolution
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including differentiate between the display of absolute altitude and relative altitude and explain the limitations of using this display if a barometric correction is not provided to TCAS.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can execute proper configuration to display the appropriate TCAS information without eliminating the display of other needed information.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize traffic within the selected display range that is not proximate traffic, (not causing a TA or RA to be issued).
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize proximate traffic in the display, i.e., traffic that is within 6 NM and ±1200 feet.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize non-altitude reporting traffic in the display.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize no bearing TAs and RAs
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can determine when it is necessary to change the selected range for off-scale TAs and RAs to ensure that all available information on the intruder is displayed.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe how to select the minimum available display range which allows the display of TAs to provide the maximum display resolution
Understand Avionics and communications - traffic	Can describe how to select the minimum available display range which allows the display of TAs to provide the maximum display resolution

awareness/warning/avoidance systems	
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that navigation displays oriented on track-up may require a pilot to make a mental adjustment for drift angle when assessing the bearing of proximate traffic.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain the meaning of the red and green areas displayed on the RA display and when the green areas will and will not be displayed.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate general familiarization with the operator's guidance for the use of "TA-ONLY."
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that if "TA-ONLY" is not selected when an airport is conducting simultaneous operations from parallel runways separated by less than 1,200 feet, and to some intersecting runways, RAs can be expected
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that in TA mode, the TA aural annunciation is inhibited below 500 feet AGL. As a result, TAs issued below 500 feet AGL may not be noticed unless the TA display is included in the routine instrument scan.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that in TA-ONLY mode, TAs will be issued at the time an RA is normally issued.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe the division of duties between Pilot Flying (PF) and pilot monitoring (PM)
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state the expected callouts during a TA or RA
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe proper communications with ATC during a TA or RA
Understand Avionics and communications - traffic	Can describe the conditions under which an RA may not be followed and who will make this decision

awareness/warning/avoidance systems	
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain system or component limitations
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can apply the knowledge items specified in AC120-55C
Understand Avionics and communications - traffic awareness/warning/avoidance systems - TCAS Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance

Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1

Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain its importance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance

Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for “all engine” or “engine inoperative” missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified “all-engine lateral flightpath” (or radar vectors) and any specified “engine-inoperative lateral flightpath,” using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Understand determining climb performance per AFM	Can state the definition of takeoff segment
Understand determining climb performance per AFM	Can state the definitions of gross and net flightpath
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure

Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance

Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand Electrical System - circuit breakers and protection devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Electrical System - circuit breakers and protection devices	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - circuit breakers and protection devices	Can explain system or component limitations
Understand Electrical System - circuit breakers and protection devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - circuit breakers and protection devices	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - circuit breakers and protection devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - controls	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System - controls	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - controls	Can explain system or component limitations
Understand Electrical System - controls	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - controls	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - controls	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Electrical System - controls	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain system or component limitations
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - generators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - generators	Can explain system or component limitations
Understand Electrical System - generators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - generators	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - generators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - generators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Electrical System - indicators	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - indicators	Can explain system or component limitations
Understand Electrical System - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - indicators	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System -batteries	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System -batteries	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System -batteries	Can explain system or component limitations
Understand Electrical System -batteries	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System -batteries	Can explain immediate action items or memory items, if appropriate
Understand Electrical System -batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System -batteries	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - additives	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - additives	Can describe the operation of the airplane systems and components using correct terminology

Understand Fuel system - additives	Can explain system or component limitations
Understand Fuel system - additives	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - additives	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - additives	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - additives	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - additives	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - capacity and quantities	Can explain system or component limitations
Understand Fuel system - capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - capacity and quantities	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - capacity and quantities - Fuel Leak In Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - capacity and quantities - low fuel state procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Fuel system - controls and indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - controls and indicators	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - controls and indicators	Can explain system or component limitations
Understand Fuel system - controls and indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - controls and indicators	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - controls and indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - controls and indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - controls and indicators - Fuel Tank Temperature procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - cross-feeding	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - cross-feeding	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - cross-feeding	Can explain system or component limitations
Understand Fuel system - cross-feeding	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - cross-feeding	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - cross-feeding	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - cross-feeding	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Fuel system - cross-feeding	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - drains	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - drains	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - drains	Can explain system or component limitations
Understand Fuel system - drains	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - drains	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - drains	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - drains	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - drains	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - fuel grade	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - fuel grade	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - fuel grade	Can explain system or component limitations
Understand Fuel system - fuel grade	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - fuel grade	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - fuel grade	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - fuel grade	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Fuel system - fuel grade	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - fuel substitutions	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - fuel substitutions	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - fuel substitutions	Can explain system or component limitations
Understand Fuel system - fuel substitutions	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - fuel substitutions	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - fuel substitutions	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - fuel substitutions	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - fuel substitutions	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - fueling and defueling procedures	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - fueling and defueling procedures	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - fueling and defueling procedures	Can explain system or component limitations
Understand Fuel system - fueling and defueling procedures	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - fueling and defueling procedures	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - fueling and defueling procedures	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - pumps	Can explain system or component limitations
Understand Fuel system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - pumps	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - pumps - fuel boost pump failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - pumps - fuel boost pump failure procedure - Fuel Return Fail Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - transferring	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - transferring	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - transferring	Can explain system or component limitations
Understand Fuel system - transferring	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Fuel system - transferring	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - transferring	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - transferring	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - transferring	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of indicated airspeed during a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the difference between the generic samples in table 3-2 where cumulative errors are made, and table 3-3 where errors are not made
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain how use of published approach guidance in visual conditions can reduce errors
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the characteristics of effective CRM
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: TCAS alert

Understand Powerplant - turbine wheels	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - turbine wheels	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - turbine wheels	Can explain system or component limitations
Understand Powerplant - turbine wheels	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - turbine wheels	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - turbine wheels	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - turbine wheels	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - turbine wheels	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - compressors	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - compressors	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - compressors	Can explain system or component limitations
Understand Powerplant - compressors	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - compressors	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - compressors	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - compressors	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - compressors	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Powerplant - controls and indications	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - controls and indications	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - controls and indications	Can explain system or component limitations
Understand Powerplant - controls and indications	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - controls and indications	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - controls and indications	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - controls and indications	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - oil system capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - oil system capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - oil system capacity and quantities	Can explain system or component limitations
Understand Powerplant - oil system capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - oil system capacity and quantities	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - oil system capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

SIM 2 Tasks and Expectations

Tasks	Motor Skill Learning Objectives	Attitude Learning Objectives	Task Expectation Rating
Understand determining landing performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and	High

		Runway excursions	
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	High
Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual conditions and planned departure runway		High
Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		High
Conduct Before Takeoff Checks	Can explain any system operating characteristic or		High

	limitation and any corrective action for a malfunction during the checks		
Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		High
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		High
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing division of attention while conducting before takeoff checks	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the	High

		runway to be used for departure	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communicatio n equipment for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director controls for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to	High

		account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		High

Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		High
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		High
Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		High
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High
Conduct Departure Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High
Conduct Departure Procedures	Can comply with all applicable charted procedures		High
Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		High
Conduct Departure Procedures	Can execute the departure phase to a point where the transition to the en route environment is complete		High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to	High

		communicate with ATC or follow published procedures and required climb gradients	
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper automation management	High
Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and positioning of the aircraft relative to continuation of the approach to	Medium

		landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	
Conduct EGPWS Escape Maneuver	Can execute procedure with smoothness and accuracy		Medium
Conduct EGPWS Escape Maneuver	Can operate the airplane within its limitations		Medium
Conduct EGPWS Escape Maneuver	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		Medium
Conduct EGPWS Escape Maneuver		Can apply aeronautical knowledge to execution of the task	Medium
Conduct EGPWS Escape Maneuver		Can apply crew coordination	Medium
Conduct EGPWS Escape Maneuver		Can conduct effective communicatio n with the other crew members	Medium
Conduct EGPWS Escape Maneuver		Can manage crew cooperation	Medium
Conduct EGPWS Escape Maneuver		Can maintain a general survey of the	Medium

		aircraft operation by appropriate supervision	
Conduct EGPWS Escape Maneuver		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	Medium
Conduct EGPWS Escape Maneuver		Can demonstrate good judgement and airmanship	Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can coordinate with crew and execute the appropriate emergency procedures and checklist(s) for propeller feathering or powerplant shutdown.		Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Medium
Conduct Emergency Procedure - Inflight	Can determine the cause for the powerplant failure and		Medium

Powerplant Failure and Restart	assess if a restart is a viable option.		
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain the operating powerplant(s) within acceptable operating limits.		Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain airspeed ±10 knots, specified heading ±10° and altitude ±100 feet as specified		Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can assess powerplant restart and, if appropriate, demonstrate the powerplant restart procedures in accordance with the manufacturer or operator specified procedures and checklists.		Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can select the nearest suitable airport or landing area.		Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can perform communication with ATC as appropriate for the situation.		Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during flight.	Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing failure to follow checklist procedures for a	Medium

		powerplant failure or a powerplant restart.	
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing incorrect diagnosis of the cause of the powerplant failure.	Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing improper airplane configuration.	Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing factors and situations that could lead to an inadvertent stall, spin,	Medium

		and loss of control with an inflight powerplant failure.	
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can execute continued takeoff following failures including engine failure after V1, and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and operating limitations		Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to maintain best performance and trim		Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best		Medium

	performance and trim as required		
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can maintain the appropriate heading, ±5°, when powerplant failure occurs		Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can perform communication with ATC and the evaluator, as appropriate for the situation.		Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions, environment, obstructions, and LAHSO operations.	Medium

Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to brief the plan for a powerplant failure during takeoff, in a crew environment.	Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with an inoperative powerplant (AMEL, AMES).	Medium

Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium
Conduct OEI Climb to En Route Altitude	Can conduct an OEI climb enroute at either V_{se} or greater, depending on conditions.		Medium
Conduct Holding	Can identify instrument navigation aids associated with the assigned hold.		Medium
Conduct Holding	Can apply the appropriate entry procedure for a standard, nonstandard, published, or non- published holding pattern.		Medium

Conduct Holding	Can change to the appropriate holding airspeed for the airplane and holding altitude to cross the holding fix at or below maximum holding airspeed		Medium
Conduct Holding	Can comply with the holding pattern leg length and other restrictions, if applicable, associated with the holding pattern.		Medium
Conduct Holding	Can comply with ATC reporting requirements.		Medium
Conduct Holding	Can use proper wind correction procedures to maintain the desired pattern and to arrive over the fix as close as possible to a specified time.		Medium
Conduct Holding	Can maintain the airspeed ±10 knots, altitude ±100 feet, headings ±10°, and accurately track a selected course, radial, or bearing.		Medium
Conduct Holding	Can use automation to include autopilot, flight director controls, and navigation displays associated with the assigned hold.		Medium
Conduct Holding	Can calculate fuel reserve calculations based on EFC times.		Medium
Conduct Holding		Can identify, assess, and manage risks, encompassing recalculating fuel reserves if assigned an unanticipated EFC time.	Medium
Conduct Holding		Can identify, assess, and manage risks, encompassing	Medium

		scenarios and circumstances that could result in minimum fuel or the need to declare an emergency.	
Conduct Holding		Can describe scenarios that could lead to holding, including deteriorating weather at the planned destination.	Medium
Conduct Holding		Can identify, assess, and manage risks, encompassing improper holding entry and improper wind correction while holding.	Medium
Conduct Holding		Can identify, assess, and manage risks, encompassing holding while in icing conditions.	Medium
Conduct Holding		Can identify, assess, and manage risks, encompassing improper automation management.	Medium

Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure	Can execute procedure with smoothness and accuracy		High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure	Can operate the airplane within its limitations		High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can apply crew coordination	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can conduct effective communication with the other crew members	High

Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can manage crew cooperation	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can demonstrate good judgement and airmanship	High
Conduct Missed Approach	Can execute a missed approach from the MDA, DA/DH, or AH.		High
Conduct Missed Approach	Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		High

Conduct Missed Approach	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		High
Conduct Missed Approach	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V-speed, ±5 knots.		High
Conduct Missed Approach	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		High
Conduct Missed Approach	Can comply with the published or alternate missed approach procedure.		High
Conduct Missed Approach	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		High
Conduct Missed Approach	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		High
Conduct Missed Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		High
Conduct Missed Approach	Can demonstrate effective CRM		High
Conduct Missed Approach	Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		High
Conduct Missed Approach	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as		High

	appropriate, or as directed by the evaluator.		
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP or to a	High

		go-around below DA/MDA.	
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High
Conduct Nonprecision Approach		Can appreciate that there are environments in which using CDFA technique is not advisable or practical, for example airports that do not offer straight in non-precision approaches.	Medium
Conduct Nonprecision Approach	Can perform the nonprecision instrument approaches selected by the instructor/evaluator		Medium
Conduct Nonprecision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		Medium
Conduct Nonprecision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation		Medium

	equipment to be used for the approach.		
Conduct Nonprecision Approach	Can Comply with all clearances issued by ATC.		Medium
Conduct Nonprecision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		Medium
Conduct Nonprecision Approach	Can coordinate with ATC if unable to comply with a clearance.		Medium
Conduct Nonprecision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Medium
Conduct Nonprecision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Medium
Conduct Nonprecision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Medium
Conduct Nonprecision Approach	Can maintain a stabilized descent to the appropriate altitude.		Medium
Conduct Nonprecision Approach	Can maintain no more than ¼ scale CDI deflection, airspeed ±5 knots of selected value, and altitude above MDA +50/-0 feet (to the VDP or MAP) during the final approach segment		Medium

Conduct Nonprecision Approach	Can execute the missed approach procedure if the required visual references are not distinctly visible and identifiable at the appropriate point or altitude for the approach profile, or execute a normal landing from a straight-in or circling approach.		Medium
Conduct Nonprecision Approach	Can use a Multi-Function Display (MFD) and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		Medium
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to follow the correct approach procedure (e.g., descending too early, etc.).	Medium
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Selecting an incorrect navigation frequency.	Medium
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to manage automated	Medium

		navigation and auto flight systems.	
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to ensure proper airplane configuration during an approach and missed approach.	Medium
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing An unstable approach, including excessive descent rates.	Medium
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Deteriorating weather conditions on approach.	Medium
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Operating below the minimum descent altitude (MDA) or continuing a descent below	Medium

		decision altitude (DA) without proper visual references.	
Conduct Visual Approach (VFR Procedures)	Can conduct a visual approach.		Medium
Conduct Powerplant Start	Can identify an abnormal start or malfunction and execute the correct procedure		High
Conduct Pushback	Can conduct a pushback operation in accordance with the published OEM checklist.		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		High
Conduct RNP operations in the United States, oceanic and remote continental	Can perform initialization navigation system position		High

airspace, and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform adherence to speed and/or altitude constraints associated with RNP operations		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		High
Conduct RNP operations in the United States, oceanic and remote continental	Can verify waypoints and flight plan programming;		High

airspace, and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform interception of a course/track		High
Conduct RNP operations in the United States, oceanic and remote continental	Can perform flying vectors, and rejoining an RNP route/procedure from the ‘heading’ mode;		High

airspace, and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform insertion and deletion of a route discontinuity;		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform removal and reselection of a navigation sensor input;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);		Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform changing of the arrival airport and alternate airport		High
Conduct RNP operations in the United States, oceanic and remote continental	Can verify the RNP value set in the flight management system (FMS) matches the equipment capability and		Medium

airspace, and in foreign countries which adopt ICAO standards for RNP operations.	authorizations as annotated in the flight plan		
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform parallel offset function if capability exists		High
Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		High
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft characteristics (e.g., single HUD).		High
Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		High
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High

Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		High
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing	High

		a taxi route or departure runway change	
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	High
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot who is taxiing the aircraft	High

Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or accomplishing checklists	High
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	High
Conduct Taxi		Can maintain a sterile cockpit	High

		during taxi operations	
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and not the ones they expected to receive.	High
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	High

Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	High
Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	High
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance	High

		when approaching an entrance to a runway.	
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communications with ATC to regain orientation.	High
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	High
Conduct Taxi		Can resolve all misunderstandings or disagreements	High

		regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any doubt, speaks up and resolve the uncertainty before taxi		High
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	High

Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: “I’m heads-down, right turn ahead at Alpha,” or “I’m back, any changes?”	High
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or transmitted during that flightcrew member’s absence from the ATC frequency should be reviewed and	High

		confirmed upon his or her return.	
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	High
Conduct Taxi		Can state “approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach paths, and coordinate	High

		verbally (e.g., "clear right/left" or that the scan area is not clear).	
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft's parking area after landing	High
Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		High
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High

Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	High
Conduct TCAS Resolution Advisory (RA)	Can respond to the RA with positive control inputs, when required, while the PM provides updates on the traffic location and cross-checks between the traffic display and monitors the response to the RA		Medium
Conduct TCAS Resolution Advisory (RA)	Can interpret the displayed information, and recognize the intruder causing the issuance of the RA (red square on display).		Medium
Conduct TCAS Resolution Advisory (RA)	Can respond to the corrective RA in the proper direction within 5 seconds of the RA being displayed		Medium
Conduct TCAS Resolution Advisory (RA)	Can respond to a change in the initally displayed RA withing 2.5 seconds		Medium
Conduct TCAS Resolution Advisory (RA)	Can recognize and respond to altitude crossing RAs		Medium
Conduct TCAS Resolution Advisory (RA)	Can respond to preventive RAs by ensuring the VS needle remains outside the red area on the RA display.		Medium

Conduct TCAS Resolution Advisory (RA)	Can maintain vertical speed during "maintain rate" Ras		Medium
Conduct TCAS Resolution Advisory (RA)	Can recognize that a maintain rate RA may result in crossing through the intruder’s altitude.		Medium
Conduct TCAS Resolution Advisory (RA)		Can appreciate that if a decision is made to not follow an RA, no changes in the existing VS are made in a direction opposite to the sense of the displayed RA. Pilots should be aware that if the intruder is also TCAS equipped, the decision to not follow an RA may result in a decrease in separation at CPA because of the intruder’s RA response	Medium
Conduct TCAS Resolution Advisory (RA)	Can execute a return towards the original clearance when the RA weakens, and when clear of conflict is annunciated, pilot executes a complete the return to the original clearance		Medium
Conduct TCAS Resolution Advisory (RA)		Can inform the controller of the RA as	Medium

		soon as time and workload permit, using the standard phraseology	
Conduct TCAS Resolution Advisory (RA)	Can comply with an ATC clearance while responding to an RA when possible. (For example, if the aircraft can level at the assigned altitude while responding to a reduce climb or reduce descent RA, it should be done)		Medium
Conduct TCAS Resolution Advisory (RA)		Can appreciate that If pilots simultaneously receive instructions to maneuver from ATC and an RA that are in conflict, the pilot should follow the RA.	Medium
Conduct TCAS Resolution Advisory (RA)		Can appreciate that TCAS only considers intruders that it believes to be a threat when selecting an RA. As such, it is possible for TCAS to issue an RA against one intruder that results in a maneuver	Medium

		towards another intruder that is not classified as a threat. If the second intruder becomes a threat, the RA will be modified to provide separation from that intruder.	
Conduct TCAS Resolution Advisory (RA)		Can appreciate the consequences of both responding to, and not responding to, an RA	Medium
Conduct TCAS Traffic Advisory (TA)		Can confirm that the aircraft they have visually acquired is that which has caused the TA to be issued	Medium
Conduct TCAS Traffic Advisory (TA)	Can use all information shown on the display, and interpret bearing and range of the intruder (amber circle), whether it is above or below (data tag), and its VS direction (trend arrow).		Medium
Conduct TCAS Traffic Advisory (TA)	Can use other available information is used to assist in visual acquisition. This includes ATC party-line		Medium

	information, traffic flow in use, etc.		
Conduct TCAS Traffic Advisory (TA)		Can appreciate that the PF should not maneuver the aircraft based solely on the information shown on the TCAS display. No attempt should be made to adjust the current flightpath in anticipation of what an RA would advise.	Medium
Conduct TCAS Traffic Advisory (TA)		Can appreciate the limitations of making maneuvers based solely on visual acquisition, especially at high altitude or without a definite horizon	Medium
Conduct TCAS Traffic Advisory (TA)		Can take account of traffic advisory while preparing for a potential resolution	Medium

		advisory (pilot flying)	
Conduct TCAS Traffic Advisory (TA)		Can monitor traffic location shown on the TCAS display, using this information to help visually acquire the intruder.	Medium
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		High
Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	High
Conduct use of FMS	Can verify currency of aircraft navigation data.		High
Conduct use of FMS	Can perform flying a course/track to a waypoint.		High

Conduct use of FMS	Can perform interception of a course/track		High
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		High
Conduct use of FMS	Can determine cross-track error/deviation		High
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		High
Conduct use of FMS	Can execute insertion and deletion of a lateral offset		High
Conduct use of FMS	Can execute a change of the arrival airport and alternate airport		High
Conduct use of FMS	Can execute insertion and delete a holding pattern		Medium
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High
Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		High
Conduct use of FMS	Can execute making a runway change associated with a DP or STAR		High
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform a manual or automatic runway update (with takeoff point shift, if applicable)		High
Conduct use of FMS	Can perform flying direct to a waypoint		High
Conduct use of FMS	Can perform a complex SID consisiting of multiple altitude and speed constraints		High
Conduct use of FMS	Can input a lat/long waypoint to the FMS		High

Conduct use of FMS	Can demonstrate general awareness of all three styles of flight director		High
Conduct use of FMS	Can identify symbology available in synthetic vision system		High
Conduct use of FMS	Can differentiate between conformal and non conformal scaling in the HUD and synthetic vision		High
Conduct use of FMS	Can use the cursor control device effectively		High
Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		Medium
Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		Medium
Conduct use of HUD	Can use caged, uncaged and clear modes in crosswind conditions		Medium
Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		Medium
Conduct use of HUD	Can perform TCAS RA using HUD		Medium
Conduct use of Planeview System, if applicable	Can peform use of the planeview system installed in the full flight training equipment		High
Conduct use of TCAS	Can perform the procedures specified in AC120-55C		Medium
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing	High

		failure to follow appropriate checklists or procedures	
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing improper management	High

		of a system failure	
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - indicating devices	Can interpret flight path vector symbology as it relates to the PFD and HUD, both caged and uncaged		High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page)		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with automatic and/or manual setting of the required RNP value		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO	Can demonstrate familiarization with the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System		Medium

standards for RNP operations.	(GBAS) Landing System (GLS)		
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate how offsets are applied, the functionality of their particular navigation system and the need to advise air traffic control (ATC) if this functionality is not available		Medium
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply receiver/transmitter (R/T) phraseology for RNP applications		Medium
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can appreciate that system limitations include the inability of TCAS to detect nontransponder-equipped aircraft, no RAs issued for traffic without an altitude-reporting transponder	High
Understand Avionics and communications - traffic		Can identify, assess, and manage risks	High

awareness/warning/avoidance systems		encompassing failure to detect system malfunctions or failures.	
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use	High

		of performance charts, tables, and data	
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining accelerate-stop /		Can identify, assess, and manage risks	High

accelerate-go distance per AFM		encompassing Inaccurate use of performance charts, tables, and data	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of	High

		numerous part 25 requirements	
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	High

Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining cruise performance (e.g., optimum and		Can identify, assess, and manage risks encompassing	High

maximum operating altitudes) per AFM		runway excursions	
Understand determining descent performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High

Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining fuel requirements per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining fuel requirements per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High

Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining weight and balance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of	High

		performance charts, tables, and data	
Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System - controls		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Electrical System - controls		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - controls		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - controls		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System - generators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - generators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - generators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - generators		Can identify, assess, and manage risks	High

		encompassing failure to monitor and manage automated systems.	
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing failure to	High

		detect system malfunctions or failures.	
Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - additives		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - additives		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Fuel system - additives		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - additives		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - drains		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - drains		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Fuel system - drains		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - drains		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand OEM checklist philosohpy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentatio n. In addition, pilots are expected to don oxygen masks promptly when appropriate	High

		(e.g., when smoke is detected).	
Understand OEM checklist philosohpy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision making manner	High
Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - controls and indications		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - controls and indications		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - controls and indications		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - controls and indications		Can identify, assess, and manage risks	High

		encompassing failure to monitor and manage automated systems.	
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer's recommended procedures or procedures applicable to the operator.		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) use a sample of crosswind conditions and offset angles that emphasize the challenges		Low

	of operating with the limited FOV with an EFVS.		
Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when conducting an approach without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		Medium

Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100 feet during an EFVS-100 operation.		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		Medium
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use		Medium

	of display, controls, modes and associated systems, and adjustments for brightness and contrast under day and night conditions.		
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings.		Medium
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument ap proaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		Medium
Conduct EFVS Operations	Can determine enhanced flight visibility.		Medium
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		Medium
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		Medium
Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and crew coordination procedures when using an EFVS.		Medium

SIM 3 Learning Objectives

SIM 3 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**

Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Understand determining landing performance per AFM	Can explain the importance of accurate and timely assesments of landing distance
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Conduct Arrival Procedures	Can use standard Terminal Arrival (STAR) charts, U.S. Terminal Procedures Publications, and IFR Enroute High and Low Altitude Charts
Conduct Arrival Procedures	Can use a Flight Management System (FMS) or GPS to follow a STAR
Conduct Arrival Procedures	Can explain two-way radio communication failure procedures during an arrival
Conduct Arrival Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Arrival Procedures	Can explain reasons other than visibility that a go around may suddenly be required
Conduct Arrival Procedures	Can explain the characteristics of a pilot braking action report

Conduct Arrival Procedures	Can explain items to consider when a pilot braking action report is reliable
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks
Conduct Before Takeoff Checks	Can describe how to detect malfunctions
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition
Conduct Before Takeoff Checks	Can explain deicing and anti icing procedures
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (eg, snow, ice, gusting crosswinds, low-visibility)
Conduct Before Takeoff Checks	Can give a before takoff briefing
Conduct Departure Procedures	Can explain takeoff minimums
Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure
Conduct Departure Procedures	Can explain required climb gradients
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP
Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Departure Procedures	Can explain communication failure procedures

Conduct Emergency Procedure - Airframe icing	Can explain actions required if icing conditions exceed the capabilities of the airplane.
Conduct Emergency Procedure - Airframe icing	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain go-around/rejected landing procedures with a powerplant failure.
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain how to determine a suitable airport.
Conduct Emergency Procedure - Emergency evacuation	Can explain when an emergency evacuation may be necessary.
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Inflight fire and smoke	Can explain causes of inflight fire or smoke.
Conduct Emergency Procedure - Inflight fire and smoke	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain the flight characteristics and controllability associated with maneuvering the airplane with powerplant(s) inoperative to include the importance of drag reduction.
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain powerplant restart procedures and conditions where a restart attempt is appropriate.
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions

Conduct OEI Climb to En Route Altitude	Can explain the OEI climb to en route altitude OEM procedure to include an understanding of the difference between climbing at V_{SE} vs. a greater speed per the OEM procedure.
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain missed approach considerations with a powerplant failure.
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain how to determine a suitable airport.
Conduct Holding	Can explain elements related to holding procedures, including reporting criteria, appropriate speeds, and recommended entry procedures for standard, nonstandard, published, and non-published holding patterns.
Conduct Holding	Can explain determining holding endurance based upon factors to include an expect further clearance (EFC) time, fuel on board, fuel flow while holding, fuel required to destination and alternate, etc., as appropriate.
Conduct Holding	Can explain when to declare minimum fuel or a fuel-related emergency.
Conduct Holding	Can explain use of automation for holding to include autopilot and flight management systems, if equipped.
Conduct Instrument Takeoff	Can describe procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use. Pilots should be aware of the operator's policy for responding to loss of suitable visual reference during takeoff, in the low and high speed regimes, both before and after V1 (refer to AC 120-62 for additional information and recommendations for training).

Conduct Instrument Takeoff	Can explain operational factors that could affect an instrument takeoff (airports available in the event of an emergency after takeoff).
Conduct Lower than Standard Minimum Takeoff	Can discuss all revelant OpSpec requirements for Lower than Standard Minimum Takeoff.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Landing From a Precision Approach	Can recognize significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH.
Conduct Landing From a Precision Approach	Can recognize ground or navigation system faults, failures or abnormalities at any point during the approach and landing.
Conduct Landing From a Precision Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a precision approach.
Conduct Landing From a Precision Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.
Conduct Missed Approach - OEI	Can explain that when executing an one engine inoperative missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure.
Conduct Missed Approach - OEI	Can explain elements related to a one engine inoperative missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach - OEI	Can explain limitations associated with standard instrument approaches, including

	while using an FMS or autopilot, if equipped.
Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach
Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments increase pilot workload and potential errors during a critical phase of flight.
Conduct Nonprecision Approach	Can explain that the practice commonly referred to as "dive and drive," can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.
Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help eliminate CFIT.
Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point
Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.
Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous descent final approach) technique.

Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the “dive and drive” technique.
Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off.
Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.
Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV systems, or by manually computing rate of descent.
Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)
Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.
Conduct Nonprecision Approach	Can explain procedures and limitations associated with a nonprecision approach, including the differences between Localizer Performance (LP) and Lateral Navigation (LNAV) approach guidance

Conduct Nonprecision Approach	Can explain navigation system displays and annunciations, modes of operation, and RNP lateral accuracy values associated with an RNAV (GPS) approach.
Conduct Nonprecision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Nonprecision Approach	Can explain criteria for a stabilized approach, to include energy management concepts.
Conduct Normal Approach and Landing	Can explain stabilized approach, to include energy management concepts.
Conduct Normal Approach and Landing	Can explain effects of atmospheric conditions, including wind, on approach and landing performance.
Conduct Normal Approach and Landing	Can explain wind correction techniques on approach and landing.
Conduct Normal Approach and Landing	Can identify airport and runway markings, signs, and lights
Conduct Precision Approach	Can describe normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures
Conduct Precision Approach	Can describe procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.
Conduct Precision Approach	Can recognize the limits of acceptable aircraft position and flightpath tracking during approach, flare and rollout. This should be addressed using appropriate displays or annunciations for either automatic or manual landing systems.
Conduct Precision Approach	Can identify nearby critical terrain or obstruction environment;

Conduct Precision Approach	Can explain procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in the case of inoperative equipment.
Conduct Precision Approach	Can explain navigation system displays, annunciations, and modes of operation.
Conduct Precision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Precision Approach	Can explain stabilized approach criteria, to include energy management concepts.
Conduct Rejected Takeoff	Can describe safety considerations following a rejected takeoff
Conduct Rejected Takeoff	Can explain the procedure for accomplishing a rejected takeoff
Conduct Rejected Takeoff	Can explain accelerate/stop distance
Conduct Rejected Takeoff	Can describe conditions and situations that could warrant a rejected takeoff (e.g., takeoff warning systems, powerplant failure, other systems warning/failure)
Conduct Rejected Takeoff	Can define relevant V-speeds for a rejected takeoff
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights
Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew

Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)
Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport

Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Understand Avionics and communications - emergency locator transmitter.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - emergency locator transmitter.	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - emergency locator transmitter.	Can explain system or component limitations
Understand Avionics and communications - emergency locator transmitter.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - emergency locator transmitter.	Can explain immediate action items or memory items, if appropriate

Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - emergency locator transmitter.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and Communications - HUD	Can identify all HUD symbology
Understand Avionics and Communications - HUD	Can explain the FPV
Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD
Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Understand Avionics and Communications - HUD	Can describe crew briefings and callouts
Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Understand Avionics and communications - indicating devices - (EVS) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - indicating devices - (HUD) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Emergency Equipment - emergency exits	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Crew and Passenger Emergency Equipment - emergency exits	Can describe the operation of the airplane systems and components using correct terminology

Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain immediate action items or memory items, if appropriate
Understand Crew and Passenger Emergency Equipment - emergency exits	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Emergency Equipment - emergency exits	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Crew and Passenger Emergency Equipment - survival gear	Can explain the location, purpose and operation of emergency equipment in the aircraft
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight

Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain it's importance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance

Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for “all engine” or “engine inoperative” missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified “all-engine lateral flightpath” (or radar vectors) and any specified “engine-inoperative lateral flightpath,” using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Understand determining climb performance per AFM	Can state the definition of take off segment
Understand determining climb performance per AFM	Can state the definitions of gross and net flighpath
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure

Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand evacuation procedures and crew duties - Cabin Window Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand evacuation procedures and crew duties - Ditching procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand evacuation procedures and crew duties - External Baggage Door Not Secure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand evacuation procedures and crew duties - Main Entrance Door Not Secure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand evacuation procedures and crew duties - Planned Airplane Evacuation procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand flight operations in icing conditions	Can explain that "severe icing" is when the rate of ice accumulation is such that ice protection systems fail to remove the accumulation of ice and accumulation occurs in areas not normally prone to icing, such as aft of protected surfaces and other areas identified by the manufacturer

Understand ground operations in icing conditions	Can explain that regulations prohibit takeoff when snow, ice, or frost is adhering to wings, propellers, or control surfaces of an aircraft.
Understand ground operations in icing conditions	Can explain that the degradation in aircraft performance and changes in flight characteristics when frozen contaminants are present are wide ranging, unpredictable, and highly dependent upon individual aircraft design
Understand ground operations in icing conditions	Can explain that the PIC has the ultimate responsibility to determine if the aircraft is clean and that the aircraft is in a condition for safe flight.
Understand ground operations in icing conditions	Can explain the general adverse effects of ice, snow and frost on aircraft performance and flight characteristics: decreased thrust, decreased lift, increased stall speed, trim changes, and altered stall characteristics and handling qualities
Understand ground operations in icing conditions	Can explain that in order to achieve compliance with the clean aircraft concept, it is imperative that takeoff not be attempted in any aircraft unless the pilot-in-command (PIC) is certain that critical components of the aircraft are free of frozen contaminants.
Understand ground operations in icing conditions	Can explain that for aircraft type specific procedures, pilots should refer to the aircraft flight manuals or other manufacturer documents developed for that particular type aircraft
Understand ground operations in icing conditions	Can explain that icing conditions (during flight or ground operations) can occur, and ice protection systems or procedures should be activated when OAT is below 50 degrees F (10 degrees C) and visible moisture in any form is present or when there is standing water, ice, or snow on the runway and/or taxiways.

Understand ground operations in icing conditions	Can explain that residual ice or slush accumulated on airframe components during landing and taxi operations on contaminated runways, taxiways and ramps, can remain in place if low temperatures and other weather conditions exist unless identified and removed. Contaminants of this type are commonly found in wheel wells, on landing gear components, trailing edge flaps, undersurfaces of wings and horizontal stabilizers
Understand ground operations in icing conditions	Can explain that the deicing process is intended to restore the aircraft to a clean configuration so that neither degradation of aerodynamic characteristics nor mechanical interference from contaminants will occur
Understand ground operations in icing conditions	Can explain that it is essential that the PIC have a thorough understanding of the deicing and anti-icing process and the approved procedures necessary to ensure that the aircraft is clean for takeoff.
Understand ground operations in icing conditions	Can explain that anti-icing should be performed as near to the takeoff time as possible to minimize the risk of exceeding the useful life or time of effectiveness of the anti-icing fluid
Understand Ice Protection - anti-ice & de-ice - Ice Shedding Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Ice Protection - anti-ice & de-ice.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection - anti-ice & de-ice.	Can explain system or component limitations
Understand Ice Protection - anti-ice & de-ice.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Ice Protection - anti-ice & de-ice.	Can explain immediate action items or memory items, if appropriate

Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection - anti-ice & de-ice.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection - anti-ice & de-ice.	Can explain the function and limitations of automatic mode of wing and cowl anti-ice systems
Understand Ice Protection - pitot-static system protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection - pitot-static system protection	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection - pitot-static system protection	Can explain system or component limitations
Understand Ice Protection - pitot-static system protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Ice Protection - pitot-static system protection	Can explain immediate action items or memory items, if appropriate
Understand Ice Protection - pitot-static system protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection - pitot-static system protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection airfoil surfaces	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection airfoil surfaces	Can explain system or component limitations
Understand Ice Protection airfoil surfaces	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Ice Protection airfoil surfaces	Can explain immediate action items or memory items, if appropriate
Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Ice Protection airfoil surfaces	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection windshield	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection windshield	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection windshield	Can explain system or component limitations
Understand Ice Protection windshield	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Ice Protection windshield	Can explain immediate action items or memory items, if appropriate
Understand Ice Protection windshield	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection windshield	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection windshield - Windshield Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Ice Protection windshield - Windshield Heat Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the charcteristics of indicated airspeed during a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why mulitple small errors during landing can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival
Understand OEM checklist philosohpy	Can state the initial critical pilot responses promptly and without reference to a checklist: Rejected Takeoff

Understand OEM checklist philosohpy	Can state the initial critical pilot responses promptly and without reference to a checklist: Engine failure/fire after takeoff decision speed (V1)
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain system or component limitations
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain immediate action items or memory items, if appropriate
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pitot Static System - Operation and power sources for other flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pitot Static System - Operation and power sources for other flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain system or component limitations
Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain immediate action items or memory items, if appropriate
Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pitot Static System - Operation and power sources for other flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pneumatic and environmental system - pressurization - Unpressurized Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pneumatic and environmental system - supply for ice protection systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pneumatic and environmental system - supply for ice protection systems	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - supply for ice protection systems	Can explain system or component limitations
Understand Pneumatic and environmental system - supply for ice protection systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pneumatic and environmental system - supply for ice protection systems	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pneumatic and environmental system - supply for ice protection systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to

	document inoperative components of this system and explain related procedures
Understand Powerplant - controls and indications - Engine Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - controls and indications - Pylon Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - deicing, anti-icing	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - deicing, anti-icing	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - deicing, anti-icing	Can explain system or component limitations
Understand Powerplant - deicing, anti-icing	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - deicing, anti-icing	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - deicing, anti-icing	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance

SIM 3 Tasks and Expectations

Tasks	Motor Skill Learning Objectives	Attitude Learning Objectives	Task Expectation Rating
Understand determining landing performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High

Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Conduct Arrival Procedures		Can manage the risk of errors when assigned an STAR and subsequently receives a change of landing runway, procedure or transition by verifying the appropriate changes are entered and available for navigation	High
Conduct Arrival Procedures	Can select, identify and use the appropriate communication and navigation facilities associated with the arrival		High
Conduct Arrival Procedures	Can perform setup of FMS and avionics to include flight director and autopilot controls for the arrival, if applicable		High
Conduct Arrival Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Arrival Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Arrival Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High

Conduct Arrival Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High
Conduct Arrival Procedures	Can comply with all applicable charted procedures		High
Conduct Arrival Procedures	Can comply with airspeed restrictions required by regulation, procedure, aircraft limitation or ATC		High
Conduct Arrival Procedures	Can maintain rate of descent consistent with the route segment, airplane operating characteristics and safety		High
Conduct Arrival Procedures	Can maintain the appropriate airspeed/V-speed ±10 knots, but not less than VRef if applicable, heading ±10°, altitude ±100 feet, and accurately track radials, courses, and bearings		High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to recognize limitations of traffic avoidance equipment.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing	High

		failure to use see and avoid techniques when possible.	
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing improper automation management.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing ATC instructions that modify an arrival or discontinue/resume the aircraft’s lateral or vertical navigation on an arrival.	High
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	High

Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual conditions and planned departure runway		High
Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		High
Conduct Before Takeoff Checks	Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		High
Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		High
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		High
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		High

Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing division of attention while conducting before takeoff checks	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communicatio n equipment for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks,	High

		encompassing failure to configure autopilot and flight director controls for departure	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks,	High

		encompassing failure to complete checklist(s)	
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		High
Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		High
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		High
Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		High
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High
Conduct Departure Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High
Conduct Departure Procedures	Can comply with all applicable charted procedures		High
Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		High
Conduct Departure Procedures	Can execute the departure phase to a point where the		High

	transition to the en route environment is complete		
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper automation management	High
Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and	High

		positioning of the aircraft relative to continuation of the approach to landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	
Conduct Emergency Procedure - Airframe icing	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing failure to consider	High

		altitude, wind, terrain, and obstructions in an emergency.	
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can respond appropriately to engine failure prior to or during an approach.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain the operating powerplant(s) within acceptable operating limits.		Medium
Conduct Emergency Procedure - Approach and	Can perform communication with ATC and the evaluator, as appropriate for the situation.		Medium

Landing with a Powerplant Failure			
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can perform smooth, timely, and correct control application before, during, and after touchdown.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can coordinate with crew and execute after landing checklists(s).		Medium

Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure inflight or during an approach.	Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing improper airplane configuration.	Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing distractions,	Medium

		loss of situational awareness, or improper task management.	
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing performing a go-around/rejected landing with a powerplant failure.	Medium
Conduct Emergency Procedure - Emergency evacuation	Can perform communication with ATC and the evaluator, as appropriate for the situation.		Medium
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Medium
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	Medium
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and	Medium

		obstructions in an emergency.	
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High

Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Inflight fire and smoke	Can perform communication with ATC and the evaluator, as appropriate for the situation.		Medium
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	Medium
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	Medium
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing failure to	Medium

		consider altitude, wind, terrain, and obstructions in an emergency.	
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can coordinate with crew and execute the appropriate emergency procedures and checklist(s) for propeller feathering or powerplant shutdown.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can determine the cause for the powerplant failure and assess if a restart is a viable option.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain the operating powerplant(s) within acceptable operating limits.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain airspeed ±10 knots, specified heading ±10° and altitude ±100 feet as specified		High

Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can assess powerplant restart and, if appropriate, demonstrate the powerplant restart procedures in accordance with the manufacturer or operator specified procedures and checklists.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can select the nearest suitable airport or landing area.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can perform communication with ATC as appropriate for the situation.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during flight.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing failure to follow checklist procedures for a powerplant failure or a powerplant restart.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing incorrect diagnosis of the cause of	High

		the powerplant failure.	
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing improper airplane configuration.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing factors and situations that could lead to an inadvertent stall, spin, and loss of control with an inflight powerplant failure.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing distractions, loss of	High

		situational awareness, or improper task management.	
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can execute continued takeoff following failures including engine failure after V1, and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane’s performance capabilities and operating limitations		Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to maintain best performance and trim		Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can maintain the appropriate heading, ±5°, when powerplant failure occurs		Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		Medium

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can perform communication with ATC and the evaluator, as appropriate for the situation.		Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions, environment, obstructions, and LAHSO operations.	Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to brief the plan for a powerplant failure during takeoff, in a crew environment.	Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to follow proper	Medium

		procedures or checklists in an emergency.	
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with an inoperative powerplant (AMEL, AMES).	Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	Medium
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium
Conduct OEI Climb to En Route Altitude	Can conduct an OEI climb enroute at either V_{se} or greater, depending on conditions.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain the operating powerplant(s) within acceptable operating limits.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can perform radio calls as appropriate		Medium

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can assess and proceed toward the nearest suitable airport.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can coordinate with crew and execute the approach and landing checklists(s).		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant	Can maintain a stabilized approach, adjusting pitch and power as required, allowing no more than ¼-scale deflection		Medium

Failure (manual control)	of either the vertical or lateral guidance indications.		
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain a stabilized final approach from the FAF to the DA/DH allowing no more than ¼- scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain directional control and appropriate crosswind correction throughout the approach and landing or missed approach.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can immediately execute the missed approach procedure if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH,		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can execute a transition to a normal landing approach when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering upon reaching the DA/DH		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can perform smooth, timely, and correct control application before, during, and after touchdown or during the missed approach.		Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing failure to plan for a	Medium

		powerplant failure inflight or during an approach.	
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing improper airplane configuration.	Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	Medium

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing landing with a powerplant failure.	Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing missed approach with a powerplant failure.	Medium
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing maneuvering in IMC with a powerplant failure.	Medium
Conduct Holding	Can identify instrument navigation aids associated with the assigned hold.		High
Conduct Holding	Can apply the appropriate entry procedure for a standard, nonstandard, published, or non- published holding pattern.		High
Conduct Holding	Can change to the appropriate holding airspeed for the airplane and holding altitude to cross the holding fix at or below maximum holding airspeed		High
Conduct Holding	Can comply with the holding pattern leg length and other restrictions, if applicable, associated with the holding pattern.		High
Conduct Holding	Can comply with ATC reporting requirements.		High

Conduct Holding	Can use proper wind correction procedures to maintain the desired pattern and to arrive over the fix as close as possible to a specified time.		High
Conduct Holding	Can maintain the airspeed ±10 knots, altitude ±100 feet, headings ±10°, and accurately track a selected course, radial, or bearing.		High
Conduct Holding	Can use automation to include autopilot, flight director controls, and navigation displays associated with the assigned hold.		High
Conduct Holding	Can calculate fuel reserve calculations based on EFC times.		High
Conduct Holding		Can identify, assess, and manage risks, encompassing recalculating fuel reserves if assigned an unanticipated EFC time.	High
Conduct Holding		Can identify, assess, and manage risks, encompassing scenarios and circumstances that could result in minimum fuel or the need to declare an emergency.	High
Conduct Holding		Can describe scenarios that could lead to holding, including	High

		deteriorating weather at the planned destination.	
Conduct Holding		Can identify, assess, and manage risks, encompassing improper holding entry and improper wind correction while holding.	High
Conduct Holding		Can identify, assess, and manage risks, encompassing holding while in icing conditions.	High
Conduct Holding		Can identify, assess, and manage risks, encompassing improper automation management.	High
Conduct Instrument Takeoff	Can perform applicable procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use.		Medium

Conduct Instrument Takeoff		Can demonstrate familiarization with operator’s policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	Medium

Conduct Instrument Takeoff	Can execute normal takeoff at lowest applicable minima;		Medium
Conduct Instrument Takeoff	Can perform takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		Medium
Conduct Instrument Takeoff	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		Medium
Conduct Instrument Takeoff	Can execute setting of the applicable avionics and flight instruments prior to initiating the takeoff		Medium
Conduct Instrument Takeoff	Can perform radio calls as appropriate		Medium
Conduct Instrument Takeoff	Can verify assigned/correct runway		Medium
Conduct Instrument Takeoff	Can perform clearing the arrival area area and execute taxiing into takeoff position and align the airplane on the runway centerline		Medium
Conduct Instrument Takeoff	Can maintain centerline and proper flight control inputs during the takeoff roll		Medium
Conduct Instrument Takeoff	can confirm takeoff power and proper engine and flight instrument indications prior to rotation making callouts, as appropriate, for the airplane or per the operator's procedures		Medium
Conduct Instrument Takeoff	Can rotates and lift off at the recommended airspeed, establish the desired pitch attitude, and accelerate to the desired airspeed/ V-speed.		Medium
Conduct Instrument Takeoff	Can execute a smooth transition from visual meteorological conditions (VMC) to actual or simulated		Medium

	instrument meteorological conditions (IMC).		
Conduct Instrument Takeoff	Can maintain desired heading ±5° and desired airspeeds ±5 knots.		Medium
Conduct Instrument Takeoff	Can comply with ATC clearances and instructions issued by ATC , as appropriate		Medium
Conduct Instrument Takeoff	Can execute appropriate after-takeoff checklist(s) in a timely manner		Medium
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing selection of a runway based on aircraft performance and limitations, available distance, surface conditions, lighting, and wind	Medium
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing wake turbulence	Medium
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for rejected takeoff	Medium

Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in takeoff phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	Medium
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in climb phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	Medium
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to	Medium

		include planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for low altitude maneuvering including stall, spin, or CFIT	Medium
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for distractions, loss of situational awareness, or improper task management.	Medium
Conduct Lower than Standard Minimum Takeoff	Can conduct a Lower than Standard Minimum Takeoff in accordance with approved OpSpec C052.		Medium

Conduct Landing From a Precision Approach	Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		High
Conduct Landing From a Precision Approach	Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		High
Conduct Landing From a Precision Approach		Can appreciate that pilots should be familiar with the need to report navigation system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown zone (TDZ) lights, centerline lights), or any other discrepancies that could be pertinent to operations.	High

Conduct Landing From a Precision Approach		Can demonstrate familiarization with operator's policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	High

Conduct Landing From a Precision Approach	Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point where visual maneuvering is used to accomplish a normal landing.		High
Conduct Landing From a Precision Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		High
Conduct Landing From a Precision Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Landing From a Precision Approach	Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct Landing From a Precision Approach	Can demonstrate SRM or CRM, as appropriate.		High
Conduct Landing From a Precision Approach	Can apply runway incursion avoidance procedures.		High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations,	High

		available distance, surface conditions, and wind.	
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for missed approach	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High

Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for transitioning from instrument to visual	High

		references for landing.	
Conduct Missed Approach - OEI	Can execute an one engine inoperative missed approach from the MDA, DA/DH, or AH.		Medium
Conduct Missed Approach - OEI	Can execute an one engine inoperative missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		Medium
Conduct Missed Approach - OEI	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance during an one engine inoperative missed approach.		Medium
Conduct Missed Approach - OEI	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots during an one engine inoperative missed approach.		Medium
Conduct Missed Approach - OEI	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner during an one engine inoperative missed approach.		Medium
Conduct Missed Approach - OEI	Can comply with the published or alternate missed approach procedure during an one engine inoperative missed approach.		Medium
Conduct Missed Approach - OEI	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		Medium

Conduct Missed Approach - OEI	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure during an one engine inoperative missed approach.		Medium
Conduct Missed Approach - OEI	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		Medium
Conduct Missed Approach - OEI	Can demonstrate effective CRM during an one engine inoperative missed approach.		Medium
Conduct Missed Approach - OEI	Can execute re-engagement of the autopilot at appropriate times during the one engine inoperative missed approach procedure.		Medium
Conduct Missed Approach - OEI	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator during an one engine inoperative missed approach.		Medium
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures during an one engine inoperative missed approach.	Medium
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing holding,	Medium

		diverting, or electing to fly the approach again during an one engine inoperative missed approach.	
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach during an one engine inoperative missed approach.	Medium
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing factors that might lead to executing an one engine inoperative missed approach procedure before the MAP or to a go-around below DA/MDA.	Medium
Conduct Missed Approach - OEI		Can identify, assess, and manage risks,	Medium

		encompassing failure to manage automated navigation and auto flight systems during an one engine inoperative missed approach.	
Conduct Nonprecision Approach		Can appreciate that there are environments in which using CDFA technique is not advisable or practical, for example airports that do not offer straight in non precision approaches.	High
Conduct Nonprecision Approach	Can perform the nonprecision instrument approaches selected by the instrutor/evaluator		High
Conduct Nonprecision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Nonprecision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High
Conduct Nonprecision Approach	Can Comply with all clearances issued by ATC .		High
Conduct Nonprecision Approach	Can recognize if any flight instrumentation is inaccurate		High

	or inoperative, and take appropriate action.		
Conduct Nonprecision Approach	Can coordinate with ATC if unable to comply with a clearance.		High
Conduct Nonprecision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High
Conduct Nonprecision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Nonprecision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Nonprecision Approach	Can maintain a stabilized descent to the appropriate altitude.		High
Conduct Nonprecision Approach	Can maintain no more than ¼ scale CDI deflection, airspeed ±5 knots of selected value, and altitude above MDA +50/-0 feet (to the VDP or MAP) during the final approach segment		High
Conduct Nonprecision Approach	Can execute the missed approach procedure if the required visual references are not distinctly visible and identifiable at the appropriate point or altitude for the approach profile, or execute a		High

	normal landing from a straight-in or circling approach.		
Conduct Nonprecision Approach	Can use a Multi-Function Display (MFD) and other graphical navigation displays, if insalled, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to follow the correct approach procedure (e.g., descending too early, etc.).	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Selecting an incorrect navigation frequency.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to manage automated navigation and auto flight systems.	High

Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing An unstable approach, including excessive descent rates.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Deteriorating weather conditions on approach.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Operating below the minimum descent altitude (MDA) or continuing a descent below decision altitude (DA) without proper	High

		visual references.	
Conduct Normal Approach and Landing	Can execute normal landings at the lowest applicable minima for each authorized flight guidance and/or visual system.		High
Conduct Normal Approach and Landing	Can perform manual rollout in low visibility at applicable minima. (except for aircraft using an automatic fail operational (FO) rollout system)		High
Conduct Normal Approach and Landing	Can perform landings at the limiting environmental conditions authorized for that operator with respect to wind, crosswind components, and runway surface friction characteristics		High
Conduct Normal Approach and Landing	Can coordinate with crew and execute after landing checklists(s).		High
Conduct Normal Approach and Landing	Can perform radio calls as appropriate		High
Conduct Normal Approach and Landing	Can maintain a ground track that ensures the desired traffic pattern will be flown taking into consideration obstructions and ATC		High
Conduct Normal Approach and Landing	Can confirm the airplane is aligned with the correct/assigned runway or landing surface.		High
Conduct Normal Approach and Landing	Can scan runway or landing surface and adjoining area for traffic and obstructions.		High
Conduct Normal Approach and Landing	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		High

Conduct Normal Approach and Landing	Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		High
Conduct Normal Approach and Landing	Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		High
Conduct Normal Approach and Landing	Can perform smooth, timely, and correct control application before, during, and after touchdown.		High
Conduct Normal Approach and Landing	Can execute touch down with the runway centerline between the main landing gear at the appropriate speed and pitch attitude at the runway aiming point markings -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Normal Approach and Landing	Can execute deceleration to taxi speed (20 knots or less on dry pavement, 10 knots or less on contaminated pavement) to within the calculated landing distance plus 25% for the actual conditions with the runway centerline between the main landing gear		High
Conduct Normal Approach and Landing	Can execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.		High
Conduct Normal Approach and Landing	Can apply runway incursion avoidance procedures.		High

Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing selection of a runway or approach path and touchdown area based aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing Go-Around/Rejected Landing	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing land and Hold Short Operations (LAHSO)	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft,	High

		terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, incorrect airport surface approach and landing, or improper task management.	High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can execute procedure with smoothness and accuracy		High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can operate the airplane within its limitations		High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct PFD malfunction		Can apply aeronautical knowledge to	High

procedure (AGM 1 or DU1)		execution of the task	
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply crew coordination	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can conduct effective communication with the other crew members	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can manage crew cooperation	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can demonstrate good judgement and airmanship	High

Conduct Precision Approach	Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		High
Conduct Precision Approach	Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		High
Conduct Precision Approach		Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors (F/D), or other system (e.g., HUD, SVGS, etc.) performance. For systems such as HUDs that have a limited field of view (FOV), or synthetic	High

		reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.	
Conduct Precision Approach	Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, orcircling minima, if applicable); according to the operators manuals, charts and checklists, on the aircraft type, model and series flown.		High
Conduct Precision Approach	Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		High
Conduct Precision Approach	Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		High
Conduct Precision Approach	Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored approach, or call-outs);		High
Conduct Precision Approach		Can demonstrate familiarization with airport and runway characteristics typically experienced;	High

Conduct Precision Approach	Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and		High
Conduct Precision Approach	Can respond appropriately to aircraft and ground system failures.		High
Conduct Precision Approach	Can perform the precision instrument approaches selected by the instrtuctor/evaluator.		High
Conduct Precision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Precision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High
Conduct Precision Approach	Can comply in a timely manner with all clearances, instructions, and procedures.		High
Conduct Precision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		High
Conduct Precision Approach	Can coordinate with ATC if unable to comply with a clearance.		High
Conduct Precision Approach	Can maintain the appropriate airplane configuration and airspeed considering		High

	meteorological and operating conditions.		
Conduct Precision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Precision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Precision Approach	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		High
Conduct Precision Approach	Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots		High
Conduct Precision Approach	Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and identifiable ppon reaching the DA/DH.		High

Conduct Precision Approach	Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		High
Conduct Precision Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to follow the correct approach procedure (e.g. descending below the glideslope, etc.).	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing selecting an incorrect navigation frequency.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High

Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing continuing to descend below the Decision Altitude (DA)/Decision Height (DH) when the required visual references are not visible.	High

Conduct Rejected Takeoff	Can execute Rejected takeoff from a point prior to V1 (including an engine failure);		Medium
Conduct Rejected Takeoff	Can perform rejected takeoff requiring transfer of control (if applicable) for low-visibility takeoff minima where a flight guidance and/or vision system is required		Medium
Conduct Rejected Takeoff	Can perform rejected takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		Medium
Conduct Rejected Takeoff	Can execute aborted takeoff if the powerplant failure occurs at a point during the takeoff where the abort procedure can be initiated and the airplane can be safely stopped on the remaining runway		Medium
Conduct Rejected Takeoff	Can execute prompt reduction of power and maintain positive aircraft control using drag and braking devices, as appropriate, to come to a stop		Medium
Conduct Rejected Takeoff	Can coordinate with crew, if applicable, and complete the appropriate procedures, checklist(s), and radio calls following a rejected takeoff in a timely manner		Medium
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing a powerplant failure or other malfunction during takeoff.	Medium

Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing failure to maintain directional control following a rejected takeoff	Medium
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing rejecting takeoff with inadequate stopping distance	Medium
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing a high-speed abort distractions, loss of situational awareness, or improper task management	Medium
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform initialization navigation system position		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High

and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform adherence to speed and/or altitude constraints associated with RNP operations		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify waypoints and flight plan programming;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform interception of a course/track		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform selecting/arming the navigation system for an ILS or GLS transition		High
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can perform insertion and deletion of a route discontinuity;		High

and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify the RNP value set in the flight management system (FMS) matches the equipment capability and authorizations as annotated in the flight plan		High
Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		High
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft		High

	characteristics (e.g., single HUD).		
Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		High
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		High
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation	High

		or expectation bias as related to taxi instructions	
Conduct Taxi		Can identify, assess, and manage risks, encompassing a taxi route or departure runway change	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	High
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot	High

		who is taxiing the aircraft	
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or accomplishing checklists	High
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	High

Conduct Taxi		Can maintain a sterile cockpit during taxi operations	High
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and not the ones they expected to receive.	High
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	High

Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	High
Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	High
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance when approaching an entrance to a runway.	High
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes	High

		disoriented: never stop on a runway, and initiate communications with ATC to regain orientation.	
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	High
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	High

Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any doubt, speaks up and resolve the uncertainty before taxi		High
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	High
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: “I’m	High

		heads-down, right turn ahead at Alpha,” or “I’m back, any changes?”	
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or transmitted during that flightcrew member’s absence from the ATC frequency should be reviewed and confirmed upon his or her return.	High
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	High

Conduct Taxi		Can state "approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach paths, and coordinate verbally (e.g., "clear right/left" or that the scan area is not clear).	High
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft's parking area after landing	High

Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		High
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High
Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	High
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		High

Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	High
Conduct use of FMS	Can verify currency of aircraft navigation data.		High
Conduct use of FMS	Can perform flying a course/track to a waypoint.		High
Conduct use of FMS	Can perform interception of a course/track		High
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		High
Conduct use of FMS	Can determine cross-track error/deviation		High
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		High
Conduct use of FMS	Can execute insertion and delete a holding pattern		High
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High
Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High

Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		High
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform flying direct to a waypoint		High
Conduct use of FMS	Can perform a complex SID consisting of multiple altitude and speed constraints		High
Conduct use of FMS	Can perform a complex STAR consisting of multiple altitude and speed constraints		High
Conduct use of FMS	Can demonstrate general awareness of all three styles of flight director		High
Conduct use of FMS	Can identify symbology available in synthetic vision system		High
Conduct use of FMS	Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		High
Conduct use of FMS	Can perform transition between automatic (FMS-controlled) to manual mode and back in the event of a flightpath deviation due to input error or system malfunction.		High
Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		High
Conduct use of HUD	Can use caged, uncaged and clear modes in crosswind conditions		High
Conduct use of HUD	Can relate glidepath angle to the symbolic runway.		Medium
Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		High

Conduct use of HUD	Can perform approach into the top of an undercast during daylight and night conditions.		High
Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		High
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page)		High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with automatic and/or manual setting of the required RNP value		High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System (GBAS) Landing System (GLS)		High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which	Can demonstrate how offsets are applied, the functionality of their particular navigation system and the need to advise air traffic control (ATC) if this functionality is not available		High

adopt ICAO standards for RNP operations.			
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply receiver/transmitter (R/T) phraseology for RNP applications		High
Understand Crew and Passenger Emergency Equipment - emergency exits		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Crew and Passenger Emergency Equipment - emergency exits		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Crew and Passenger Emergency Equipment - emergency exits		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Crew and Passenger Emergency		Can identify, assess, and manage risks encompassing	High

Equipment - emergency exits		failure to monitor and manage automated systems.	
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High

Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and	High

		Runway excursions	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of numerous part 25 requirements	High
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible differences	High

		between calculated performance and actual performance	
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High

Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining weight and balance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand evacuation procedures and crew duties		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Ice Protection - pitot-static system protection		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection - pitot-		Can identify, assess, and manage risks	High

static system protection		encompassing failure to follow appropriate checklists or procedures	
Understand Ice Protection - pitot-static system protection		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Ice Protection - pitot-static system protection		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Ice Protection windshield		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection windshield		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Ice Protection windshield		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Ice Protection windshield		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand OEM checklist philosophy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	High
Understand OEM checklist philosophy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some	High

		individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	
Understand Pitot Static System - associated instruments and the power source for those flight instruments		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pitot Static System - associated instruments and the power source for those flight instruments		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pitot Static System - associated instruments and the power source for those flight instruments		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pitot Static System - associated instruments and the power source for		Can identify, assess, and manage risks encompassing failure to monitor and	High

those flight instruments		manage automated systems.	
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pneumatic and environmental system - supply for ice protection systems		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Pneumatic and environmental system - supply for ice protection systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pneumatic and environmental system - supply for ice protection systems		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental system - supply for ice protection systems		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and		High

	adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer's recommended procedures or procedures applicable to the operator.		
Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) use a sample of crosswind conditions and offset angles that emphasize the challenges of operating with the limited FOV with an EFVS.		Medium
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can conduct EFVS operations in visibilities less than IAP minimum visibilities. This may not be practical if training is conducted in an aircraft. If the training is accomplished in a		Low

	full flight simulator (FFS), conduct the training with the enhanced visibilities representative of the EFVS sensor performance.		
Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when conducting an approach without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100 feet during an EFVS-100 operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		High
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use		High

	of display, controls, modes and associated systems, and adjustments for brightness and contrast under day and night conditions.		
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings.		High
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument ap proaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		High
Conduct EFVS Operations	Can determine enhanced flight visibility.		High
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		High
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		High
Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and crew coordination procedures when using an EFVS.		High

SIM 4 Learning Objectives

SIM 4 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**
Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach

Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Conduct after landing, parking and securing	Can explain parking, shutdown, securing, and postflight inspection.
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks
Conduct Before Takeoff Checks	Can describe how to detect malfunctions
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)
Conduct Before Takeoff Checks	Can give a before takeoff briefing
Conduct Circling Approach	Can explain elements related to circling approach procedures and limitations including approach categories and related airspeed restrictions

Conduct Departure Procedures	Can explain takeoff minimums
Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure
Conduct Departure Procedures	Can explain required climb gradients
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP
Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Departure Procedures	Can explain communication failure procedures
Conduct Emergency Procedure - Decompression	Can explain airplane decompression.
Conduct Emergency Procedure - Decompression	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Emergency Decent	Can explain situations that would require an emergency descent (e.g., depressurization, smoke, or engine fire).
Conduct Emergency Procedure - Emergency Decent	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.

Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions
Conduct OEI Climb to En Route Altitude	Can explain the OEI climb to en route altitude OEM procedure to include an understanding of the difference between climbing at V_{SE} vs. a greater speed per the OEM procedure.
Conduct Go-Around/Rejected Landing	Can describe Proper airborne system use for go-around, including consideration of height loss during transition to a go-around, performance assurance for obstacle clearance, management of any necessary mode changes, and assurance of appropriate vertical and lateral flightpath tracking.
Conduct Go-Around/Rejected Landing	Can explain stabilized approach, to include energy management concepts.
Conduct Go-Around/Rejected Landing	Can explain effects of atmospheric conditions, including wind and density altitude on a go-around or rejected landing.
Conduct Go-Around/Rejected Landing	Can explain wind correction techniques on takeoff/departure and approach/landing.
Conduct Go-Around/Rejected Landing	Can explain situations and considerations on approach that could require a go-around/rejected landing, to include the inability to comply with a LAHSO clearance.
Conduct Go-Around/Rejected Landing	Can explain Go-around/rejected landing procedures, the importance of a timely decision, and appropriate airspeed/V-speeds for the maneuver.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Landing From a Circling Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a circling approach.

Conduct Landing From a Circling Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can explain airplane flight characteristics when flaps, leading edge devices, and other similar devices malfunction or become inoperative.
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can explain other airplane system limitations when landing at a high speed.
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can explain how to determine required landing distance and a suitable runway for landing.
Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure
Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach
Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments increase pilot workload and potential errors during a critical phase of flight.

Conduct Nonprecision Approach	Can explain that the practice commonly referred to as “dive and drive,” can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.
Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help eliminate CFIT.
Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point
Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.
Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous descent final approach) technique.
Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the “dive and drive” technique.
Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off.

Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.
Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV systems, or by manually computing rate of descent.
Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)
Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.
Conduct Nonprecision Approach	Can explain procedures and limitations associated with a nonprecision approach, including the differences between Localizer Performance (LP) and Lateral Navigation (LNAV) approach guidance
Conduct Nonprecision Approach	Can explain navigation system displays and annunciations, modes of operation, and RNP lateral accuracy values associated with an RNAV (GPS) approach.
Conduct Nonprecision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).

Conduct Nonprecision Approach	Can explain criteria for a stabilized approach, to include energy management concepts.
Conduct Visual Approach (VFR Procedures)	Can explain the visual approach procedure.
Conduct nosewheel steering - Nosewheel Steering failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Conduct Recovery From Unusual Flight Attitudes	Can explain procedures for recovery from unusual attitudes in this aircraft type
Conduct Recovery From Unusual Flight Attitudes	Can explain unusual flight attitude causal factors, including physiological factors, system and equipment failures, and environmental factors
Conduct Recovery From Unusual Flight Attitudes	Can explain and reference the operating envelope and structural limitations for the airplane
Conduct Recovery From Unusual Flight Attitudes	Can explain the effects of engine location, wing design, and other specific design characteristics that could affect aircraft control during the recovery in this aircraft type
Conduct Steep Turns	Can explain energy management required during steep turns
Conduct Steep Turns	Can explain aerodynamics associated with steep turns, to include: Coordinated and uncoordinated flight
Conduct Steep Turns	Can explain aerodynamics associated with steep turns, to include: Overbanking tendencies as relevant to this aircraft type
Conduct Steep Turns	Can explain maneuvering speed, including the impact of weight changes
Conduct Steep Turns	Can explain load factor and accelerated stalls as relevant to this aircraft type
Conduct Steep Turns	Can explain relationship between rate and radius of turn
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights

Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew
Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)

Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).

Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Understand Avionics and Communications - HUD	Can identify all HUD symbology
Understand Avionics and Communications - HUD	Can explain the FPV
Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD
Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Understand Avionics and Communications - HUD	Can describe crew briefings and callouts
Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Understand Avionics and communications - Radar	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Radar	Can explain system or component limitations
Understand Avionics and communications - Radar	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Radar	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Radar	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Radar	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Avionics and communications - terrain awareness/warning/alert systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - terrain awareness/warning/alert systems	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain system or component limitations
Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - terrain awareness/warning/alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - terrain awareness/warning/alert systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - terrain awareness/warning/alert systems - (EGPWS) Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can apply the knowledge items specified in AC120-55C
Understand Avionics and communications - traffic awareness/warning/avoidance systems - TCAS Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - transponder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - transponder	Can explain system or component limitations
Understand Avionics and communications - transponder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Avionics and communications - transponder	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - transponder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - transponder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Crew and Passenger Equipment - oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Crew and Passenger Equipment - oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Understand Crew and Passenger Equipment - oxygen system	Can explain system or component limitations
Understand Crew and Passenger Equipment - oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Equipment - oxygen system	Can explain immediate action items or memory items, if appropriate
Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Equipment - oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Crew and Passenger Equipment - passenger oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Crew and Passenger Equipment - passenger oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Understand Crew and Passenger Equipment - passenger oxygen system	Can explain system or component limitations
Understand Crew and Passenger Equipment - passenger oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Equipment - passenger oxygen system	Can explain immediate action items or memory items, if appropriate
Understand Crew and Passenger Equipment - passenger oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Crew and Passenger Equipment - passenger oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Crew and Passenger Equipment - passenger oxygen system - Inadvertent Oxygen Mask Activation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Equipment - passenger oxygen system - Overweight Landing procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can describe the operation of the airplane systems and components using correct terminology
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain system or component limitations
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain immediate action items or memory items, if appropriate

Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data

Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain its importance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance

Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for "all engine" or "engine inoperative" missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified "all-engine lateral flightpath" (or radar vectors) and any specified "engine-inoperative lateral flightpath," using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Understand determining climb performance per AFM	Can state the definition of takeoff segment
Understand determining climb performance per AFM	Can state the definitions of gross and net flightpath
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure

Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand Hydraulic system - allowable types of fluid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - allowable types of fluid	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - allowable types of fluid	Can explain system or component limitations
Understand Hydraulic system - allowable types of fluid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Hydraulic system - allowable types of fluid	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - allowable types of fluid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - capacity	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - capacity	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - capacity	Can explain system or component limitations
Understand Hydraulic system - capacity	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - capacity	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - capacity	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - capacity	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - capacity	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - pressure	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - pressure	Can explain system or component limitations
Understand Hydraulic system - pressure	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - pressure	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - pressure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - pressure	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - pumps	Can explain system or component limitations
Understand Hydraulic system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - pumps	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - pumps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Hydraulic system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - regulators/accumulators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - regulators/accumulators	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - regulators/accumulators	Can explain system or component limitations
Understand Hydraulic system - regulators/accumulators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - regulators/accumulators	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - regulators/accumulators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - reservoirs	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - reservoirs	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - reservoirs	Can explain system or component limitations
Understand Hydraulic system - reservoirs	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - reservoirs	Can explain immediate action items or memory items, if appropriate

Understand Hydraulic system - reservoirs	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - reservoirs	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - reservoirs	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - antiskid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - antiskid	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - antiskid	Can explain system or component limitations
Understand Landing Gear - antiskid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - antiskid	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - antiskid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - antiskid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - antiskid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology

Understand Landing Gear - brakes	Can explain system or component limitations
Understand Landing Gear - brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - brakes	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - extension/retraction system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - extension/retraction system	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - extension/retraction system	Can explain system or component limitations
Understand Landing Gear - extension/retraction system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - extension/retraction system	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - extension/retraction system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to

	document inoperative components of this system and explain related procedures
Understand Landing Gear - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - indicators	Can explain system or component limitations
Understand Landing Gear - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - indicators	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - nosewheel steering	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - nosewheel steering	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - nosewheel steering	Can explain system or component limitations
Understand Landing Gear - nosewheel steering	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - nosewheel steering	Can explain immediate action items or memory items, if appropriate

Understand Landing Gear - nosewheel steering	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - nosewheel steering	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - shock absorbers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - shock absorbers	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - shock absorbers	Can explain system or component limitations
Understand Landing Gear - shock absorbers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - shock absorbers	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - shock absorbers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - shock absorbers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - shock absorbers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - tires	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - tires	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - tires	Can explain system or component limitations

Understand Landing Gear - tires	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - tires	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - tires	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - tires	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - tires	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of indicated airspeed during a stabilized approach

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Emergency descent.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Rapid decompression.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Overspeed
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Total loss of braking.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: EGPWS alert.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Windshear alert
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: TCAS alert
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain system or component limitations

Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain system or component limitations
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Pneumatic and environmental system - pressurization	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pneumatic and environmental system - pressurization	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - pressurization	Can explain system or component limitations
Understand Pneumatic and environmental system - pressurization	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pneumatic and environmental system - pressurization	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - pressurization	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recognition
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear pilot technique
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff after liftoff
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Understand recognizing and escaping severe weather situations (windshear)	Can define windshear as any rapid change in wind direction or velocity
Understand recognizing and escaping severe weather situations (windshear)	Can define severe windshear as a rapid change in wind direction or velocity causing airspeed changes greater than 15 knots or vertical speed changes greater than 500 feet per minute
Understand recognizing and escaping severe weather situations (windshear)	Can define Increasing Headwind Shear as windshear in which headwind increases, causing an airspeed increase
Understand recognizing and escaping severe weather situations (windshear)	Can define Decreasing Headwind Shear as windshear in which headwind decreases, causing an airspeed loss

Understand recognizing and escaping severe weather situations (windshear)	Can define Increasing Tailwind Shear as windshear in which tailwind increases, causing an airspeed loss
Understand recognizing and escaping severe weather situations (windshear)	Can define Decreasing Tailwind Shear as windshear in which tailwind decreases, causing an airspeed increase
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter on the approach
Understand recognizing and escaping severe weather situations (windshear)	Can discuss takeoff precautions
Understand recognizing and escaping severe weather situations (windshear)	Can discuss approach precautions
Understand recognizing and escaping severe weather situations (windshear)	Can discuss the characteristics of a microburst
Understand recognizing and escaping severe weather situations (windshear)	Can discuss general windshear recovery technique
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recovery technique after liftoff/on approach
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recovery technique during takeoff/on runway
Understand recognizing and escaping severe weather situations (windshear)	Can discuss why other techniques of recovery reduce the chances of survival

SIM 4 Tasks and Expectations

Tasks	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Expectation Rating**
Understand determining landing performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance	High

		charts, tables, and data	
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Conduct after landing, parking and securing	Can demonstrate runway incursion avoidance procedures.		High
Conduct after landing, parking and securing	Can comply with ATC instructions and perform radio calls as appropriate.		High
Conduct after landing, parking and securing	Can coordinate with crew, if applicable, and execute the appropriate checklist(s) after clearing the runway.		High
Conduct after landing, parking and securing	Can perform parking in the appropriate area, considering		High

	the safety of nearby persons and property.		
Conduct after landing, parking and securing	Can execute a postflight inspection and document discrepancies and servicing requirements, if any.		High
Conduct after landing, parking and securing	Can perform securing the airplane.		High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing propeller, turbofan inlet, and exhaust safety.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing airport specific security procedures.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks,	High

		encompassing disembarking passengers.	
Conduct Automatic Emergency Descent Mode (EDM)procedure	Can execute procedure with smoothness and accuracy		High
Conduct Automatic Emergency Descent Mode (EDM)procedure	Can operate the airplane within its limitations		High
Conduct Automatic Emergency Descent Mode (EDM)procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can apply crew coordination	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can conduct effective communicatio n with the other crew members	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can manage crew cooperation	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High

Conduct Automatic Emergency Descent Mode (EDM)procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can demonstrate good judgement and airmanship	High
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	High
Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual conditions and planned departure runway		High

Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		High
Conduct Before Takeoff Checks	Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		High
Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		High
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		High
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing division of attention	High

		while conducting before takeoff checks	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to configure autopilot and	High

		flight director controls for departure	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing	High

		failure to complete checklist(s)	
Conduct Circling Approach	Can comply with the circling approach procedure considering turbulence, windshear, and the maneuvering capability and approach category of the aircraft.		Medium
Conduct Circling Approach	Can confirm the direction of traffic and adhere to all restrictions and instructions issued by ATC.		Medium
Conduct Circling Approach	Can perform establishing the correct approach and landing configuration		Medium
Conduct Circling Approach	Can maintain a stabilized approach and a descent rate that ensures arrival at the MDA, or the preselected circling altitude above the MDA, prior to the missed approach point.		Medium
Conduct Circling Approach	Can maintain airspeed ±5 knots, desired heading/track ±5°, and altitude +100/-0 feet until descending below the MDA or the preselected circling altitude above the MDA.		Medium
Conduct Circling Approach	Can perform visually maneuvering to a base or downwind leg appropriate for the landing runway and environmental conditions.		Medium
Conduct Circling Approach	Can perform a turn in the appropriate direction using the correct procedure and execute configuring the airplane if a missed approach occurs		Medium
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing	Medium

		failure to follow prescribed circling approach procedures.	
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing executing a circling approach at night or with marginal visibility.	Medium
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing losing visual contact with an identifiable part of the airport.	Medium
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	Medium
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to maintain an appropriate altitude or airspeed while circling.	Medium

Conduct Circling Approach		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing executing an improper missed approach after the MAP while circling.	Medium
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		High
Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		High
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		High
Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		High
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High

Conduct Departure Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High
Conduct Departure Procedures	Can comply with all applicable charted procedures		High
Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		High
Conduct Departure Procedures	Can execute the departure phase to a point where the transition to the en route environment is complete		High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper	High

		automation management	
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure	Can execute procedure with smoothness and accuracy		High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure	Can operate the airplane within its limitations		High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can apply crew coordination	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can conduct effective communication with the other crew members	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can manage crew cooperation	High

Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can demonstrate good judgement and airmanship	High
Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and positioning of the aircraft relative to continuation of the approach to	High

		landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	
Conduct EGPWS Escape Maneuver	Can execute procedure with smoothness and accuracy		High
Conduct EGPWS Escape Maneuver	Can operate the airplane within its limitations		High
Conduct EGPWS Escape Maneuver	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct EGPWS Escape Maneuver		Can apply aeronautical knowledge to execution of the task	High
Conduct EGPWS Escape Maneuver		Can apply crew coordination	High
Conduct EGPWS Escape Maneuver		Can conduct effective communicatio n with the other crew members	High
Conduct EGPWS Escape Maneuver		Can manage crew cooperation	High
Conduct EGPWS Escape Maneuver		Can maintain a general survey of the aircraft	High

		operation by appropriate supervision	
Conduct EGPWS Escape Maneuver		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct EGPWS Escape Maneuver		Can demonstrate good judgement and airmanship	High
Conduct Emergency Procedure - Emergency Decent	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		High
Conduct Emergency Procedure - Decompression	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High

Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Emergency Decent	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		High
Conduct Emergency Procedure - Emergency Decent	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High

Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can execute continued takeoff following failures including engine failure after V1, and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane’s performance capabilities and operating limitations		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to maintain best performance and trim		High

Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can maintain the appropriate heading, ±5°, when powerplant failure occurs		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions, environment, obstructions, and LAHSO operations.	High

Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to brief the plan for a powerplant failure during takeoff, in a crew environment.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with an inoperative powerplant (AMEL, AMES).	High

Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct OEI Climb to En Route Altitude	Can conduct an OEI climb enroute at either V_{se} or greater, depending on conditions.		High
Conduct Go-Around/Rejected Landing	Can describe, perform airborne system use for go-around, including consideration of height loss during transition to a go-around, performance assurance for obstacle clearance, management of any necessary mode changes, and assurance of appropriate vertical and lateral flightpath tracking.		High
Conduct Go-Around/Rejected Landing	Can initiate a timely decision to go-around/reject the landing.		High

Conduct Go-Around/Rejected Landing	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		High
Conduct Go-Around/Rejected Landing	Can perform establishing a positive rate of climb and the appropriate airspeed/V-speed, ±5 knots.		High
Conduct Go-Around/Rejected Landing	Can execute configuration and trimming of the airplane, when appropriate.		High
Conduct Go-Around/Rejected Landing	Can perform radio calls as appropriate		High
Conduct Go-Around/Rejected Landing	Can maintain the ground track, heading, or course appropriate for the conditions, or as specified by ATC.		High
Conduct Go-Around/Rejected Landing	Can execute the appropriate procedures and checklist(s) in a timely manner.		High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing delayed recognition of the need for a go-around/rejected landing.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing delayed performance of a go-around at low altitude.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing	High

		improper application of power.	
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing improper airplane configuration.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires vessels, vessels, persons, and wildlife.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High

Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing managing a go-around/rejected landing after accepting a LAHSO clearance.	High
Conduct Landing From a Circling Approach	Can maintain the airport environment in sight and remain within the circling approach radius applicable to the approach category to a position from which a stabilized descent to landing can be made.		Medium
Conduct Landing From a Circling Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		Medium
Conduct Landing From a Circling Approach	Can perform alignment of the airplane for a normal landing on the selected runway without excessive maneuvering and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30°.		Medium
Conduct Landing From a Circling Approach	Can perform smooth, timely, and correct control application throughout the circling maneuver and maintain appropriate airspeed, ±5 knots. If applicable, maintain altitude +100/−0 feet, and desired heading/track, ±5°.		Medium
Conduct Landing From a Circling Approach	Can confirm the airplane is configured for landing.		Medium

Conduct Landing From a Circling Approach	Can scan the landing runway and adjoining area for traffic and obstructions		Medium
Conduct Landing From a Circling Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Medium
Conduct Landing From a Circling Approach	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		Medium
Conduct Landing From a Circling Approach	Can demonstrate SRM or CRM, as appropriate.		Medium
Conduct Landing From a Circling Approach	Can apply runway incursion avoidance procedures.		Medium
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing landing from a circling approach	Medium
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface	Medium

		conditions, and wind.	
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for missed approach	Medium
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	Medium
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for	Medium

		low altitude maneuvering including stall, spin, or CFIT.	
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	Medium
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can perform non-normal configuration approaches and landings in instrument conditions. For these approaches, the simulated weather minima may be above, or well above, the lowest minima authorized. Minima should be at levels that might typically be experienced in line operations for a landing with the non-normal condition used. During these approaches, representative autoflight, instrument, and aircraft system configurations or combinations of configurations should be demonstrated (e.g., F/D, autopilot, HUD, vision systems, autothrottles, raw		Medium

	data, and inoperative electrical or hydraulic components).		
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can recognize the malfunction.		Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can coordinate with crew, if applicable, and complete applicable checklist(s) for the malfunction, approach, and landing.		Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can coordinate with ATC as needed and select an airport/runway with sufficient length for landing.		Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can calculate the correct airspeeds/V-speeds for approach and landing.		Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can perform establishing the recommended approach and landing configuration and airspeed, and adjust pitch attitude and power as required to maintain a stabilized approach.		Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		Medium
Conduct Landing from a No Flap or	Can perform smooth, timely, and correct control application		Medium

Nonstandard Flap Approach	before, during, and after touchdown.		
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing hazards associated with a no flap or nonstandard flap approach and landing to include an asymmetrical flap situation.	Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing selection of a runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	Medium

Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing go-around/rejected landing.	Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	Medium
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or	Medium

		improper task management.	
Conduct Missed Approach	Can execute a missed approach from the MDA, DA/DH, or AH.		High
Conduct Missed Approach	Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		High
Conduct Missed Approach	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		High
Conduct Missed Approach	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots.		High
Conduct Missed Approach	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		High
Conduct Missed Approach	Can comply with the published or alternate missed approach procedure.		High
Conduct Missed Approach	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		High
Conduct Missed Approach	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		High
Conduct Missed Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		High

Conduct Missed Approach	Can demonstrate effective CRM		High
Conduct Missed Approach	Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		High
Conduct Missed Approach	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator.		High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High

Conduct Missed Approach		Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP or to a go-around below DA/MDA.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High
Conduct Nonprecision Approach		Can appreciate that there are environments in which using CDFA technique is not advisable or practical, for example airports that do not offer straight in non-precision approaches.	High
Conduct Nonprecision Approach	Can perform the nonprecision instrument approaches selected by the instructor/evaluator		High

Conduct Nonprecision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Nonprecision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High
Conduct Nonprecision Approach	Can Comply with all clearances issued by ATC.		High
Conduct Nonprecision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		High
Conduct Nonprecision Approach	Can coordinate with ATC if unable to comply with a clearance.		High
Conduct Nonprecision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High
Conduct Nonprecision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Nonprecision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Nonprecision Approach	Can maintain a stabilized descent to the appropriate altitude.		High

Conduct Nonprecision Approach	Can maintain no more than ¼ scale CDI deflection, airspeed ±5 knots of selected value, and altitude above MDA +50/-0 feet (to the VDP or MAP) during the final approach segment		High
Conduct Nonprecision Approach	Can execute the missed approach procedure if the required visual references are not distinctly visible and identifiable at the appropriate point or altitude for the approach profile, or execute a normal landing from a straight-in or circling approach.		High
Conduct Nonprecision Approach	Can use a Multi-Function Display (MFD) and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to follow the correct approach procedure (e.g., descending too early, etc.).	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Selecting an incorrect navigation frequency.	High

Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to manage automated navigation and auto flight systems.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing An unstable approach, including excessive descent rates.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Deteriorating weather conditions on approach.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Operating below the	High

		minimum descent altitude (MDA) or continuing a descent below decision altitude (DA) without proper visual references.	
Conduct Visual Approach (VFR Procedures)	Can conduct a visual approach.		High
Conduct Recovery From Unusual Flight Attitudes	Can use instrument cross-check and interpretation to identify a nose low unusual attitude		High
Conduct Recovery From Unusual Flight Attitudes	Can use instrument cross-check and interpretation to identify a nose high unusual attitude		High
Conduct Recovery From Unusual Flight Attitudes	Can apply the appropriate pitch, bank, and power corrections, in the correct sequence, to return to a stabilized level flight attitude		High
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing situations that could lead to loss of control or unusual flight attitudes (e.g., stress, task saturation, and distractions).	High
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing exceeding the	High

		operating envelope during the recovery	
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing failure to recognize an unusual flight attitude and follow the proper recover procedure	High
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing exceeding the operating envelope during the recovery	High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform initialization navigation system position		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can perform adherence to speed and/or altitude constraints associated with RNP operations		High

and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify waypoints and flight plan programming;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform interception of a course/track		High
Conduct Steep Turns	Can maintain the manufacturer's recommended airspeed; or if one is not available, an airspeed not to exceed VA		High
Conduct Steep Turns	Can maintain at least a 45° bank solely by reference to instruments and make a coordinated steep turn of at least 180°		High
Conduct Steep Turns	Can perform reversal of direction and establish at least a 45° bank solely by reference to instruments and make a coordinated steep turn of at least 180°		High
Conduct Steep Turns	Can perform smooth pitch, bank, and power adjustments as needed		High
Conduct Steep Turns	Can maintain the entry altitude ±100 feet, airspeed ±10 knots, bank ±5°, and roll out on the specified heading, ±10°		High

Conduct Steep Turns	Can maintain avoidance of any indications of impending stall, abnormal flight attitude, or exceedance of any structural or operating limitation		High
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing spatial disorientation when conducting a steep turn while flying by reference to instruments	High
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing failure to maintain coordinated flight	High
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system,		High

	airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator’s policies or aircraft characteristics (e.g., single HUD).		High
Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		High
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		High
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High

Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing a taxi route or departure runway change	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	High
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communicatio	High

		ns at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot who is taxiing the aircraft	
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or accomplishing checklists	High
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is	High

		stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	
Conduct Taxi		Can maintain a sterile cockpit during taxi operations	High
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and not the ones they expected to receive.	High
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions	High

		received from the ATC while maintaining outside vigilance	
Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	High
Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	High
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance when	High

		approaching an entrance to a runway.	
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communications with ATC to regain orientation.	High
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	High
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to	High

		the satisfaction of all flightcrew members before taxiing the aircraft.	
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any doubt, speaks up and resolve the uncertainty before taxi		High
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	High
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted	High

		prior to stopping and after resuming monitoring of the taxi. An example may include: “I’m heads-down, right turn ahead at Alpha,” or “I’m back, any changes?”	
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or transmitted during that flightcrew member’s absence from the ATC frequency should be reviewed and confirmed upon his or her return.	High
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that:	High

		the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	
Conduct Taxi		Can state “approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach paths, and coordinate verbally (e.g., “clear right/left” or that the scan area is not clear).	High
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the	High

		upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft's parking area after landing	
Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		High
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High
Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust	High

		operation accordingly	
Conduct TCAS Resolution Advisory (RA)	Can respond to the RA with positive control inputs, when required, while the PM provides updates on the traffic location and cross-checks between the traffic display and monitors the response to the RA		High
Conduct TCAS Resolution Advisory (RA)	Can interpret the displayed information, and recognize the intruder causing the issuance of the RA (red square on display).		High
Conduct TCAS Resolution Advisory (RA)	Can respond to the corrective RA in the proper direction within 5 seconds of the RA being displayed		High
Conduct TCAS Resolution Advisory (RA)	Can respond to a change in the initially displayed RA withing 2.5 seconds		High
Conduct TCAS Resolution Advisory (RA)	Can recognize and respond to altitude crossing RAs		High
Conduct TCAS Resolution Advisory (RA)	Can respond to preventive RAs by ensuring the VS needle remains outside the red area on the RA display.		High
Conduct TCAS Resolution Advisory (RA)	Can maintain vertical speed during "maintain rate" Ras		High
Conduct TCAS Resolution Advisory (RA)	Can recognize that a maintain rate RA may result in crossing through the intruder’s altitude.		High

Conduct TCAS Resolution Advisory (RA)		Can appreciate that if a decision is made to not follow an RA, no changes in the existing VS are made in a direction opposite to the sense of the displayed RA. Pilots should be aware that if the intruder is also TCAS equipped, the decision to not follow an RA may result in a decrease in separation at CPA because of the intruder's RA response	High
Conduct TCAS Resolution Advisory (RA)	Can execute a return towards the original clearance when the RA weakens, and when clear of conflict is annunciated, pilot executes a complete the return to the original clearance		High
Conduct TCAS Resolution Advisory (RA)		Can inform the controller of the RA as soon as time and workload permit, using the standard phraseology	High
Conduct TCAS Resolution Advisory (RA)	Can comply with an ATC clearance while responding to an RA when possible. (For example, if the aircraft can level at the assigned altitude		High

	while responding to a reduce climb or reduce descent RA, it should be done)		
Conduct TCAS Resolution Advisory (RA)		Can appreciate that If pilots simultaneously receive instructions to maneuver from ATC and an RA that are in conflict, the pilot should follow the RA.	High
Conduct TCAS Resolution Advisory (RA)		Can appreciate that TCAS only considers intruders that it believes to be a threat when selecting an RA. As such, it is possible for TCAS to issue an RA against one intruder that results in a maneuver towards another intruder that is not classified as a threat. If the second intruder becomes a threat, the RA will be	High

		modified to provide separation from that intruder.	
Conduct TCAS Resolution Advisory (RA)		Can appreciate the consequences of both responding to, and not responding to, an RA	High
Conduct TCAS Traffic Advisory (TA)		Can confirm that the aircraft they have visually acquired is that which has caused the TA to be issued	High
Conduct TCAS Traffic Advisory (TA)	Can use all information shown on the display, and interpret bearing and range of the intruder (amber circle), whether it is above or below (data tag), and its VS direction (trend arrow).		High
Conduct TCAS Traffic Advisory (TA)	Can use other available information is used to assist in visual acquisition. This includes ATC party-line information, traffic flow in use, etc.		High
Conduct TCAS Traffic Advisory (TA)		Can appreciate that the PF should not maneuver the aircraft based solely on the information	High

		shown on the TCAS display. No attempt should be made to adjust the current flightpath in anticipation of what an RA would advise.	
Conduct TCAS Traffic Advisory (TA)		Can appreciate the limitations of making maneuvers based solely on visual acquisition, especially at high altitude or without a definite horizon	High
Conduct TCAS Traffic Advisory (TA)		Can take account of traffic advisory while preparing for a potential resolution advisory (pilot flying)	High
Conduct TCAS Traffic Advisory (TA)		Can monitor traffic location shown on the TCAS display, using this information to help visually acquire the intruder.	High
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or		High

	other speed management system, if applicable.		
Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	High
Conduct use of FMS	Can verify currency of aircraft navigation data.		High
Conduct use of FMS	Can perform flying a course/track to a waypoint.		High
Conduct use of FMS	Can perform interception of a course/track		High
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		High
Conduct use of FMS	Can determine cross-track error/deviation		High
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		High
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High

Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		High
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform flying direct to a waypoint		High
Conduct use of FMS	Can demonstrate general awareness of all three styles of flight director		High
Conduct use of FMS	Can identify symbology available in synthetic vision system		High
Conduct use of FMS	Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		High
Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct takeoff using FPA to meet a required climb gradient to ATP ACS standards		High
Conduct use of HUD	Can use caged, uncaged and clear modes in crosswind conditions		High
Conduct use of HUD	Can use the pitch limit indicator (PLI) during windshear escape.		High
Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		High
Conduct use of HUD	Can perform recovery from unusual attitudes using HUD		High
Conduct use of HUD	Can perform TCAS RA using HUD		High

Conduct use of HUD	Can perform takeoff using the FPA to meet a required climb gradient.		High
Conduct use of lateral control switch (GIV-X)	Can use lateral control switch and explain functionality		High
Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		High
Conduct use of TCAS	Can perform the procedures specified in AC120-55C		High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)	Can execute procedure with smoothness and accuracy		High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)	Can operate the airplane within its limitations		High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can apply aeronautical knowledge to execution of the task	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of		Can apply crew coordination	High

before landing checklist)			
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can conduct effective communication with the other crew members	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can manage crew cooperation	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can demonstrate good judgement and airmanship	High

Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind	Can execute procedure with smoothness and accuracy		High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind	Can operate the airplane within its limitations		High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can apply aeronautical knowledge to execution of the task	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can apply crew coordination	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can conduct effective communicatio n with the other crew members	High
Conduct Nose Wheel Steering (NWS) Failure on		Can manage crew cooperation	High

landing upon touchdown with minimum 15 kt crosswind			
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can demonstrate good judgement and airmanship	High
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing failure to	High

		follow appropriate checklists or procedures	
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - terrain awareness/warning/ alert systems		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - terrain awareness/warning/ alert systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - terrain awareness/warning/ alert systems		Can identify, assess, and manage risks encompassing improper management	High

		of a system failure	
Understand Avionics and communications - terrain awareness/warning/ alert systems		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance	High

		and actual performance	
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible	High

		differences between calculated performance and actual performance	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of numerous part 25 requirements	High
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane	High

		operating envelope.	
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High

Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining descent performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane	High

		operating envelope.	
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining fuel requirements per AFM		Can explain the adverse effects of exceeding an	High

		airplane limitation or the airplane operating envelope.	
Understand determining fuel requirements per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High

Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining weight and balance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - pressure		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - pressure		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - pressure		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - pressure		Can identify, assess, and manage risks	High

		encompassing failure to monitor and manage automated systems.	
Understand Hydraulic system - pumps		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - pumps		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - pumps		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - pumps		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - regulators/accumulators		Can identify, assess, and manage risks encompassing failure to	High

		detect system malfunctions or failures.	
Understand Hydraulic system - regulators/accumulators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - regulators/accumulators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - regulators/accumulators		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - indicators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - indicators		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Landing Gear - indicators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - indicators		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand OEM checklist philosophy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be	High

		familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	
Understand OEM checklist philosophy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the	High

		guidance of the handbook in a logical decision-making manner	
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pneumatic and environmental		Can identify, assess, and manage risks encompassing	High

system - heating, cooling, ventilation		failure to detect system malfunctions or failures.	
Understand Pneumatic and environmental system - heating, cooling, ventilation		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pneumatic and environmental system - heating, cooling, ventilation		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental system - heating, cooling, ventilation		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer's recommended procedures or procedures applicable to the operator.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) use a sample of crosswind conditions and offset angles that emphasize the challenges of operating with the limited FOV with an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can conduct EFVS operations in visibilities less than IAP minimum visibilities. This may not be practical if training is conducted in an aircraft. If the training is accomplished in a full flight simulator (FFS), conduct the training with the enhanced visibilities representative of the EFVS sensor performance.		Medium

Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when conducting an approach without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100 feet during an EFVS-100 operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		High
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes and		High

	associated systems, and adjustments for brightness and contrast under day and night conditions.		
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings.		High
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument app roaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		High
Conduct EFVS Operations	Can determine enhanced flight visibility.		High
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		High
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		High
Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and crew coordination procedures when using an EFVS.		High
Conduct Stall Prevention and Recovery	Can conduct an impending stall recovery with only idle thrust available. See Appendix 2, Demonstration 1 for details.		High
Conduct Stall Prevention and Recovery	Can conduct a clean configuration stall prevention (high altitude) scenario. See Appendix 3, Scenario 1 for details.		High

SIM 5 Learning Objectives

SIM 5 Briefing Items

Tasks	Knowledge & Cognitive Learning Objectives
Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks
Conduct Before Takeoff Checks	Can describe how to detect malfunctions
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check

Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)
Conduct Before Takeoff Checks	Can give a before takeoff briefing
Conduct Clean Configuration Stall prevention	Can explain aerodynamics associated with stalls in a clean configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance
Conduct Clean Configuration Stall prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Clean Configuration Stall prevention	Can explain factors and situations that Can lead to a stall during cruise flight and actions that Can be taken to prevent it
Conduct Clean Configuration Stall prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Conduct Clean Configuration Stall prevention	Can explain fundamentals of stall recovery
Conduct Clean Configuration Stall prevention	Can explain the effects of altitude on performance (e.g., thrust available) and flight control effectiveness during a recovery
Conduct Departure Procedures	Can explain takeoff minimums
Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure
Conduct Departure Procedures	Can explain required climb gradients
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP

Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Departure Procedures	Can explain communication failure procedures
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain go-around/rejected landing procedures with a powerplant failure.
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain how to determine a suitable airport.
Conduct Emergency Procedure - Emergency evacuation	Can explain when an emergency evacuation may be necessary.
Conduct Emergency Procedure - Inflight fire and smoke	Can explain causes of inflight fire or smoke.
Conduct Emergency Procedure - Inflight fire and smoke	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain the flight characteristics and controllability associated with maneuvering the airplane with powerplant(s) inoperative to include the importance of drag reduction.
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain powerplant restart procedures and conditions where a restart attempt is appropriate.
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions
Conduct OEI Climb to En Route Altitude	Can explain the OEI climb to en route altitude OEM procedure to include an understanding of the difference between climbing at V_{SE} vs. a greater speed per the OEM procedure.
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain missed approach considerations with a powerplant failure.
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain how to determine a suitable airport.
Conduct Instrument Takeoff	Can describe procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use. Pilots should be aware of the operator's policy for responding to loss of suitable visual reference during takeoff, in the low and high-speed regimes, both before and after V1 (refer to AC 120-62 for additional information and recommendations for training).
Conduct Instrument Takeoff	Can explain operational factors that could affect an instrument takeoff (airports available in the event of an emergency after takeoff).
Conduct Lower than Standard Minimum Takeoff	Can discuss all relevant OpSpec requirements for Lower than Standard Minimum Takeoff.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status

Conduct Landing Configuration Stall Prevention	Can explain aerodynamics associated with stalls in the landing configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance, aircraft attitude, and sideslip effects
Conduct Landing Configuration Stall Prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Landing Configuration Stall Prevention	Can explain factors and situations that Can lead to a stall when configured for landing and actions that Can be taken to prevent it
Conduct Landing Configuration Stall Prevention	Can explain the effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Conduct Landing Configuration Stall Prevention	Can explain fundamentals of stall recovery
Conduct a Landing with Pitch Mistrim	Can explain airplane flight characteristics when pitch is mistrimmed.
Conduct a Landing with Pitch Mistrim	Can explain other airplane system limitations when landing at a high speed.
Conduct a Landing with Pitch Mistrim	Can explain how to determine required landing distance and a suitable runway for landing.
Conduct Landing From a Precision Approach	Can recognize significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH.
Conduct Landing From a Precision Approach	Can recognize ground or navigation system faults, failures or abnormalities at any point during the approach and landing.
Conduct Landing From a Precision Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a precision approach.
Conduct Landing From a Precision Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.

Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure
Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Missed Approach - OEI	Can explain that when executing a one engine inoperative missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure.
Conduct Missed Approach - OEI	Can explain elements related to a one engine inoperative missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach - OEI	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Partial Flap Configuration Stall Prevention	Can explain aerodynamics associated with stalls in a partial flap configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance

Conduct Partial Flap Configuration Stall Prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Partial Flap Configuration Stall Prevention	Can explain factors and situations that Can lead to a stall during takeoff or while on approach and actions that Can be taken to prevent it
Conduct Partial Flap Configuration Stall Prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Conduct Partial Flap Configuration Stall Prevention	Can explain fundamentals of stall recovery
Conduct Precision Approach	Can describe normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures
Conduct Precision Approach	Can describe procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.
Conduct Precision Approach	Can recognize the limits of acceptable aircraft position and flightpath tracking during approach, flare and rollout. This should be addressed using appropriate displays or annunciations for either automatic or manual landing systems.
Conduct Precision Approach	Can identify nearby critical terrain or obstruction environment;
Conduct Precision Approach	Can explain procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in the case of inoperative equipment.

Conduct Precision Approach	Can explain navigation system displays, annunciations, and modes of operation.
Conduct Precision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Precision Approach	Can explain stabilized approach criteria, to include energy management concepts.
Conduct Rejected Takeoff	Can describe safety considerations following a rejected takeoff
Conduct Rejected Takeoff	Can explain the procedure for accomplishing a rejected takeoff
Conduct Rejected Takeoff	Can explain accelerate/stop distance
Conduct Rejected Takeoff	Can describe conditions and situations that could warrant a rejected takeoff (e.g., takeoff warning systems, powerplant failure, other systems warning/failure)
Conduct Rejected Takeoff	Can define relevant V-speeds for a rejected takeoff
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights
Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew

Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)
Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport

Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Understand Avionics and Communications - HUD	Can identify all HUD symbology
Understand Avionics and Communications - HUD	Can explain the FPV
Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD
Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Understand Avionics and Communications - HUD	Can describe crew briefings and callouts

Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed

Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain its importance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance
Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for "all engine" or "engine inoperative" missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified "all-engine lateral flightpath" (or radar vectors) and any specified "engine-inoperative lateral flightpath," using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.

Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Understand determining climb performance per AFM	Can state the definition of takeoff segment
Understand determining climb performance per AFM	Can state the definitions of gross and net flightpath
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure
Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight

Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to

	document inoperative components of this system and explain related procedures
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Equipment Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Floor Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental - Airplane Interior Fire / Smoke / Fumes procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - lavatory	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Fire & smoke detection, protection, and suppression - lavatory	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - lavatory	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fire & smoke detection, protection, and suppression - powerplant	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - powerplant	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Fire & smoke detection, protection, and suppression - powerplant	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - elevator	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - elevator	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - elevator	Can explain system or component limitations
Understand Flight Controls - elevator	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - elevator	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - elevator	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - elevator	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - elevator	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - flaps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - flaps	Can explain system or component limitations
Understand Flight Controls - flaps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - flaps	Can explain immediate action items or memory items, if appropriate

Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - flaps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - flaps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - rudder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - rudder	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - rudder	Can explain system or component limitations
Understand Flight Controls - rudder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - rudder	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - rudder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - rudder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - rudder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - speed brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology

Understand Flight Controls - speed brakes	Can explain system or component limitations
Understand Flight Controls - speed brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - speed brakes	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - speed brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - speed brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - speed brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - spoilers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - spoilers	Can explain system or component limitations
Understand Flight Controls - spoilers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - spoilers	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - spoilers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Flight Controls - spoilers - Ground Spoiler Failure Inflight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain system or component limitations
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - Ailerons	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - Ailerons	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - Ailerons	Can explain system or component limitations
Understand Flight Controls - Ailerons	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - Ailerons	Can explain immediate action items or memory items, if appropriate

Understand Flight Controls - Ailerons	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - Ailerons	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - Ailerons	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - Other Flight Deck Systems	Can describe Other flight deck systems related to AWO operations (e.g., autobrakes or autospoilers), and any associated limitations, characteristics, or constraints (e.g., touchdown pitch up or pitch down tendency of certain autospoiler or autobrake settings or non-normal conditions, time delays, or auto-deactivation features with go-around)
Understand Flight Controls - trim systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - trim systems	Can explain system or component limitations
Understand Flight Controls - trim systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - trim systems	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - trim systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Flight Controls - trim systems - mach trim failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of indicated airspeed during a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival

Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Rejected Takeoff
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Engine failure/fire after takeoff decision speed (V1)
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: AP or autothrottle (AT) uncommented disconnect
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Engine exceedance.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Stall protection/stall warning activation.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Flight control jams.
Understand Powerplant - thrust reverse	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - thrust reverse	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - thrust reverse	Can explain system or component limitations
Understand Powerplant - thrust reverse	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - thrust reverse	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - thrust reverse	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - thrust reverse	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Powerplant - thrust reverse - Dispatch With Inoperative Thrust Reverser(s) On Wet Runways procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - thrust reverse - Thrust Reverser Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - thrust reverse - Thrust Reverser Manual Stow Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

SIM 5 Tasks and Expectations

Tasks	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Expectation Rating**
Understand determining landing performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance	High

		and actual performance	
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	High
Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual		High

	conditions and planned departure runway		
Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		High
Conduct Before Takeoff Checks	Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		High
Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		High
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		High
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks,	High

		encompassing division of attention while conducting before takeoff checks	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communicatio n equipment for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing	High

		failure to configure autopilot and flight director controls for departure	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	High

Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Clean Configuration Stall prevention	Can maintain coordinated flight in simulated or actual instrument conditions throughout the maneuver		High
Conduct Clean Configuration Stall prevention	Can perform smooth adjustment of pitch attitude, bank angle (15°-30°), and power setting either manually or with the autopilot engaged		High
Conduct Clean Configuration Stall prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Clean Configuration Stall prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		High
Conduct Clean Configuration Stall prevention	Can execute a return to the desired flight path		High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing factors and situations that could lead to an inadvertent stall, spin, and loss of control during cruise flight	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing range and limitations of	High

		stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing failure to recognize and recover at the stall warning	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing improper stall recovery procedure	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing effect of environmental elements on aircraft performance while in cruise flight as it relates to stalls (e.g.,	High

		turbulence, microbursts, and high-density altitude)	
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		High
Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		High
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		High
Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		High
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High
Conduct Departure Procedures	Can perform interception of courses, radials, and bearings		High

	appropriate to the procedure, route or clearance		
Conduct Departure Procedures	Can comply with all applicable charted procedures		High
Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		High
Conduct Departure Procedures	Can execute the departure phase to a point where the transition to the en route environment is complete		High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper automation management	High

Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and positioning of the aircraft relative to continuation of the approach to landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can respond appropriately to engine failure prior to or during an approach.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		High

Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain the operating powerplant(s) within acceptable operating limits.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		High
Conduct Emergency Procedure - Approach and	Can perform smooth, timely, and correct control application		High

Landing with a Powerplant Failure	before, during, and after touchdown.		
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can coordinate with crew and execute after landing checklists(s).		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure inflight or during an approach.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels,	High

		persons, and wildlife.	
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing improper airplane configuration.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing performing a go-around/rejected landing with a powerplant failure.	High
Conduct Emergency Procedure - Emergency evacuation	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure -		Can identify, assess, and	High

Emergency evacuation		manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Inflight fire and smoke	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or	High

		checklists in an emergency.	
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can coordinate with crew and execute the appropriate emergency procedures and checklist(s) for propeller feathering or powerplant shutdown.		High
Conduct Emergency Procedure - Inflight	Can use flight controls in the proper combination as recommended by the		High

Powerplant Failure and Restart	manufacturer to maintain best performance and trim as required		
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can determine the cause for the powerplant failure and assess if a restart is a viable option.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain the operating powerplant(s) within acceptable operating limits.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain airspeed ±10 knots, specified heading ±10° and altitude ±100 feet as specified		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can assess powerplant restart and, if appropriate, demonstrate the powerplant restart procedures in accordance with the manufacturer or operator specified procedures and checklists.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can select the nearest suitable airport or landing area.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can perform communication with ATC as appropriate for the situation.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during flight.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing	High

		failure to follow checklist procedures for a powerplant failure or a powerplant restart.	
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing incorrect diagnosis of the cause of the powerplant failure.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing improper airplane configuration.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing factors and	High

		situations that could lead to an inadvertent stall, spin, and loss of control with an inflight powerplant failure.	
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can execute continued takeoff following failures including engine failure after V1, and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and operating limitations		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to maintain best performance and trim		High

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can maintain the appropriate heading, ±5°, when powerplant failure occurs		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions, environment, obstructions, and LAHSO operations.	High

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to brief the plan for a powerplant failure during takeoff, in a crew environment.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with an inoperative powerplant (AMEL, AMES).	High

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct OEI Climb to En Route Altitude	Can conduct an OEI climb enroute at either V_{se} or greater, depending on conditions.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		High

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain the operating powerplant(s) within acceptable operating limits.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can perform radio calls as appropriate		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can assess and proceed toward the nearest suitable airport.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can coordinate with crew and execute the approach and landing checklists(s).		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain a stabilized approach, adjusting pitch and power as required, allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain a stabilized final approach from the FAF to the DA/DH allowing no more than ¼- scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain directional control and appropriate crosswind correction throughout the approach and landing or missed approach.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can immediately execute the missed approach procedure if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH,		High

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can execute a transition to a normal landing approach when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering upon reaching the DA/DH		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can perform smooth, timely, and correct control application before, during, and after touchdown or during the missed approach.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure inflight or during an approach.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Emergency Procedure - Precision Approach with Powerplant		Can identify, assess, and manage risks, encompassing improper	High

Failure (manual control)		airplane configuration.	
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing landing with a powerplant failure.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing missed approach with a powerplant failure.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing maneuvering in IMC with a powerplant failure.	High

Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can execute use of LNAV mode(s).		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can execute use of VNAV mode(s).		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can apply ATC procedures/phraseology		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance	Can apply functionality of vector to final mode		High

and localizer performance without vertical guidance lines of minima using the wide area augmentation system			
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform the use of navigation systems including procedure selection and ILS look-alike principle:		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform flying of a procedure		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area	Can perform setup and interpretation of electronic displays and symbols.		High

augmentation system			
Conduct Instrument Takeoff	Can perform applicable procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use.		High
Conduct Instrument Takeoff		Can demonstrate familiarization with operator’s policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate	High

		constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Instrument Takeoff	Can execute normal takeoff at lowest applicable minima;		High
Conduct Instrument Takeoff	Can perform takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		High
Conduct Instrument Takeoff	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Instrument Takeoff	Can execute setting of the applicable avionics and flight instruments prior to initiating the takeoff		High
Conduct Instrument Takeoff	Can perform radio calls as appropriate		High
Conduct Instrument Takeoff	Can verify assigned/correct runway		High
Conduct Instrument Takeoff	Can perform clearing the arrival area and execute taxiing into takeoff position and align the airplane on the runway centerline		High

Conduct Instrument Takeoff	Can maintain centerline and proper flight control inputs during the takeoff roll		High
Conduct Instrument Takeoff	can confirm takeoff power and proper engine and flight instrument indications prior to rotation making callouts, as appropriate, for the airplane or per the operator’s procedures		High
Conduct Instrument Takeoff	Can rotates and lift off at the recommended airspeed, establish the desired pitch attitude, and accelerate to the desired airspeed/ V-speed.		High
Conduct Instrument Takeoff	Can execute a smooth transition from visual meteorological conditions (VMC) to actual or simulated instrument meteorological conditions (IMC).		High
Conduct Instrument Takeoff	Can maintain desired heading ±5° and desired airspeeds ±5 knots.		High
Conduct Instrument Takeoff	Can comply with ATC clearances and instructions issued by ATC, as appropriate		High
Conduct Instrument Takeoff	Can execute appropriate after-takeoff checklist(s) in a timely manner		High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing selection of a runway based on aircraft performance and limitations, available distance, surface conditions, lighting, and wind	High

Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing wake turbulence	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for rejected takeoff	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in takeoff phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure	High

		in climb phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for low altitude maneuvering including stall, spin, or CFIT	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing	High

		abnormal operations, to include planning for distractions, loss of situational awareness, or improper task management.	
Conduct Lower than Standard Minimum Takeoff	Can conduct a Lower than Standard Minimum Takeoff in accordance with approved OpSpec C052.		High
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing Inoperative equipment discovered prior to flight.	High
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing external pressures and Aviation security concerns.	High
Conduct Jammed Aileron Procedure	Can execute procedure with smoothness and accuracy		High
Conduct Jammed Aileron Procedure	Can operate the airplane within its limitations		High
Conduct Jammed Aileron Procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Jammed Aileron Procedure		Can apply aeronautical knowledge to execution of the task	High

Conduct Jammed Aileron Procedure		Can apply crew coordination	High
Conduct Jammed Aileron Procedure		Can conduct effective communication with the other crew members	High
Conduct Jammed Aileron Procedure		Can manage crew cooperation	High
Conduct Jammed Aileron Procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Jammed Aileron Procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Jammed Aileron Procedure		Can demonstrate good judgement and airmanship	High
Conduct Jammed Elevator Procedure	Can execute procedure with smoothness and accuracy		High
Conduct Jammed Elevator Procedure	Can operate the airplane within its limitations		High
Conduct Jammed Elevator Procedure	Can maintain control of the airplane at all times in such a manner that the successful		High

	outcome of the procedure is never in doubt		
Conduct Jammed Elevator Procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct Jammed Elevator Procedure		Can apply crew coordination	High
Conduct Jammed Elevator Procedure		Can conduct effective communication with the other crew members	High
Conduct Jammed Elevator Procedure		Can manage crew cooperation	High
Conduct Jammed Elevator Procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Jammed Elevator Procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Jammed Elevator Procedure		Can demonstrate good	High

		judgement and airmanship	
Conduct Landing Configuration Stall Prevention	Can perform smooth adjustment of pitch attitude, bank angle (15°-30°), and power setting either manually or with the autopilot engaged		High
Conduct Landing Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Landing Configuration Stall Prevention	Can perform establishment of the landing configuration (i.e., lift/drag devices set and landing gear extended) and maintain coordinated flight in simulated or actual instrument conditions throughout the maneuver		High
Conduct Landing Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Landing Configuration Stall Prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		High
Conduct Landing Configuration Stall Prevention	Can execute retraction of the flaps or other lift/drag devices to the recommended setting, retract the landing gear after a positive rate of climb is established and return to the desired flight path		High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing factors and situations that could lead to an inadvertent stall, spin, and	High

		loss of control during landing	
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing failure to recognize and recover at the stall warning	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing improper stall recovery procedure	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	High

Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing the effect of environmental elements on aircraft performance while landing as it relates to stalls (e.g., turbulence, icing, microbursts, and high-density altitude)	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing stalls at a low altitude	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing distractions, loss of situational awareness, or improper task management	High
Conduct a Landing with Pitch Mistrim	Can recognize the malfunction.		High
Conduct a Landing with Pitch Mistrim	Can coordinate with crew, if applicable, and complete applicable checklist(s) for the malfunction, approach, and landing.		High
Conduct a Landing with Pitch Mistrim	Can coordinate with ATC as needed and select an airport/runway with sufficient length for landing.		High

Conduct a Landing with Pitch Mistrim	Can calculate the correct airspeeds/V-speeds for approach and landing.		High
Conduct a Landing with Pitch Mistrim	Can perform establishing the recommended approach and landing configuration and airspeed, and adjust pitch attitude and power as required to maintain a stabilized approach.		High
Conduct a Landing with Pitch Mistrim	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		High
Conduct a Landing with Pitch Mistrim	Can perform smooth, timely, and correct control application before, during, and after touchdown.		High
Conduct a Landing with Pitch Mistrim	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct a Landing with Pitch Mistrim	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing hazards associated with a pitch mistrim approach and landing.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing	High

		selection of a runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing go-around/rejected landing.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing low altitude maneuvering	High

		including stall, spin, or CFIT.	
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Landing From a Precision Approach	Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		High
Conduct Landing From a Precision Approach	Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		High
Conduct Landing From a Precision Approach		Can appreciate that pilots should be familiar with the need to report navigation system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown	High

		zone (TDZ) lights, centerline lights), or any other discrepancies that could be pertinent to operations.	
Conduct Landing From a Precision Approach		Can demonstrate familiarization with operator’s policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of	High

		appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Landing From a Precision Approach	Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point where visual maneuvering is used to accomplish a normal landing.		High
Conduct Landing From a Precision Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		High
Conduct Landing From a Precision Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Landing From a Precision Approach	Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct Landing From a Precision Approach	Can demonstrate SRM or CRM, as appropriate.		High

Conduct Landing From a Precision Approach	Can apply runway incursion avoidance procedures.		High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for missed approach	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	High

Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	High

Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for transitioning from instrument to visual references for landing.	High
Conduct Missed Approach	Can execute a missed approach from the MDA, DA/DH, or AH.		High
Conduct Missed Approach	Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		High
Conduct Missed Approach	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		High
Conduct Missed Approach	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots.		High
Conduct Missed Approach	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		High

Conduct Missed Approach	Can comply with the published or alternate missed approach procedure.		High
Conduct Missed Approach	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		High
Conduct Missed Approach	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		High
Conduct Missed Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		High
Conduct Missed Approach	Can demonstrate effective CRM		High
Conduct Missed Approach	Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		High
Conduct Missed Approach	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator.		High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	High

Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP or to a go-around below DA/MDA.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High
Conduct Missed Approach - OEI	Can execute a one engine inoperative missed approach from the MDA, DA/DH, or AH.		High
Conduct Missed Approach - OEI	Can execute a one engine inoperative missed approach from a low altitude that could result in a touchdown during		High

	go-around (balked or rejected landing).		
Conduct Missed Approach - OEI	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can comply with the published or alternate missed approach procedure during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		High
Conduct Missed Approach - OEI	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		High

Conduct Missed Approach - OEI	Can demonstrate effective CRM during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can execute re-engagement of the autopilot at appropriate times during the one engine inoperative missed approach procedure.		High
Conduct Missed Approach - OEI	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures during a one engine inoperative missed approach.	High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again during a one engine inoperative missed approach.	High

Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach during a one engine inoperative missed approach.	High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing factors that might lead to executing a one engine inoperative missed approach procedure before the MAP or to a go-around below DA/MDA.	High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems during a one	High

		engine inoperative missed approach.	
Conduct Partial Flap Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Partial Flap Configuration Stall Prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		High
Conduct Partial Flap Configuration Stall Prevention	Can execute retraction of the flaps or other lift/drag devices to the recommended setting, retract the landing gear after a positive rate of climb is established, and return to the desired flight path		High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing factors and situations that could lead to an inadvertent stall and loss of control during takeoff or while on approach	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	High

Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing failure to recognize and recover at the stall warning	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing improper stall recovery procedure	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing the effect of environmental elements on aircraft performance while in a partial flap configuration as it relates to stalls (e.g., turbulence, microbursts, and high-density altitude)	High

Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Precision Approach	Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		High
Conduct Precision Approach	Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		High
Conduct Precision Approach		Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors (F/D), or other	High

		system (e.g., HUD, SVGS, etc.) performance. For systems such as HUDs that have a limited field of view (FOV), or synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.	
Conduct Precision Approach	Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, or circling minima, if applicable); according to the operator's manuals, charts and checklists, on the aircraft type, model and series flown.		High
Conduct Precision Approach	Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		High
Conduct Precision Approach	Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		High

Conduct Precision Approach	Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored approach, or call-outs);		High
Conduct Precision Approach		Can demonstrate familiarization with airport and runway characteristics typically experienced;	High
Conduct Precision Approach	Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and		High
Conduct Precision Approach	Can respond appropriately to aircraft and ground system failures.		High
Conduct Precision Approach	Can perform the precision instrument approaches selected by the instructor/evaluator.		High
Conduct Precision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Precision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High

Conduct Precision Approach	Can comply in a timely manner with all clearances, instructions, and procedures.		High
Conduct Precision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		High
Conduct Precision Approach	Can coordinate with ATC if unable to comply with a clearance.		High
Conduct Precision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High
Conduct Precision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Precision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Precision Approach	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		High
Conduct Precision Approach	Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either the vertical or lateral guidance		High

	indications and maintain the desired airspeed ±5 knots		
Conduct Precision Approach	Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH.		High
Conduct Precision Approach	Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		High
Conduct Precision Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to follow the correct approach procedure (e.g., descending below the glideslope, etc.).	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing selecting an	High

		incorrect navigation frequency.	
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	High

Conduct Precision Approach		Can identify, assess, and manage risks, encompassing continuing to descend below the Decision Altitude (DA)/Decision Height (DH) when the required visual references are not visible.	High
Conduct Rejected Takeoff	Can execute Rejected takeoff from a point prior to V1 (including an engine failure);		High
Conduct Rejected Takeoff	Can perform rejected takeoff requiring transfer of control (if applicable) for low-visibility takeoff minima where a flight guidance and/or vision system is required		High
Conduct Rejected Takeoff	Can perform rejected takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		High
Conduct Rejected Takeoff	Can execute aborted takeoff if the powerplant failure occurs at a point during the takeoff where the abort procedure can be initiated and the airplane can be safely stopped on the remaining runway		High
Conduct Rejected Takeoff	Can execute prompt reduction of power and maintain positive aircraft control using drag and braking devices, as appropriate, to come to a stop		High

Conduct Rejected Takeoff	Can coordinate with crew, if applicable, and complete the appropriate procedures, checklist(s), and radio calls following a rejected takeoff in a timely manner		High
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing a powerplant failure or other malfunction during takeoff.	High
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing failure to maintain directional control following a rejected takeoff	High
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing rejecting takeoff with inadequate stopping distance	High
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing a high-speed abort distraction, loss of situational awareness, or	High

		improper task management	
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform initialization navigation system position		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform adherence to speed and/or altitude constraints associated with RNP operations		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		High
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can verify waypoints and flight plan programming;		High

and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform interception of a course/track		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform selecting/arming the navigation system for an ILS or GLS transition		High
Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		High
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft characteristics (e.g., single HUD).		High
Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		High
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High

Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		High
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing a taxi route or departure runway change	High
Conduct Taxi		Can identify, assess, and manage risks,	High

		encompassing failure to complete checklist(s)	
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	High
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot who is taxiing the aircraft	High
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi	High

		route when briefing tasks or accomplishing checklists	
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	High
Conduct Taxi		Can maintain a sterile cockpit during taxi operations	High
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and not the ones	High

		they expected to receive.	
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	High
Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	High
Conduct Taxi		Can respond to all hold short	High

		instructions, and verifies with other crew members or ATC to ensure agreement and understanding	
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance when approaching an entrance to a runway.	High
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communications with ATC to regain orientation.	High
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and "Line Up and Wait". Turns Traffic	High

		Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	High
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any doubt, speaks up and resolve the uncertainty before taxi		High
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC	High

		frequency, for example when it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: "I'm heads-down, right turn ahead at Alpha," or "I'm back, any changes?"	High
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any	High

		instructions or information received or transmitted during that flightcrew member's absence from the ATC frequency should be reviewed and confirmed upon his or her return.	
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	High
Conduct Taxi		Can state "approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and	High

		to the right, including the full length of the runway and its approach paths, and coordinate verbally (e.g., “clear right/left” or that the scan area is not clear).	
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft’s parking area after landing	High
Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it		High

	off when stopped or yielding or as a consideration to other pilots or ground personnel		
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High
Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	High
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		High
Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted	High

		on the appropriate chart(s) and their assigned route	
Conduct use of FMS	Can verify currency of aircraft navigation data.		High
Conduct use of FMS	Can perform flying a course/track to a waypoint.		High
Conduct use of FMS	Can perform interception of a course/track		High
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		High
Conduct use of FMS	Can determine cross-track error/deviation		High
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		High
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High
Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		High
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform flying direct to a waypoint		High
Conduct use of FMS	Can demonstrate general awareness of all three styles of flight director		High
Conduct use of FMS	Can identify symbology available in synthetic vision system		High
Conduct use of FMS	Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		High

Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct takeoff or missed approach without using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct instrument approach without using HUD to ATP ACS standards		High
Conduct use of HUD	Can use caged, uncaged and clear modes in crosswind conditions		High
Conduct use of HUD	Can perform approach to a black hole airport using flight path angle (FPA)		High
Conduct use of HUD	Can relate glidepath angle to the symbolic runway.		High
Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		High
Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		High
Conduct use of TCAS	Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including steps required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if possible, correcting the problem.		High

Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining takeoff performance (e.g.,		Can identify, assess, and manage risks encompassing	High

balance field length, VMCG) per AFM		runway excursions	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining		Can identify, assess, and	High

accelerate-stop / accelerate-go distance per AFM		manage risks encompassing runway excursions	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of numerous part 25 requirements	High
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance	High

		and actual performance	
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High

Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining weight and balance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and		Can identify, assess, and manage risks	High

suppression - pneumatic and environmental		encompassing failure to monitor and manage automated systems.	
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing failure to	High

		detect system malfunctions or failures.	
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - flaps		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - flaps		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - flaps		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Flight Controls - flaps		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - spoilers		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - spoilers		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Flight Controls - spoilers		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - spoilers		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand OEM checklist philosophy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be	High

		familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don oxygen masks promptly when appropriate (e.g., when smoke is detected).	
Understand OEM checklist philosophy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the	High

		guidance of the handbook in a logical decision-making manner	
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer's recommended procedures or procedures applicable to the operator.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) use a sample of crosswind conditions and offset angles that emphasize the challenges		High

	of operating with the limited FOV with an EFVS.		
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can conduct EFVS operations in visibilities less than IAP minimum visibilities. This may not be practical if training is conducted in an aircraft. If the training is accomplished in a full flight simulator (FFS), conduct the training with the enhanced visibilities representative of the EFVS sensor performance.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when conducting an approach		High

	without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		
Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100 feet during an EFVS-100 operation.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		High
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes and associated systems, and adjustments for brightness and contrast under day and night conditions.		High
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings.		High
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument app roaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		High
Conduct EFVS Operations	Can determine enhanced flight visibility.		High
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		High
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		High
Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and		High

	crew coordination procedures when using an EFVS.		
Conduct Stall Prevention and Recovery	Can recognize how changes to factors such as weight, G loading, CG, bank angle, altitude, and icing affect the handling characteristics and stall speeds of the airplane.		High
Conduct Stall Prevention and Recovery	Can appreciate inappropriate use or inadequate monitoring of autoflight modes can be a contributing factor to a stall event. For example, climbing in vertical speed can lead to a stall event when pilots do not notice the airspeed reducing as the altitude increases; whereas, climbing in modes such as indicated airspeed or flight level change can protect against unnoticed deceleration in a climb.		High
Conduct Stall Prevention and Recovery	Can recognize impending stall characteristics for the specific airplane, including buffeting of a severity that may make it difficult to read the instruments.		High
Conduct Stall Prevention and Recovery	Can recognize and review of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.		High
Conduct Stall Prevention and Recovery	Can recognize noises associated with stick shakers, autopilot, and autothrottle/autothrust disconnect alarms can cause confusion in the cockpit.		High

Conduct Stall Prevention and Recovery	Can differentiate between high and low altitude stalls, pitch rate sensitivity of flight controls (due to lack of aerodynamic damping), and amount of altitude loss required for recovery.		High
Conduct Stall Prevention and Recovery	Can appreciate the altitude effects of thrust available for recovery, and lack of airflow through engines at high AOA (reinforces reduction of AOA must precede any increase of thrust).		High
Conduct Stall Prevention and Recovery	Can execute Scenario-Based Training (SBT). The goal of SBT is to develop decision-making skills relating to stall prevention and recovery during Line-Oriented Flight Training (LOFT). Emphasis should be placed on preventing conditions that may lead to a stall event. SBT would normally be used after a pilot demonstrates proficiency in maneuver-based training and during advanced stages of training, such as upgrade training and recurrent training. (1) Scenarios. When possible, scenarios should include accident, incident, ASAP, FOQA, and/or ASRS data to provide realistic opportunities to see how threat situations may develop and how they should be managed during line operations. Sample SBT lesson plans are provided in Appendix 3. (2) Briefing. Pilots should not		High

	normally be briefed that they are receiving SBT. The concept is line-oriented flying, which allows the pilots to recognize and manage the expected or unexpected stall threats as they develop during normal operations. However, situations may arise where pilots exhibit excellent stall prevention skills and initiate a recovery prior to the complete unfolding of a scenario. That is the desired objective. In those instances, the instructor has the discretion whether to repeat the scenario and then showing and discussing how the many cues typically cascade as the event progresses. Such explanations can reinforce a pilot's knowledge and allow sharpening of awareness and prevention skills.		
Conduct Stall Prevention and Recovery	Can conduct a takeoff configuration stall prevention scenario. See Appendix 3, Scenario 2 for details.		High
Conduct Stall Prevention and Recovery	Can conduct a landing configuration stall prevention scenario. See Appendix 3, Scenario 3 for details.		High

SIM 6 Learning Objectives

SIM 6 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**

Conduct Circling Approach	Can explain elements related to circling approach procedures and limitations including approach categories and related airspeed restrictions
Conduct Landing From a Circling Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a circling approach.
Conduct Landing From a Circling Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.

SIM 6 Tasks and Expectations

Tasks	Motor Skill Learning Objectives	Attitude Learning Objectives	Task Expectation Rating
Conduct Circling Approach	Can comply with the circling approach procedure considering turbulence, windshear, and the maneuvering capability and approach category of the aircraft.		High
Conduct Circling Approach	Can confirm the direction of traffic and adhere to all restrictions and instructions issued by ATC.		High
Conduct Circling Approach	Can perform establishing the correct approach and landing configuration		High
Conduct Circling Approach	Can maintain a stabilized approach and a descent rate that ensures arrival at the MDA, or the preselected circling		High

	altitude above the MDA, prior to the missed approach point.		
Conduct Circling Approach	Can maintain airspeed ±5 knots, desired heading/track ±5°, and altitude +100/-0 feet until descending below the MDA or the preselected circling altitude above the MDA.		High
Conduct Circling Approach	Can perform visually maneuvering to a base or downwind leg appropriate for the landing runway and environmental conditions.		High
Conduct Circling Approach	Can perform a turn in the appropriate direction using the correct procedure and execute configuring the airplane if a missed approach occurs		High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to follow prescribed circling approach procedures.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassin	High

		g executing a circling approach at night or with marginal visibility.	
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing losing visual contact with an identifiable part of the airport.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to maintain an appropriate altitude or airspeed while circling.	High
Conduct Circling Approach		Can identify, assess, and manage	High

		risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing executing an improper missed approach after the MAP while circling.	High
Conduct Landing From a Circling Approach	Can maintain the airport environment in sight and remain within the circling approach radius applicable to the approach category to a position from which a stabilized descent to landing can be made.		High
Conduct Landing From a Circling Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		High
Conduct Landing From a Circling Approach	Can perform alignment of the airplane for a normal landing on the selected runway		High

	without excessive maneuvering and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30°.		
Conduct Landing From a Circling Approach	Can perform smooth, timely, and correct control application throughout the circling maneuver and maintain appropriate airspeed, ±5 knots. If applicable, maintain altitude +100/−0 feet, and desired heading/track, ±5°.		High
Conduct Landing From a Circling Approach	Can confirm the airplane is configured for landing.		High
Conduct Landing From a Circling Approach	Can scan the landing runway and adjoining area for traffic and obstructions		High
Conduct Landing From a Circling Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Landing From a	Can maintain positive aircraft control throughout		High

Circling Approach	the landing using drag and braking devices, as appropriate, to come to a stop.		
Conduct Landing From a Circling Approach	Can demonstrate SRM or CRM, as appropriate.		High
Conduct Landing From a Circling Approach	Can apply runway incursion avoidance procedures.		High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing landing from a circling approach	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks,	High

		encompassing wake turbulence.	
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for missed approach	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering	High

		including stall, spin, or CFIT.	
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	High
Checking: Preflight Inspection			High
Checking: Start Procedures			High
Checking: Taxiing/Runway Operations			High
Checking: Pretakeoff Checks			High
Checking: Normal Takeoff			High
Checking: Crosswind Takeoff			High

Checking: Instrument Takeoff			High
Checking: Takeoff with Powerplant Failure			High
Checking: Rejected Takeoff			High
Checking: Area Departure			High
Checking: Steep Turns			High
Checking: Stall Prevention (Approaches to Stalls)			High
Checking: Powerplant Failure			High
Checking: Area Arrival			High
Checking: Holding			High
Checking: Normal ILS Approach			High
Checking: Engine-out ILS			High
Checking: Coupled Approach			High
Checking: Nonprecision Approach			High
Checking: Second Nonprecision Approach			High
Checking: Missed Approach from an ILS			High

Checking: Second Missed Approach			High
Checking: Circling Approach			High
Checking: EFVS Approach			High
Checking: Normal Landing			High
Checking: Crosswind Landing			High
Checking: Landing from an ILS			High
Checking: Landing with an Engine Out			High
Checking: Circling Approach to Landing			High
Checking: Rejected Landing			High
Checking: No-flap Approach to Landing			High
Checking: EFVS Landing			High
Checking: System Malfunction			High
Checking: Maneuver by Partial Panel			High
Checking: Unusual Attitude Recovery			High

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include reducing AOA is the proper way to recover from a stall event. Pilots must accept that reducing the airplane’s AOA will normally result in altitude loss. The amount of altitude loss will be affected by the airplane’s operational environment (e.g., entry altitude, airplane weight, density altitude, bank angle, airplane configuration, etc.). At high altitudes, stall recovery will likely require losing several thousand feet.		High
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include declaring an emergency if necessary. Do not delay recovery due to degrading airspeed or a stall event to obtain air traffic control (ATC) clearance to a lower altitude.		High

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include understanding that early recognition and return of the airplane to a controlled and safe state are the most important factors in surviving stall events. Only after recovering to a safe maneuvering speed and AOA should the pilot focus on establishing an assigned heading, altitude, and airspeed.		High
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include an abrupt pitch-up or trim change can occur when the autopilot unexpectedly disconnects during a stall event. This dramatic pitch-up or trim change typically adds an unexpected physical challenge to the pilot when trying to reduce AOA. In some airplanes, this may be aggravated by an additional pitch up when the pilot increases thrust during stall recovery.		High

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include secondary stall warnings are indicative of a pilot prioritizing minimum loss of altitude over proper stall recovery or flight control inputs that are too aggressive. In some airplanes, depending on AOA representations, it may be difficult to determine the point where the pitch can begin to be increased and a momentary secondary stall warning may be encountered. A secondary stall warning is acceptable as long as AOA is promptly reduced and the airplane's limitations are not exceeded.		High

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include air carriers should develop stall prevention evaluation strategies that are a direct reflection to the aircraft type. Between different aircraft types and variations of an aircraft type there is a broad range of available airspeed/AOA/energy information to the pilot. Therefore, an evaluation of a stall prevention with an attitude direction indicator (ADI) that has sufficient information to determine the flight envelope (pitch limit indicators, speed tape with low-speed awareness, airspeed trend needles) should be more stringent. Obviously with this expectation, the assumption is made that the air carrier's stall training prepares the pilot to interpret this information in low energy states. Conversely, a stall prevention evaluation of a pilot		High

	that has limited flight envelope information could allow momentary reactivations of the stall warning after the pilot has reduced the AOA to cease the stall warning and is attempting to return the aircraft to safe flight.		
Conduct Stall Prevention and Recovery	Can recognize how changes to factors such as weight, G loading, CG, bank angle, altitude, and icing affect the handling characteristics and stall speeds of the airplane.		High
Conduct Stall Prevention and Recovery	Can appreciate inappropriate use or inadequate monitoring of autoflight modes can be a contributing factor to a stall event. For example, climbing in vertical speed can lead to a stall event when pilots do not notice the airspeed		High

	reducing as the altitude increases; whereas, climbing in modes such as indicated airspeed or flight level change can protect against unnoticed deceleration in a climb.		
Conduct Stall Prevention and Recovery	Can recognize impending stall characteristics for the specific airplane, including buffeting of a severity that may make it difficult to read the instruments.		High
Conduct Stall Prevention and Recovery	Can recognize and review of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.		High
Conduct Stall Prevention and Recovery	Can recognize noises associated with stick shakers, autopilot, and autothrottle/autothrust disconnect alarms can cause confusion in the cockpit.		High
Conduct Stall Prevention and Recovery	Can appreciate the effects of malfunctioning or deferred equipment on stall protection		High

	and stick pusher systems.		
Conduct Stall Prevention and Recovery	Can differentiate between high and low altitude stalls, pitch rate sensitivity of flight controls (due to lack of aerodynamic damping), and amount of altitude loss required for recovery.		High
Conduct Stall Prevention and Recovery	Can appreciate the altitude effects of thrust available for recovery, and lack of airflow through engines at high AOA (reinforces reduction of AOA must precede any increase of thrust).		High
Conduct Stall Prevention and Recovery	Can appreciate USING SURPRISE IN TRAINING. Surprise has been a factor in stall incidents and accidents. Although it may be difficult to create surprise in the training environment, if achieved, surprise events may provide a powerful lesson for the crew. The goal of using surprise in training is to provide the crew with a surprise experience to reinforce timely application of the		High

	effective recovery technique under potentially confusing circumstances. Considerable care should be used in surprise training to avoid a negative learning experience. Surprise should not be used during checking. Stall prevention training should incorporate event conditions and variables typical of an unintentional stall that are likely to result in surprise due to the unexpected stall development, presentation, and behavior.		
Conduct and Checking: Stall Prevention and Recovery	CHECKING CRITERIA. Checking of prevention, recognition, and recovery from an impending stall should be evaluated on the timely and proper response to the impending stall including effective use of available energy; the criteria should not focus on altitude loss. The check pilot should consider the variables present at the time of the impending stall and their effect on the		High

	recovery. Checking criteria are: • Prompt recognition of impending stall, • Correct application of the stall recovery procedure, and • Recovering without exceeding the airplane's limitations.		

SIM 7 (Optional) Learning Objectives

SIM 7 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**
Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight

Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Conduct after landing, parking and securing	Can explain parking, shutdown, securing, and postflight inspection.
Conduct Arrival Procedures	Can use standard Terminal Arrival (STAR) charts, U.S. Terminal Procedures Publications, and IFR Enroute High and Low Altitude Charts
Conduct Arrival Procedures	Can use a Flight Management System (FMS) or GPS to follow a STAR
Conduct Arrival Procedures	Can explain two-way radio communication failure procedures during an arrival
Conduct Arrival Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Arrival Procedures	Can explain reasons other than visibility that a go around may suddenly be required
Conduct Arrival Procedures	Can explain the characteristics of a pilot braking action report
Conduct Arrival Procedures	Can explain items to consider when a pilot braking action report is reliable
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks
Conduct Before Takeoff Checks	Can describe how to detect malfunctions
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)
Conduct Before Takeoff Checks	Can give a before takeoff briefing
Conduct Departure Procedures	Can explain takeoff minimums

Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure
Conduct Departure Procedures	Can explain required climb gradients
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP
Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Departure Procedures	Can explain communication failure procedures
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Visual Approach (VFR Procedures)	Can explain the visual approach procedure.
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights
Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations

Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew
Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)
Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)

Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Understand Avionics and Communications - HUD	Can identify all HUD symbology
Understand Avionics and Communications - HUD	Can explain the FPV
Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD
Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Understand Avionics and Communications - HUD	Can describe crew briefings and callouts
Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance

Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run

Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain its importance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance
Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for "all engine" or "engine inoperative" missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified "all-engine lateral flightpath" (or radar vectors) and any specified "engine-inoperative lateral flightpath," using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Understand determining climb performance per AFM	Can state the definition of takeoff segment
Understand determining climb performance per AFM	Can state the definitions of gross and net flightpath
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance

Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure
Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance

Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of indicated airspeed during a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can contribute to a runway overrun

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival
Conduct LOFT (Optional Simulator Session 7)	Can demonstrate the observable behaviors classified under the ICAO Application of Knowledge Competency
Conduct LOFT (Optional Simulator Session 7)	Can interpret NOTAMs and other aeronautical information (AI) to be addressed includes facility status, proper interpretation of outage reports for lighting components, standby power, or other factors and proper application of NOTAMs regarding the initiation of AWO operations.

SIM 7 Tasks and Expectations

Tasks	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Expectation Rating**
Understand determining landing performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance	High

		and actual performance	
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Conduct after landing, parking and securing	Can demonstrate runway incursion avoidance procedures.		High
Conduct after landing, parking and securing	Can comply with ATC instructions and perform radio calls as appropriate.		High
Conduct after landing, parking and securing	Can coordinate with crew, if applicable, and execute the appropriate checklist(s) after clearing the runway.		High
Conduct after landing, parking and securing	Can perform parking in the appropriate area, considering the safety of nearby persons and property.		High
Conduct after landing, parking and securing	Can execute a postflight inspection and document discrepancies and servicing requirements, if any.		High

Conduct after landing, parking and securing	Can perform securing the airplane.		High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing propeller, turbofan inlet, and exhaust safety.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing airport specific security procedures.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing disembarking passengers.	High
Conduct Arrival Procedures		Can manage the risk of errors when assigned a STAR and subsequently receives a change of	High

		landing runway, procedure or transition by verifying the appropriate changes are entered and available for navigation	
Conduct Arrival Procedures	Can select, identify and use the appropriate communication and navigation facilities associated with the arrival		High
Conduct Arrival Procedures	Can perform setup of FMS and avionics to include flight director and autopilot controls for the arrival, if applicable		High
Conduct Arrival Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Arrival Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Arrival Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High
Conduct Arrival Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High

Conduct Arrival Procedures	Can comply with all applicable charted procedures		High
Conduct Arrival Procedures	Can comply with airspeed restrictions required by regulation, procedure, aircraft limitation or ATC		High
Conduct Arrival Procedures	Can maintain rate of descent consistent with the route segment, airplane operating characteristics and safety		High
Conduct Arrival Procedures	Can maintain the appropriate airspeed/V-speed ±10 knots, but not less than VRef if applicable, heading ±10°, altitude ±100 feet, and accurately track radials, courses, and bearings		High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to recognize limitations of traffic avoidance equipment.	High

Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to use see and avoid techniques when possible.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing improper automation management.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing ATC instructions that modify an arrival or discontinue/resume the aircraft's lateral or vertical navigation on an arrival.	High
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for	High

		navigation prior to takeoff.	
Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual conditions and planned departure runway		High
Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		High
Conduct Before Takeoff Checks	Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		High
Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		High
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment		High

	for takeoff and departure clearances		
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		High
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing division of attention while conducting before takeoff checks	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	High

Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director controls for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting	High

		crosswinds, low-visibility)	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		High
Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		High
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		High

Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		High
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High
Conduct Departure Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High
Conduct Departure Procedures	Can comply with all applicable charted procedures		High
Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		High
Conduct Departure Procedures	Can execute the departure phase to a point where the transition to the en route environment is complete		High

Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper automation management	High
Conduct Visual Approach (VFR Procedures)	Can conduct a visual approach.		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		High
Conduct RNP operations in the United States, oceanic and remote continental	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the		High

airspace, and in foreign countries which adopt ICAO standards for RNP operations.	planned RNP operation		
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform initialization navigation system position		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform adherence to speed and/or altitude constraints associated with RNP operations		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify waypoints and flight plan programming;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign	Can perform interception of a course/track		High

countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform selecting/arming the navigation system for an ILS or GLS transition		High
Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		High
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft characteristics (e.g., single HUD).		High
Conduct Taxi	Can record taxi instructions, respond		High

	to taxi clearances, and review taxi routes on the airport diagram.		
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		High
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate	High

		activities and distractions	
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing a taxi route or departure runway change	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	High
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not	High

		taxiing the aircraft can be available to participate in verbal coordination with the pilot who is taxiing the aircraft	
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or accomplishing checklists	High
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	High

Conduct Taxi		Can maintain a sterile cockpit during taxi operations	High
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and not the ones they expected to receive.	High
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	High
Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC,	High

		refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	
Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	High
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance when approaching an entrance to a runway.	High
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communications with ATC to	High

		regain orientation.	
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	High
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	High
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any doubt, speaks up and		High

	resolve the uncertainty before taxi		
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	High
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: “I’m heads-down, right turn ahead at Alpha,” or “I’m back, any changes?”	High

Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or transmitted during that flightcrew member's absence from the ATC frequency should be reviewed and confirmed upon his or her return.	High
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	High
Conduct Taxi		Can state "approaching (specific runway number) hold short line. Before crossing any hold short line, the	High

		flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach paths, and coordinate verbally (e.g., “clear right/left” or that the scan area is not clear).	
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft’s parking area after landing	High
Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High

Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		High
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High
Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	High
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		High
Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation	High

		system matches the route depicted on the appropriate chart(s) and their assigned route	
Conduct use of FMS	Can verify currency of aircraft navigation data.		High
Conduct use of FMS	Can perform flying a course/track to a waypoint.		High
Conduct use of FMS	Can perform interception of a course/track		High
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		High
Conduct use of FMS	Can determine cross-track error/deviation		High
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		High
Conduct use of FMS	Can execute insertion and delete a holding pattern		High
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High
Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		High
Conduct use of FMS	Can execute making a runway change		High

	associated with a DP or STAR		
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform flying direct to a waypoint		High
Conduct use of FMS	Can perform a complex SID consisting of multiple altitude and speed constraints		High
Conduct use of FMS	Can perform a complex STAR consisting of multiple altitude and speed constraints		High
Conduct use of FMS	Can demonstrate general awareness of all three styles of flight director		High
Conduct use of FMS	Can identify symbology available in synthetic vision system		High
Conduct use of FMS	Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		High
Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		High
Conduct use of HUD	Can use caged, uncaged and clear modes in crosswind conditions		High
Conduct use of HUD	Can relate glidepath angle to the symbolic runway.		High

Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		High
Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		High
Conduct use of TCAS	Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including steps required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if possible, correcting the problem.		High
Conduct use of TCAS	Can perform the procedures specified in AC120-55C		High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High

Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High

Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can appreciate that take off distance numbers provided by the AFM are the most restrictive result of	High

		numerous part 25 requirements	
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and runway excursions	High
Understand determining cruise performance (e.g., optimum and		Can explain the adverse effects of exceeding an	High

maximum operating altitudes) per AFM		airplane limitation or the airplane operating envelope.	
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining descent performance per AFM		Can explain the adverse effects of exceeding an airplane	High

		limitation or the airplane operating envelope.	
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining fuel requirements per AFM		Can explain the adverse effects of exceeding an airplane limitation or the	High

		airplane operating envelope.	
Understand determining fuel requirements per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance	High

		and stall warning, and Runway excursions	
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining weight and balance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand OEM checklist philosophy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation. In addition, pilots are expected to don	High

		oxygen masks promptly when appropriate (e.g., when smoke is detected).	
Understand OEM checklist philosophy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	High
Conduct LOFT (Optional Simulator Session 7)	Can demonstrate the observable behaviors classified under the ICAO Application of Procedures Competency		High
Conduct LOFT (Optional Simulator Session 7)		Can demonstrate the observable behaviors classified under the ICAO Communication Competency	High

Conduct LOFT (Optional Simulator Session 7)	Can demonstrate the observable behaviors classified under the ICAO Flight Path Management - Automation Competency		High
Conduct LOFT (Optional Simulator Session 7)	Can demonstrate the observable behaviors classified under the ICAO Flight Path Management - Manual Control Competency		High
Conduct LOFT (Optional Simulator Session 7)		Can demonstrate the observable behaviors classified under the ICAO Leadership and Teamwork Competency	High
Conduct LOFT (Optional Simulator Session 7)		Can demonstrate the observable behaviors classified under the ICAO Problem Solving and Decision-Making Competency	High
Conduct LOFT (Optional Simulator Session 7)		Can demonstrate the observable behaviors classified under the ICAO Situational Awareness and Management of Information Competency	High

Conduct LOFT (Optional Simulator Session 7)		Can demonstrate the observable behaviors classified under the ICAO Workload Management Competency	High

G-V Standardized Curriculum Course 2 Learning Objectives

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Course 2 Overview				
Day 1	**Planned Hours**	**Ground**	**Systems Integration**	
Aircraft Manuals	0.25	8.0	0.0	
MEL and CDL	0.25			
CRM	1.00			
Aircraft General	0.75			
Weight and Balance	1.00			
Flight Planning and Performance	1.00			
Flight Profiles and Maneuvers	0.50			
Avionics and Communications	1.50			
Windshear	0.25			
Lighting	0.25			
Auxiliary Power Unit	0.25			
Electrical System	1.00			
Day 2	**Planned Hours**	**Ground**	**Systems Integration**	
Avionics and Communications	0.50	8.0	0.0	
Powerplant	1.00			
Oil System	0.25			
Thrust Reverse	0.50			
Fuel System	0.50			
Hydraulic System	0.50			
Landing Gear and Brakes	0.50			
Fire and Smoke Detection, Protection and Suppression	0.50			
Flight Controls	0.75			
Pneumatic and Environmental Systems	1.50			
Pitot-static System	0.25			
Ice Protection	0.50			
Oxygen	0.25			
Ground School Completion Exam	0.50			
Simulator Session 1		**Brief**	**Crew**	**Single**
Preflight Inspection (Cockpit)		2.0	4.0	4.0
Powerplant Start - Normal				
Use of Checklists				
Taxiing/Runway Operations				
Before Takeoff Checks				
Normal Takeoff and Climb				
Windshear on Takeoff				
Departure Procedure				

Steep Turns			
Stall Prevention, Clean Configuration - Low Altitude			
Stall Prevention, Partial Flap Configuration			
Stall Prevention, Landing Configuration			
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Recovery from Nose High Attitudes			
Arrival Procedures			
Precision Approach			
Precision Approach - Backup Instrumentation			
Missed Approach from a Precision Approach			
Normal Approach and Landing			
Landing from a Precision Approach			
Windshear on Landing			
Go-around/Rejected Landing			
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS			
Normal/Abnormal/Emergency Procedures/Operations: Ground Proximity Warning System, WX Radar, Radio Altimeter, Transponder			
Normal/Abnormal/Emergency Procedures/Operations: Stall Warning/Avoidance Devices			
After Landing Procedures			
Parking and Securing			
Simulator Session 2	**Brief**	**Crew**	**Single**
Powerplant Start - Normal	2.0	4.0	4.0
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Use of Checklists			
Taxiing/Runway Operations			
Before Takeoff Checks			
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TCAS (Collision Avoidance Maneuver)			
Powerplant Failure (Including Shutdown/Restart)			
Procedures and Maneuvering with an Engine Out while executing the duties of a Pilot-in-Command (SIC Only)			
Holding			
Nonprecision Approach			
Nonprecision Approach - Manually Flown with Course Reversal			

Circling Approach			
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Published Missed Approach			
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Normal/Abnormal/Emergency Procedures/Operations: Powerplant			
Normal/Abnormal/Emergency Procedures/Operations: Auxiliary Power Unit (APU)			
Normal/Abnormal/Emergency Procedures/Operations: Electrical System			
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Normal/Abnormal/Emergency Procedures/Operations: Flap System			
Normal/Abnormal/Emergency Procedures/Operations: Flight Control System			
Normal/Abnormal/Emergency Procedures/Operations: Smoke Control/Removal			
Normal/Abnormal/Emergency Procedures/Operations: Hydraulic System			
Normal/Abnormal/Emergency Procedures/Operations: Landing Gear and Brakes			
Normal/Abnormal/Emergency Procedures/Operations: Fuel System			
Simulator Session 3	**Brief**	**Crew**	**Single**
Taxiing/Runway Operations	2.0	4.0	4.0
Before Takeoff Checks			
Instrument Takeoff			
Rejected Takeoff			
Powerplant Failure During Takeoff			
Departure Procedure			
Stall Prevention, Clean Configuration - High Altitude			
Stall Recovery with Idle Thrust			
Powerplant Failure (Including Shutdown/Restart)			
Arrival Procedures			
Precision Approach			
Precision Approach, One Engine Inoperative - Manually Flown			
Nonprecision Approach - Backup Instrumentation			

Nonprecision Approach - Manually Flown with Course Reversal			
Missed Approach with One Engine Inoperative			
Crosswind Landing			
Landing from a Precision Approach			
Approach and Landing with a Powerplant Failure			
Normal/Abnormal/Emergency Procedures/Operations: Powerplant			
Normal/Abnormal/Emergency Procedures/Operations: Radios, Nav Equipment, Instruments, FMS			
Normal/Abnormal/Emergency Procedures/Operations: Autopilot/Flight Director			
Normal/Abnormal/Emergency Procedures/Operations: In-flight Fire Drills			
Normal/Abnormal/Emergency Procedures/Operations: Pitot-Static System			
Normal/Abnormal/Emergency Procedures/Operations: Environmental/Air Conditioning System			
Normal/Abnormal/Emergency Procedures/Operations: Pressurization System			
Normal/Abnormal/Emergency Procedures/Operations: Decompression			
Normal/Abnormal/Emergency Procedures/Operations: Emergency Descent (Maximum Rate)			
Normal/Abnormal/Emergency Procedures/Operations: Emergency Evacuation			
Normal/Abnormal/Emergency Procedures/Operations: Anti-ice and Deice Systems			
Normal/Abnormal/Emergency Procedures/Operations: Airframe Icing			

Ground School Learning Objectives

Day 1 Ground School Learning Objectives

Course 2	Tasks	Knowledge & Cognitive Learning Objectives
Aircraft Manuals	Understand Auxiliary Power Unit (APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that AFM guidelines supersede all other information
Aircraft Manuals	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - autopilot	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - communication	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

	systems (e.g., data link, UHF/VHF/HF, satellite)	
Aircraft Manuals	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - emergency locator transmitter.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Flight Management System (FMS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - ground-based navigation systems and components	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - indicating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Radar	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - transponder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Emergency Equipment - emergency exits	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - passenger oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - circuit breakers and protection devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - controls	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - generators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - batteries	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Envelope protection—angle of attack warning and protection and speed protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

	suppression - lavatory	
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - powerplant	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - elevator	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - flaps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - rudder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - speed brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - spoilers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - Ailerons	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - trim systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - additives	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - controls and indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Fuel system - cross-feeding	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - drains	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - fuel grade	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - fuel substitutions	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - fueling and defueling procedures	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - transferring	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - allowable types of fluid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - capacity	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - pressure	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - regulators/accumulators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - reservoirs	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Ice Protection - anti-ice & de-ice.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection - pitot-static system protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection airfoil surfaces	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection windshield	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - antiskid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - extension/retraction system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - nosewheel steering	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - shock absorbers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - tires	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Lighting	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pitot Static System - associated instruments and the power source for	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

	those flight instruments	
Aircraft Manuals	Understand Pitot Static System - Operation and power sources for other flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - pressurization	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - supply for ice protection systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - turbine wheels	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - allowable types of oil	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - compressors	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - controls and indications	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Powerplant - deicing, anti-icing	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - oil system capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - thrust reverse	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
MEL and CDL	Understand Auxiliary Power Unit (APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - autopilot	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - emergency locator transmitter.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Flight Management System (FMS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - ground-based navigation systems and components	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - indicating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Radar	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - terrain	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

	awareness/warning/ alert systems	
MEL and CDL	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - transponder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Emergency Equipment - emergency exits	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - passenger oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - circuit breakers and protection devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - controls	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - generators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Envelope protection—angle of attack warning and protection and speed protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

	suppression - lavatory	
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - powerplant	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - elevator	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - flaps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - rudder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - speed brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - spoilers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - Ailerons	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - trim systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Fuel system - additives	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - controls and indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - cross-feeding	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - drains	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fuel grade	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fuel substitutions	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fueling and defueling procedures	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - transferring	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - allowable types of fluid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Hydraulic system - capacity	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - pressure	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - regulators/accumulators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - reservoirs	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection - anti-ice & de-ice.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection - pitot-static system protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection airfoil surfaces	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection windshield	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - antiskid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Landing Gear - extension/retraction system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - nosewheel steering	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - shock absorbers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - tires	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Lighting	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pitot Static System - Operation and power sources for other flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - pressurization	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - supply for ice protection systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - turbine wheels	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - allowable types of oil	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - compressors	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - controls and indications	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - deicing, anti-icing	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - oil system capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - thrust reverse	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Course 2	Tasks	Knowledge & Cognitive Learning Objectives
CRM	Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the characteristics of effective CRM
CRM	Understand Crew Resource Management (CRM)	Can evaluate the authority of the pilot in command;
CRM	Understand Crew Resource Management (CRM)	Can discuss communication processes, decisions, and coordination, to include communication with Air Traffic Control, personnel performing flight locating and other operational functions, and passengers;
CRM	Understand Crew Resource Management (CRM)	Can manage building and maintenance of a flight team;
CRM	Understand Crew Resource Management (CRM)	Can discuss workload and time management;
CRM	Understand Crew Resource Management (CRM)	Ensure situational awareness;
CRM	Understand Crew Resource Management (CRM)	Can appreciate the effects of fatigue on performance, avoidance strategies and countermeasures;
CRM	Understand Crew Resource Management (CRM)	Can appreciate th effects of stress and stress reduction strategies
CRM	Understand Crew Resource Management (CRM)	Can determine aeronautical decision-making and judgment training tailored to the operator's flight operations and aviation environment.
CRM	Understand Crew Resource Management (CRM)	Can explain the airplane pilot competency framework and associated observable behaviors
CRM	Understand Crew Resource	Can relate the airplaine pilot competency framework to threat and error management

	Management (CRM)	
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can describe the operation of the airplane systems and components using correct terminology
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain immediate action items or memory items, if appropriate
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand Crew and Passenger Emergency Equipment - survival gear	Can explain the location, purpose and operation of emergency equipment in the aircraft
Aircraft General	Understand evacuation procedures and crew duties - Cabin Window Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - Ditching procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - External Baggage Door Not Secure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Aircraft General	Understand evacuation procedures and crew duties - Main Entrance Door Not Secure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - Planned Airplane Evacuation procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand Specific Flight Characteristics	Can describe Any aircraft characteristics relevant to all weather operations, such as flight deck visibility cutoff angles and the effect on flight deck visibility of proper eye height, seat position or instrument lighting intensities related to transition through areas of varying brightness levels. Pilots should be aware of the effects on flight visibility related to use of different flap settings, approach speeds, use of various landing or taxi lights, and proper procedures for use of windshield wipers and rain repellent. If windshield defog, anti-ice, or de-icing systems affect forward visibility, pilots should be aware of those effects and be familiar with proper settings for use of that equipment related to low-visibility landing.
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Weight and Balance	Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Weight and Balance	Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Weight and Balance	Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Flight Planning and	Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance

Performance		
Flight Planning and Performance	Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Flight Planning and Performance	Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Conduct Rejected Takeoff	Can define relevant V-speeds for a rejected takeoff
Flight Planning and Performance	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that ODPs are recommended for obstruction clearance and may be flown without ATC clearance unless an alternate DP (SID or radar vector) has been specifically assigned by ATC.
Flight Planning and Performance	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe the meaning and proper use of aircraft equipment/navigation capability codes used on the flight plan

Flight Planning and Performance	Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Flight Planning	Understand determining	Can explain the difference between Takeoff Distance and Takeoff Run

and Performance	accelerate-stop / accelerate-go distance per AFM	
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Flight Planning and Performance	Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for "all engine" or "engine inoperative" missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified "all-engine lateral flightpath" (or radar vectors) and any specified "engine-inoperative lateral flightpath," using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Flight Planning and	Understand determining climb performance per AFM	Can explain considerations for OEI departure development

Performance		
Flight Planning and Performance	Understand determining climb performance per AFM	Can state the definition of takeoff segment
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance

Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and	Understand determining performance with	Can explain and demonstrate the use of charts, tables, and data to determine performance

Performan ce	an inoperative powerplant for all phases of flight per AFM	
Flight Planning and Performan ce	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performan ce	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performan ce	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Flight Planning and Performan ce	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Flight Planning and Performan ce	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Flight Planning and Performan ce	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Flight Planning and Performan ce	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Flight Planning	Understand Mitigating Risks of	Can define "factored landing distance"

and Performance	a Runway Overrun Upon Landing	
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun
Flight Planning and Performance	Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Flight Profiles and Maneuvers	Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach

Flight Profiles and Maneuvers	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Flight Profiles and Maneuvers	Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of impending stall indications and understanding of the need to initiate the stall recovery procedure at an impending stall.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of full stall indication (see paragraph 1-7) with the realization that most swept-wing transport category aircraft exhibit full stall characteristics different from those typically experienced in General Aviation (GA) aircraft used during certification training.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: For airplanes equipped with a stick pusher, recommended recovery actions in response to stick pusher activation.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Avoiding cyclical or oscillatory control inputs to prevent exceeding the structural limits of the airplane.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Structural considerations, including explanation of limit load, ultimate load, and the dangers of combining accelerative and rolling moments (i.e., the rolling pull) during recovery.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: The necessity for smooth, deliberate, and positive control inputs to avoid unacceptable load factors and secondary stalls.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: AOA must be reduced prior to controlling roll.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Effectiveness of control surfaces and the order in which the control surfaces lose and regain their effectiveness (e.g., spoilers, ailerons, etc.).

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: If a terrain awareness warning system (TAWS) warning is encountered during recovery from a low altitude stall event, recovery from the stall warning should take precedence. Once the airplane recovers from the stall event, then execute the TAWS escape maneuver.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: AOA versus pitch angle.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Rate of onset including rate of airspeed decay (both low and high).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Airplane configuration and condition including weight, center of gravity (CG), landing gear, flaps/slats, spoilers/speed brakes, etc.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Asymmetric loading including thrust asymmetries, wing loading due to roll or yaw transients or uncoordinated flight.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: G loading.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Bank angle.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust and lift vectors.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust required versus thrust available.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Wind shear.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Altitude.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mach effects.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Situational Awareness.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mode confusion, including unexpected/unannounced mode changes.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Unexpected transition from automated to manual flight.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Contamination (ice), including the effect of icing on stall speed and stall warnings.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate an understanding of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain specific stall and low-speed buffet characteristics unique to the airplane type and any implications for the expected flight operations and airplane-specific stall recovery procedure (e.g., underwing mounted engines, t-tail, propellers, etc.).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can describe thrust settings and its application.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can describe autothrottle/autothrust protection.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate awareness of autoflight mode indications.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain incorrect use of (including input errors) flightpath automated systems.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the operation and function of stall protection systems in normal, abnormal, and emergency situations, including the hazards of overriding or ignoring stall protection system indications. Awareness of the factors that may lead such systems to fail, as well as degraded modes, indications, or behaviors that may occur with system failures.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain buffet boundary and margins in flight planning and operational flying.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the lower margins for stall onset and recovery (i.e., coffin corner) and possible buffet cueing differences on the high-speed versus the low-speed margin.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the principles of high-altitude aerodynamics, performance capabilities, and limitations; including high altitude operations and flight techniques (i.e., the need to avoid secondary stall by extended nose-down recovery, compared to lower altitudes).

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the differences in airplane performance (e.g., thrust available) during high versus low altitude operations, the effects of those differences on stall recovery, and the anticipated altitude loss during a recovery.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the differences between transport category airplane certification and GA airplane certification regarding use of flight controls at high AOA. For example, if the roll control system is compromised and the ailerons are unable to produce the required roll recovery, the rudder may be used with care during stall prevention and recovery. To maintain structural integrity, it is important to guard against control reversals—avoid rapid full-scale reversal of control deflection
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate general awareness of example events. Although significant emphasis should be placed on preventing stall events, it is important for pilots to understand that, although rare, stall events continue to occur. Studying the causes and contributing factors of stall events give pilots more knowledge to help prevent or if necessary, recover from a stall event. A review of stall-related accidents, incidents, ASAP, FOQA, and ASRS data for the specific airplane type or class should be included in ground training.

Flight Profiles and Maneuvers	Conduct Stall Prevention and Recovery	Can explain the STICK PUSHER. For airplanes equipped with a stick pusher, stall recovery training includes ground training and practical training in an FFS. It is important for pilots to experience the sudden forward movement of the control yoke/stick during a stick pusher activation. From observations, most instructors state that, regardless of previous academic training, pilots usually resist the stick pusher on their first encounter. Usually, they immediately pull back on the control yoke/stick rather than releasing pressure as they have been taught. Therefore, pilots must receive practical stick pusher training in an FFS to develop the proper response (allowing the pusher to reduce AOA) when confronted with a stick pusher activation. Stick pusher training should be completed as a demonstration/practice exercise, including repetitions, until the pilot's reaction is to permit the reduction in AOA even at low altitudes. Pilot response to a deliberate activation of the pusher is not a checked maneuver.
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain RAIM prediction requirements when using GPS as a substitute means of navigation
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems	Can explain that RNAV systems using WAAS input may be used as an alternate means of navigation without restriction.

	while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using DME/DME/IRU, without GPS input, may be used as an alternate means of navigation where valid DME/DME position updating is published as available (for example, by NOTAM or authorization).
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that In order to use a substitute means of navigation on departure procedures, pilots of aircraft with RNAV systems using DME/DME/IRU, without GPS input, must ensure their aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map display may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e.,	Can state the definition of RAIM

	non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Pilots must extract waypoints, NAVAIDs, and fixes by name from the onboard navigation database and comply with the charted procedure or route
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that pilots may not manually enter published procedure or route waypoints via latitude/longitude, place/bearing, or place/bearing/distance into the aircraft system
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures	Can explain that Operators operating under parts 91K, 121, 125, 129, and 135 must also be equipped with at least one other independent navigation system in addition to an installed and operable RNAV system. This additional system must be suitable, in the event of loss of navigation capability of the RNAV system, for proceeding safely to a suitable airport and completing an instrument approach.

	within the U.S. National Airspace System (NAS)	
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that for the purposes of flight planning, any required alternate airport must have an available IAP that does not require the use of GPS.
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance –	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

	Broadcast (ADS-B) In and Out	
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

	link, UHF/VHF/HF, satellite)	
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite) - Radio Failure / Mistune During A Dual Coupled ILS Approach	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations
Avionics and	Understand Avionics and communications -	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Communications	Electronic Flight Instrument Systems (EFIS)	
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and	Understand Avionics and	Can explain immediate action items or memory items, if appropriate

Communications	communications - emergency locator transmitter.	
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that at system initialization, pilots must confirm the navigation database is current and verify the aircraft's present position.
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that RNAV DPs and STAR procedures must be retrieved by procedure name from the onboard navigation database and conform to the charted procedure
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that whenever possible, RNAV routes should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. Selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must use a lateral deviation indicator (or equivalent navigation map display), flight director and/or autopilot in lateral navigation mode on RNAV 1 routes. The full-scale course deviation indicator (CDI) deflection value of ±1 NM is acceptable

Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots of aircraft without GPS/GNSS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the depiction of waypoint types (flyover and flyby) and path terminators
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the types of navigation sensors (for example, DME, IRU, GPS/GNSS) utilized by the RNAV system and associated system prioritization/weighting/logic
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications -	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

	Flight Management System (FMS)	
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS) - FMS Powers Up In Single or Independent Mode procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the onboard navigation data must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and relevant coded terminal airspace procedures for the departure, arrival, and alternate airfields.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 2 requires a total system error of not more than 2 NM for 95 percent of the total flight time
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that Receiver Autonomous Integrity Monitoring (RAIM) is a technique used within a GPS receiver/processor to monitor GPS signal performance and is achieved by a consistency check among redundant measurements.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a SID is a published IFR air traffic control (ATC) DP providing obstacle clearance and a transition from the terminal area to the en route structure.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can describe the operation of the airplane systems and components using correct terminology

Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS) - GPS / SBAS Reception Loss During RNAV (GPS) Approach to Minima procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area	Can describe the performance requirement and the fail-down capabilities of the system

	augmentation system	
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the meaning and proper use of aircraft equipment/navigation suffixes
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - indicating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - indicating devices - (EVS) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - (HUD)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	Malfunctions procedure	
Avionics and Communications	Understand Avionics and communications - indicating devices - Charts Function DU 2 and 3 Inoperative procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Charts Function Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Equipment Loss While in RVSM Airspace procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Video Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications -	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

	Inertial Navigation Systems (INS)	
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS) - IRS Align In Motion procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Radar	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Radar	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Radar	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list required equipment for RNP operations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret aircraft automation, mode annunciations, changes, alerts, interactions, reversions, and degradations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain functional integration with other aircraft systems
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries	Can list the types of navigation sensors used by the RNP system and their annunciations

	which adopt ICAO standards for RNP operations.	
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret electronic displays and symbols
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the importance of maintaining the published path and maximum airspeeds while performing RNP operations with Radius to Fix (RF) legs (if applicable)
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe flightcrew contingency procedures for a loss of RNP capability; and

Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the performance requirement to couple the autopilot (AP)/flight director (FD) to the navigation system's lateral guidance on RNP procedures, if required
Avionics and Communications	Understand Avionics and Communications - Supporting Systems	Can interpret Other associated instrumentation and displays including any head-up display, guidance system, vision system, monitoring displays, status displays, mode annunciation displays, failure or warning annunciations, and associated system status displays that may be relevant. When such airborne systems are used as the basis for category(s) of minima (e.g., HUD or SVGS for Special Authorization (SA) CAT I; AP, F/D, or HUD for CAT I Landing Minima with Reduced Lighting (RVR 1800)), training should address the relationships between the various system components and the minima for which they are required.
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems - (EGPWS) Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems - TCAS Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - transponder	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - transponder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - transponder	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-TD capable systems IAW FAR § 91.176(a)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).

Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-100 capable systems IAW FAR § 91.176(b)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).
Avionics and Communications	Understand EFVS Operations	Can explain all required pilot flightcrew members must have received and logged the appropriate ground training in EFVS operations IAW FAR § 61.66(a)(1). All PICs or those manipulating the controls (PF) of an aircraft during EFVS operations must have received and logged the appropriate flight training in EFVS operations IAW FAR § 61.66(b)(1). A logbook endorsement or record of training completion is required for the appropriate EFVS operation (EFVS-TD and/or EFVS-100) unless using a military, 61.66(f) exemption OR the pilot can show documentation of satisfactory completion of EFVS-100 operations prior to March 13, 2018.
Avionics and Communications	Understand EFVS Operations	Can explain the checking requirements for EFVS operations as an approved air carrier. For Part 135 operations, FAR § 135.293(i) requires competency checks completed under FAR § 135.293(b) include tasks appropriate to the EFVS operations the certificate holder is authorized to conduct.
Avionics and Communications	Understand EFVS Operations	Can explain pilots conducting EFVS operations for parts 91K, 121, 125, and 135 maintain recent flight experience through satisfactory completion of EFVS tasks and maneuvers during their recurring proficiency checks or competency checks.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS operational credit is credit for a portion of flight visibility prescribed by the IAP being flown that is satisfied by the enhanced image provided by the EFVS. EFVS operational credit is authorized in FAA OpSpec C048.

Avionics and Communications	Understand EFVS Operations	Can describe EFVS operational credit is used by authorized parts 121, 125, and 135 CHs and part 129 foreign air carriers to determine minimum visibilities to: 1. Dispatch, release, or take off a flight under instrument flight rules (IFR) when the forecast weather at the destination airport is equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.613, 125.361, and 135.219); and 2. Begin, execute, or continue an approach when the weather is reported to be equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.651, 125.325, 125.381, and 135.225).
Avionics and Communications	Understand EFVS Operations	Can explain a standard EFVS credit. The Flight Technologies and Procedures Division evaluates available performance data from numerous sources such as other operational evaluations and Original Equipment Manufacturer (OEM) demonstrations conducted in the type design approval process. A standard credit is recommended for an installed EFVS sensor and is published in the Operational Suitability Report (OSR), Operational Credit for Enhanced Flight Vision Systems (EFVS). An operator applying for EFVS operational credit that elects to use the standard credit would not need to demonstrate system performance; however, this does not restrict an operator from conducting their own performance demonstration to determine operational credit. Industry consensus methodology for performance demonstrations is contained in RTCA DO-390, Test Procedures for Quantified Visual Advantage. The OSR can be found at https://drs.faa.gov/browse/excelExternalWindow/bb448b0f-d979-42a2-8d67-9346707e6d29.

Avionics and Communications	Understand EFVS Operations	Can explain Minimum Visibility with Use of EFVS for Parts 121, 125, 129, and 135. OpSpec C048 may include authorization to use a credit to reduce the visibility required for operating without the use of the EFVS (see Table 1, Sample Minimum Visibility Table). The credits based on the demonstrated EFVS sensor performance.
Avionics and Communications	Understand EFVS Operations	Can explain Landing Weather Minimums for Recently Upgraded PICs. Recently upgraded PICs are subject to § 121.652, § 125.379, or § 135.225(e), which temporarily raise IAP minimums to afford an extra layer of safety while experience operating as PIC is gained. EFVS minimum visibility should not be used until the requirements of these regulations are met, as this may negate the safety margins intended by these regulations.
Avionics and Communications	Understand EFVS Operations	Can explain Alternate Airport Weather. The use of EFVS minimum visibility is not advised for alternate airport planning. However, once in flight, a pilot may use EFVS minimum visibilities to begin an approach at an alternate airport.
Avionics and Communications	Understand EFVS Operations	Can ensure considerations for Part 91K, 125, or 135 Pilot Training Programs. Initial training for pilots under part 91K, 125, or 135 must include the required elements listed in FAR § 61.66(a)(2) and (b)(2). The required elements and suggested methods of meeting said requirements can be found in Appendix A. Part 91K, 125, or 135 competency checks should include appropriate EFVS tasks.
Avionics and Communications	Understand EFVS Operations	Can demonstrate familiarization with an overview per FAR § 91.176, parts 121, 125, and 135 CHs require OpSpec C048 to conduct EFVS-100 or EFVS-TD operations, and may include provisions to use EFVS operational credit. Part 91K program managers require MSpec C048 to conduct EFVS-100 or EFVS-TD operations. MSpec C048 does not include provisions to use EFVS operational credit.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 1. Airworthiness Documentation. Excerpts from the AFM(S) that identify the EFVS operation(s) for which the system received airworthiness approval. The FAA recommends incorporating any procedures or operating limitations in the AFM(S) into the approved EFVS training curriculum and operating manuals.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 2. Operating Manuals. Applicable sections of operating manuals (e.g., Airplane Operations Manual (AOM), Flight Operations Manual (FOM), pilot's operating handbook (POH), and/or quick reference handbook (QRH)) that contain the operator's procedures or provisions for using an EFVS. These procedures can be incorporated in the operator's approved EFVS training curriculum and in the AFM(S).

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 3. EFVS Pilot Training Curriculum. A proposed EFVS training curriculum that ensures the pilot meet the requirements of § 61.66. Paragraph 9 and Appendix A contain information for developing a training curriculum to include the required ground training subjects and flight training tasks required by § 61.66(a) and (b). It is acceptable to incorporate a previously approved curriculum provided by a part 141 or 142 school.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 4. EFVS Provisions in the MEL. If the applicant is seeking MEL relief for EFVS, they should provide the proposed MEL containing appropriate operations and maintenance procedures that consider all applicable components of the EFVS during MEL submission, review, and approval.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 5. Application for Operational Credit. Operators operating under parts 121, 125, and 135 CHs applying for authorization to use EFVS operational credit should provide: a. A statement of proposed credit. Operators may propose use of the standard credit published in the EFVS OSR, which is based on previous demonstrations of system visual advantage. When an operator elects to use the standard credit, it is not necessary to demonstrate visual advantage during the operational demonstration. If the applicant elects to perform their own demonstration, AC 20-167 provides methods that can be used to demonstrate quantified visual advantage in the certification process. b. EFVS training curriculum for dispatchers or other persons exercising operational control, as described in paragraph 9 and Appendix C. c. Dispatch procedures manual or a general operation manual, as applicable, containing procedures for using the authorized EFVS operational credit to determine the minimum visibilities for use with EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 6. EFVS Maintenance Procedures. EFVS maintenance procedures or programs as described in Appendix B. If the applicant is responsible for the training of maintenance personnel, the applicant can also provide an EFVS training curriculum for maintenance personnel, as described in paragraph 9 and Appendix B.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of EFVS Operational Demonstration for Parts 91K, 121, 125, and 135 Applications. The FAA’s process for approval and acceptance includes observing and evaluating the operator’s ability to perform the proposed operation(s) in accordance with the procedures, guidelines, and parameters described in the operator’s formal application. The means for meeting the operational demonstration objectives and an appropriate timeline are established through an agreement between the operator and the responsible Flight Standards Safety Assurance office. The are many acceptable means by which an operational demonstration can be accomplished (e.g., tabletop exercises, simulators, classroom observations, observations of line operations, observations of training flights, or any other agreed-upon means).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of the regulations relevant to EFVS operations. A list of the regulations is in Appendix D, Related Regulations and Guidance. Appendix D includes 61.66, 91.1065, 121.407, 121.409, 121.441 including Appendices F and H, 125.287, 135.293, 91.176, 91.189(d) and (e), 91.1039, 121.651, 125.325, 125.381, 135.225, 91.905, AC 20-167, AC 61-65, AC 120-54, AC 120-57, AC 120-71, and AC 120-118.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of an AFM or its supplement (AFM(S)) or other manufacturer documentation that specifies the type of EFVS operation the EFVS is certified to conduct, specifies performance applicable to the use of operational credit, or defines specific procedures, conditions, or limitations associated with operating the EFVS. In some cases, procedures described in an AFM(S) may be more restrictive than the regulations.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the characteristics of the enhanced imagery provided by an EFVS. An EFVS image must be real-time, conformal, and sensor-based. Imagery that is computer-generated from a database, such as a synthetic image, cannot be used to conduct an EFVS operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements to be used for EFVS operations to touchdown and rollout (EFVS-TD) operations listed under 14 CFR part 91, § 91.176(a)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements of an EFVS to be used for EFVS operations to 100 feet above the touchdown zone elevation (TDZE) (EFVS-100) operations listed under § 91.176(b)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the controls for the EFVS image to include display brightness, contrast, and image modes.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the control for turning the EFVS image on or off. This control is important, because if the sensor imagery were to obscure the pilot's view of the outside scene, the pilot should have a readily available means to immediately remove the sensor imagery from the Head-Up Display (HUD). However, in order to continue an EFVS operation, the pilot should reactivate the image as soon as possible.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain how computer-generated synthetic elements are presented in the image, if applicable. Some systems may integrate synthetic vision elements into the image displayed on the HUD. A pilot should be able to differentiate between the sensor-based elements and the computer-generated elements.
Avionics and	Understand EFVS Operations	Per § 61.66(a)(2)(iii) explain the runway and extended runway centerline symbology presented during the approach phase.

Communications		
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the field of view (FOV) of the EFVS display.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can explain the imaging technology of the EFVS sensor and the related limitations (i.e., light detection, obstacle detection, weather types, and FOV). The AFM(S) may specify any limitations or demonstrated performance applicable to the installed EFVS. An EFVS can display imagery that may significantly improve a pilot's capability to detect approach lights and visual references of the runway environment that may not otherwise be visible using natural vision. Not all EFVS sensors have the same imaging capabilities. Some sensors may image particular materials and some may focus in specific energy spectrums. Some sensor technologies are more affected by certain weather conditions (e.g., obscurations and precipitation). Some systems utilize multiple sensors to combine the benefits from different technologies.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview on interpreting a sensor-generated scene presented by the EFVS. Images may have characteristics and contain artifacts that are unique to the sensor technology, EFVS image processing software, or display characteristics (i.e., monochrome colors). An external scene generated from infrared technology may be different from a scene generated from another technology or combination of technologies.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview of image anomalies of the installed EFVS. Anomalies such as "noise," "blooming," parallax, and other visual effects may be more prevalent in different EFVS installations.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of flight planning considerations for sensor performance and limitations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can explain the optimal EFVS settings for different phases of flight and meteorological conditions.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of techniques for identifying visual references with natural vision at 100 feet above the TDZE for EFVS-100 operations. There may be several techniques that crews can use to ensure that visual references are seen with natural vision while continuing to use the EFVS image. It is important that these techniques do not reinforce deactivating the EFVS image more than momentarily during the EFVS operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of considerations for conducting EFVS operations with a limited EFVS FOV. A combination of crosswind correction, approach course offset, and the lateral FOV may result in the inability of the pilot to acquire and maintain visual references.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of considerations for executing a go-around below a DA/DH or MDA. Whether a pilot is using an EFVS or natural vision, obstacle clearance should not be assumed when initiating a go-around below a DA/DH or MDA or after the missed approach point. The missed approach procedure should be thoroughly briefed and accurately flown, and may need additional climb performance beyond the standard 200 feet per nautical mile to ensure adequate obstacle clearance.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for visual segment obstacle clearance. Pilots using an EFVS should be careful not to conclude that the flightpath is free of obstacles because no obstacles are distinctly visible in the EFVS image. The approach procedure should be thoroughly briefed and accurately flown.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of the considerations for conducting EFVS operations on special instrument approach procedures (IAP). Operators that have a specific approval from the FAA to conduct instrument approaches using special IAPs should evaluate those instrument procedures to determine their compatibility with EFVS operations. These procedures may have nonstandard features or special conditions that may not be compatible with EFVS operations or the performance of an EFVS sensor.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for conducting taxi operations after conducting an EFVS operation. Once the EFVS operation is complete, the pilot may have to taxi at an airport with Low-Visibility Operations (LVO)/Surface Movement Guidance and Control System (SMGCS) operations in effect. Although an EFVS may provide some increased situation awareness during taxi operations, natural vision is still essential.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) can demonstrate an overview of the effect of obscuration types, precipitation conditions, and low ceilings or cloud layers as contributing factors to the variable and unpredictable characteristics of EFVS sensor performance or EFVS sensor and image quality.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) demonstrate an overview of visibility reporting equipment (e.g., Runway Visual Range (RVR), automated surface observing system (ASOS), and Automated Weather Observing System (AWOS)) and their limitations, reporting increments, and relationship to actual flight visibility on the approach.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-TD operations, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-100 operations, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: a. An integrity check of the sensor window.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: b. System tests and warmup time.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: c. System control adjustments, to include appropriate setting of EFVS contrast, brightness, and symbology.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: d. EFVS image alignment procedures with the natural vision image.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: a. Callouts for continuing descent below the DA/DH or MDA using the EFVS.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: b. Callouts for transition from enhanced image to natural vision at 100 feet above the TDZE during an EFVS-100 operation.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: c. Callouts to clearly communicate the decision to land or go around.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: d. Callouts for abnormal EFVS operations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: a. Expectations of system performance and limitations in reported weather conditions and a minimum visibility for the use of an EFVS (if applicable).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: b. EFVS callouts.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: c. Other approach considerations that may affect EFVS operations such as final approach offsets and ground infrastructure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: d. Missed approach considerations and procedure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: e. The taxi operation considerations in reported weather conditions.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the PM use of the repeater display during EFVS-TD operations. The PM uses the display to assess the safe conduct of the approach, landing, and rollout, and intervene, if necessary, in visibilities where natural vision may not be sufficient.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the procedure used for determining minimum visibility for use of EFVS for the purpose of releasing the flight or executing an approach, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can demonstrate an overview of techniques for identifying EFVS system failures and corresponding procedures. A proper cross-check of the HUD instrumentation presentations against the EFVS sensor image could help recognize malfunctions of the navigation equipment or improper presentation of elements in the visual scene during the approach. In the event any required component fails during an EFVS operation until touchdown, the PF should initiate a go-around. However, this does not preclude a pilot's authority to continue to a landing and rollout if the pilot considers that a safer course of action.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(viii) can integrate the following: it is necessary for the pilot training curriculum to include the interpretation of approach and runway lighting systems and their display characteristics when using an EFVS. This could be accomplished by including an overview of different light sources used in airport and approach lighting systems and the ability of the EFVS to detect them. An EFVS based only on infrared sensor technology may not be capable of imaging light-emitting diode (LED) lighting because energy is not emitted in an infrared spectrum. It is important that pilots are familiar with the potential use of LEDs at their destination and any corresponding limitations of their EFVS. For more information, please refer to Information for Operators (InFO) 11004, Enhanced Flight Vision System (EFVS), Enhanced Vision Systems (EVS), and Night Vision Goggles (NVG) Compatibility with Light-Emitting Diodes (LEDs) at Airports and on Obstacles. You can find InFO 11004 at https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info.

Avionics and Communications	Understand EFVS Operations	Can explain those portions of this chapter that relate to EFVS flight operations and limitations, including the Airplane Flight Manual or Rotorcraft Flight Manual limitations.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS sensor imagery, required aircraft flight information, and flight symbology.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS display, controls, modes, features, symbology, annunciations, and associated systems and components.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS sensor performance, sensor limitations, scene interpretation, visual anomalies, and other visual effects.
Avionics and Communications	Understand EFVS Operations	Can explain preflight planning and operational considerations associated with using EFVS during taxi, takeoff, climb, cruise, descent and landing phases of flight, including the use of EFVS for instrument approaches, operating below DA/DH or MDA, executing missed approaches, landing, rollout, and balked landings.
Avionics and Communications	Understand EFVS Operations	Can explain weather associated with low visibility conditions and its effect on EFVS performance.
Avionics and Communications	Understand EFVS Operations	Can explain normal, abnormal, emergency, and crew coordination procedures when using EFVS.
Avionics and Communications	Understand EFVS Operations	Can interpret approach and runway lighting systems and their display characteristics when using an EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to touchdown and rollout. This includes a displayed EFVS sensor image for the pilot monitoring where the symbology does not obscure the runway environment. See 91.176(a)(1)(i)(A) through (F) and (ii) for details.

Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.
Avionics and Communications	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.
Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (a)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Ensure when a minimum flightcrew of more than one pilot required, the pilot monitoring must use the display specified in paragraph (a)(1)(ii) to monitor and assess the safe conduct of the approach, landing, and rollout.
Avionics and Communications	Understand EFVS Operations	Can appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Appreciate why the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing.
Avionics and Communications	Understand EFVS Operations	Can ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operators, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;

Avionics and Communications	Understand EFVS Operations	Can ensure each person acting as a required pilot flightcrew member for a foreign air carrier subject to part 129, or any person serving as a required pilot flightcrew member of a foreign registered aircraft, must be qualified in accordance with the training requirements of the civil aviation authority of the State of the operator for the EFVS operation to be conducted.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under this part must conduct the operation in accordance with a letter of authorization for the use of EFVS unless the operation is conducted in an aircraft that has been issued an experimental certificate under § 21.191 of this chapter for the purpose of research and development or showing compliance with regulations, or the operation is being conducted by a person otherwise authorized to conduct EFVS operations under paragraphs (a)(2)(ix) through (xii) of this section. A person applying to the FAA for a letter of authorization must submit an application in a form and manner prescribed by the Administrator.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless from the authorized DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references - (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the enhanced flight visibility using EFVS must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can explain the Administrator may prescribe additional equipment, operational, and visibility and visual reference requirements to account for specific equipment characteristics, operational procedures, or approach characteristics. These requirements will be specified in an operator's operations specifications, management specifications, or letter of authorization authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to 100 feet above the touchdown zone. See 91.176(a)(1)(i)(A) through (F) for details; however, a flare prompt, flare guidance, or height above ground level need not be present for operations to 100 feet above the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.

Avionics and Communications	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.
Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (b)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Can appreciate why for operations conducted under part 121 or part 135 of this chapter, the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing
Avionics and Communications	Understand EFVS Operations	Ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operators, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless from the authorized MDA or DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references- (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the flight visibility must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot without reliance on the EFVS - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can consider the compliance date. Beginning on March 13, 2018, a person conducting an EFVS operation to 100 feet above the touchdown zone elevation must comply with the requirements of paragraph (b) of this section.
Avionics and Communications	Understand EFVS Operations	Can determine the recommended EFVS Operational Credit capability for their make/model and possibly serial number for their aircraft using Appendices 1 and 2.
Avionics and Communications	Understand EFVS Operations	Can appreciate the EFVS Operational Credit Tables in Appendix 3 for risk management under Part 91 operations or compliance for air carrier operations.
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recognition
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear pilot technique

Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff after liftoff
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter on the approach
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss general windshear recovery technique
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Lighting	Understand Lighting	Can describe the operation of the airplane systems and components using correct terminology
Lighting	Understand Lighting	Can explain system or component limitations
Lighting	Understand Lighting	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Lighting	Understand Lighting	Can explain immediate action items or memory items, if appropriate
Lighting	Understand Lighting	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Lighting	Understand Lighting	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can describe the operation of the airplane systems and components using correct terminology
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can explain system or component limitations
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can explain immediate action items or memory items, if appropriate
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Auxiliary Power Unit	Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain system or component limitations
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Electrical System	Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - controls	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - controls	Can explain system or component limitations
Electrical System	Understand Electrical System - controls	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - controls	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - controls	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain system or component limitations
Electrical System	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - generators	Can explain system or component limitations

Electrical System	Understand Electrical System - generators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - generators	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - generators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - indicators	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - indicators	Can explain system or component limitations
Electrical System	Understand Electrical System - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - indicators	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - batteries	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - batteries	Can explain system or component limitations
Electrical System	Understand Electrical System - batteries	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Electrical System	Understand Electrical System - batteries	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - batteries	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Day 2 Ground School Learning Objectives

Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain RAIM prediction requirements when using GPS as a substitute means of navigation
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using WAAS input may be used as an alternate means of navigation without restriction.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using DME/DME/IRU, without GPS input, may be used as an alternate means of navigation where valid DME/DME position updating is published as available (for example, by NOTAM or authorization).

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that In order to use a substitute means of navigation on departure procedures, pilots of aircraft with RNAV systems using DME/DME/IRU, without GPS input, must ensure their aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map display may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can state the definition of RAIM
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Pilots must extract waypoints, NAVAIDs, and fixes by name from the onboard navigation database and comply with the charted procedure or route

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that pilots may not manually enter published procedure or route waypoints via latitude/longitude, place/bearing, or place/bearing/distance into the aircraft system
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Operators operating under parts 91K, 121, 125, 129, and 135 must also be equipped with at least one other independent navigation system in addition to an installed and operable RNAV system. This additional system must be suitable, in the event of loss of navigation capability of the RNAV system, for proceeding safely to a suitable airport and completing an instrument approach.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that for the purposes of flight planning, any required alternate airport must have an available IAP that does not require the use of GPS.
Avionics and	Understand Avionics and communications -	Can describe the operation of the airplane systems and components using correct terminology

Communications	Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

	link, UHF/VHF/HF, satellite)	
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations

Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite) - Radio Failure / Mistune During A Dual Coupled ILS Approach	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that at system initialization, pilots must confirm the navigation database is current and verify the aircraft’s present position.

Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that RNAV DPs and STAR procedures must be retrieved by procedure name from the onboard navigation database and conform to the charted procedure
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that whenever possible, RNAV routes should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. Selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must use a lateral deviation indicator (or equivalent navigation map display), flight director and/or autopilot in lateral navigation mode on RNAV 1 routes. The full-scale course deviation indicator (CDI) deflection value of ±1 NM is acceptable
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots of aircraft without GPS/GNSS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the depiction of waypoint types (flyover and flyby) and path terminators
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the types of navigation sensors (for example, DME, IRU, GPS/GNSS) utilized by the RNAV system and associated system prioritization/weighting/logic
Avionics and Communications	Understand Avionics and communications -	Can describe the operation of the airplane systems and components using correct terminology

	Flight Management System (FMS)	
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS) - FMS Powers Up In Single or Independent Mode procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the onboard navigation data must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and relevant coded terminal airspace procedures for the departure, arrival, and alternate airfields.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 2 requires a total system error of not more than 2 NM for 95 percent of the total flight time

Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that Receiver Autonomous Integrity Monitoring (RAIM) is a technique used within a GPS receiver/processor to monitor GPS signal performance and is achieved by a consistency check among redundant measurements.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a SID is a published IFR air traffic control (ATC) DP providing obstacle clearance and a transition from the terminal area to the en route structure.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS) - GPS / SBAS Reception Loss During RNAV (GPS) Approach to Minima procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the performance requirement and the fail-down capabilities of the system
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the meaning and proper use of aircraft equipment/navigation suffixes
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can describe the operation of the airplane systems and components using correct terminology
Avionics and	Understand Avionics and communications -	Can explain system or component limitations

Communications	ground-based navigation systems and components	
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - indicating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - indicating devices - (EVS) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - (HUD) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Charts Function DU 2 and 3 Inoperative procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Charts Function Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Equipment Loss While in RVSM Airspace procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Video Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS) - IRS Align In Motion procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Radar	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Radar	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Avionics and Communications	Understand Avionics and communications - Radar	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list required equipment for RNP operations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret aircraft automation, mode annunciations, changes, alerts, interactions, reversions, and degradations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries	Can explain functional integration with other aircraft systems

	which adopt ICAO standards for RNP operations.	
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list the types of navigation sensors used by the RNP system and their annunciations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret electronic displays and symbols
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the importance of maintaining the published path and maximum airspeeds while performing RNP operations with Radius to Fix (RF) legs (if applicable)

Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe flightcrew contingency procedures for a loss of RNP capability; and
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the performance requirement to couple the autopilot (AP)/flight director (FD) to the navigation system's lateral guidance on RNP procedures, if required
Avionics and Communications	Understand Avionics and Communications - Supporting Systems	Can interpret Other associated instrumentation and displays including any head-up display, guidance system, vision system, monitoring displays, status displays, mode annunciation displays, failure or warning annunciations, and associated system status displays that may be relevant. When such airborne systems are used as the basis for category(s) of minima (e.g., HUD or SVGS for Special Authorization (SA) CAT I; AP, F/D, or HUD for CAT I Landing Minima with Reduced Lighting (RVR 1800)), training should address the relationships between the various system components and the minima for which they are required.
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can describe the operation of the airplane systems and components using correct terminology

Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/alert systems - (EGPWS) Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain system or component limitations

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems - TCAS Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - transponder	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - transponder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - transponder	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-TD capable systems IAW FAR § 91.176(a)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).
Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-100 capable systems IAW FAR § 91.176(b)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).
Avionics and Communications	Understand EFVS Operations	Can explain all required pilot flightcrew members must have received and logged the appropriate ground training in EFVS operations IAW FAR § 61.66(a)(1). All PICs or those manipulating the controls (PF) of an aircraft during EFVS operations must have received and logged the appropriate flight training in EFVS operations IAW FAR § 61.66(b)(1). A logbook endorsement or record of training completion is required for the appropriate EFVS operation (EFVS-TD and/or EFVS-100) unless using a military, 61.66(f) exemption OR the pilot can show documentation of satisfactory completion of EFVS-100 operations prior to March 13, 2018.
Avionics and Communications	Understand EFVS Operations	Can explain the checking requirements for EFVS operations as an approved air carrier. For Part 135 operations, FAR § 135.293(i) requires competency checks completed under FAR § 135.293(b) include tasks appropriate to the EFVS operations the certificate holder is authorized to conduct.
Avionics and Communications	Understand EFVS Operations	Can explain pilots conducting EFVS operations for parts 91K, 121, 125, and 135 maintain recent flight experience through satisfactory completion of EFVS tasks and maneuvers during their recurring proficiency checks or competency checks.

Avionics and Communications	Understand EFVS Operations	Can explain EFVS operational credit is credit for a portion of flight visibility prescribed by the IAP being flown that is satisfied by the enhanced image provided by the EFVS. EFVS operational credit is authorized in FAA OpSpec C048.
Avionics and Communications	Understand EFVS Operations	Can describe EFVS operational credit is used by authorized parts 121, 125, and 135 CHs and part 129 foreign air carriers to determine minimum visibilities to: 1. Dispatch, release, or take off a flight under instrument flight rules (IFR) when the forecast weather at the destination airport is equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.613, 125.361, and 135.219); and 2. Begin, execute, or continue an approach when the weather is reported to be equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.651, 125.325, 125.381, and 135.225).

Avionics and Communications	Understand EFVS Operations	Can explain a standard EFVS credit. The Flight Technologies and Procedures Division evaluates available performance data from numerous sources such as other operational evaluations and Original Equipment Manufacturer (OEM) demonstrations conducted in the type design approval process. A standard credit is recommended for an installed EFVS sensor and is published in the Operational Suitability Report (OSR), Operational Credit for Enhanced Flight Vision Systems (EFVS). An operator applying for EFVS operational credit that elects to use the standard credit would not need to demonstrate system performance; however, this does not restrict an operator from conducting their own performance demonstration to determine operational credit. Industry consensus methodology for performance demonstrations is contained in RTCA DO-390, Test Procedures for Quantified Visual Advantage. The OSR can be found at https://drs.faa.gov/browse/excelExternalWindow/bb448b0f-d979-42a2-8d67-9346707e6d29.
Avionics and Communications	Understand EFVS Operations	Can explain Minimum Visibility with Use of EFVS for Parts 121, 125, 129, and 135. OpSpec C048 may include authorization to use a credit to reduce the visibility required for operating without the use of the EFVS (see Table 1, Sample Minimum Visibility Table). The credits based on the demonstrated EFVS sensor performance.
Avionics and Communications	Understand EFVS Operations	Can explain Landing Weather Minimums for Recently Upgraded PICs. Recently upgraded PICs are subject to § 121.652, § 125.379, or § 135.225(e), which temporarily raise IAP minimums to afford an extra layer of safety while experience operating as PIC is gained. EFVS minimum visibility should not be used until the requirements of these regulations are met, as this may negate the safety margins intended by these regulations.

Avionics and Communications	Understand EFVS Operations	Can explain Alternate Airport Weather. The use of EFVS minimum visibility is not advised for alternate airport planning. However, once in flight, a pilot may use EFVS minimum visibilities to begin an approach at an alternate airport.
Avionics and Communications	Understand EFVS Operations	Can ensure considerations for Part 91K, 125, or 135 Pilot Training Programs. Initial training for pilots under part 91K, 125, or 135 must include the required elements listed in FAR § 61.66(a)(2) and (b)(2). The required elements and suggested methods of meeting said requirements can be found in Appendix A. Part 91K, 125, or 135 competency checks should include appropriate EFVS tasks.
Avionics and Communications	Understand EFVS Operations	Can demonstrate familiarization with an overview per FAR § 91.176, parts 121, 125, and 135 CHs require OpSpec C048 to conduct EFVS-100 or EFVS-TD operations, and may include provisions to use EFVS operational credit. Part 91K program managers require MSpec C048 to conduct EFVS-100 or EFVS-TD operations. MSpec C048 does not include provisions to use EFVS operational credit.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 1. Airworthiness Documentation. Excerpts from the AFM(S) that identify the EFVS operation(s) for which the system received airworthiness approval. The FAA recommends incorporating any procedures or operating limitations in the AFM(S) into the approved EFVS training curriculum and operating manuals.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 2. Operating Manuals. Applicable sections of operating manuals (e.g., Airplane Operations Manual (AOM), Flight Operations Manual (FOM), pilot's operating handbook (POH), and/or quick reference handbook (QRH)) that contain the operator's procedures or provisions for using an EFVS. These procedures can be incorporated in the operator's approved EFVS training curriculum and in the AFM(S).
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 3. EFVS Pilot Training Curriculum. A proposed EFVS training curriculum that ensures the pilot meet the requirements of § 61.66. Paragraph 9 and Appendix A contain information for developing a training curriculum to include the required ground training subjects and flight training tasks required by § 61.66(a) and (b). It is acceptable to incorporate a previously approved curriculum provided by a part 141 or 142 school.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 4. EFVS Provisions in the MEL. If the applicant is seeking MEL relief for EFVS, they should provide the proposed MEL containing appropriate operations and maintenance procedures that consider all applicable components of the EFVS during MEL submission, review, and approval.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 5. Application for Operational Credit. Operators operating under parts 121, 125, and 135 CHs applying for authorization to use EFVS operational credit should provide: a. A statement of proposed credit. Operators may propose use of the standard credit published in the EFVS OSR, which is based on previous demonstrations of system visual advantage. When an operator elects to use the standard credit, it is not necessary to demonstrate visual advantage during the operational demonstration. If the applicant elects to perform their own demonstration, AC 20-167 provides methods that can be used to demonstrate quantified visual advantage in the certification process. b. EFVS training curriculum for dispatchers or other persons exercising operational control, as described in paragraph 9 and Appendix C. c. Dispatch procedures manual or a general operation manual, as applicable, containing procedures for using the authorized EFVS operational credit to determine the minimum visibilities for use with EFVS.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 6. EFVS Maintenance Procedures. EFVS maintenance procedures or programs as described in Appendix B. If the applicant is responsible for the training of maintenance personnel, the applicant can also provide an EFVS training curriculum for maintenance personnel, as described in paragraph 9 and Appendix B.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of EFVS Operational Demonstration for Parts 91K, 121, 125, and 135 Applications. The FAA's process for approval and acceptance includes observing and evaluating the operator's ability to perform the proposed operation(s) in accordance with the procedures, guidelines, and parameters described in the operator's formal application. The means for meeting the operational demonstration objectives and an appropriate timeline are established through an agreement between the operator and the responsible Flight Standards Safety Assurance office. The are many acceptable means by which an operational demonstration can be accomplished (e.g., tabletop exercises, simulators, classroom observations, observations of line operations, observations of training flights, or any other agreed-upon means).

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of the regulations relevant to EFVS operations. A list of the regulations is in Appendix D, Related Regulations and Guidance. Appendix D includes 61.66, 91.1065, 121.407, 121.409, 121.441 including Appendices F and H, 125.287, 135.293, 91.176, 91.189(d) and (e), 91.1039, 121.651, 125.325, 125.381, 135.225, 91.905, AC 20-167, AC 61-65, AC 120-54, AC 120-57, AC 120-71, and AC 120-118.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of an AFM or its supplement (AFM(S)) or other manufacturer documentation that specifies the type of EFVS operation the EFVS is certified to conduct, specifies performance applicable to the use of operational credit, or defines specific procedures, conditions, or limitations associated with operating the EFVS. In some cases, procedures described in an AFM(S) may be more restrictive than the regulations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the characteristics of the enhanced imagery provided by an EFVS. An EFVS image must be real-time, conformal, and sensor-based. Imagery that is computer-generated from a database, such as a synthetic image, cannot be used to conduct an EFVS operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements to be used for EFVS operations to touchdown and rollout (EFVS-TD) operations listed under 14 CFR part 91, § 91.176(a)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements of an EFVS to be used for EFVS operations to 100 feet above the touchdown zone elevation (TDZE) (EFVS-100) operations listed under § 91.176(b)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the controls for the EFVS image to include display brightness, contrast, and image modes.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the control for turning the EFVS image on or off. This control is important, because if the sensor imagery were to obscure the pilot's view of the outside scene, the pilot should have a readily available means to immediately remove the sensor imagery from the Head-Up Display (HUD). However, in order to continue an EFVS operation, the pilot should reactivate the image as soon as possible.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain how computer-generated synthetic elements are presented in the image, if applicable. Some systems may integrate synthetic vision elements into the image displayed on the HUD. A pilot should be able to differentiate between the sensor-based elements and the computer-generated elements.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) explain the runway and extended runway centerline symbology presented during the approach phase.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the field of view (FOV) of the EFVS display.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can explain the imaging technology of the EFVS sensor and the related limitations (i.e., light detection, obstacle detection, weather types, and FOV). The AFM(S) may specify any limitations or demonstrated performance applicable to the installed EFVS. An EFVS can display imagery that may significantly improve a pilot's capability to detect approach lights and visual references of the runway environment that may not otherwise be visible using natural vision. Not all EFVS sensors have the same imaging capabilities. Some sensors may image particular materials and some may focus in specific energy spectrums. Some sensor technologies are more affected by certain weather conditions (e.g., obscurations and precipitation). Some systems utilize multiple sensors to combine the benefits from different technologies.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview on interpreting a sensor-generated scene presented by the EFVS. Images may have characteristics and contain artifacts that are unique to the sensor technology, EFVS image processing software, or display characteristics (i.e., monochrome colors). An external scene generated from infrared technology may be different from a scene generated from another technology or combination of technologies.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview of image anomalies of the installed EFVS. Anomalies such as "noise," "blooming," parallax, and other visual effects may be more prevalent in different EFVS installations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of flight planning considerations for sensor performance and limitations.
Avionics and	Understand EFVS Operations	Per § 61.66(a)(2)(v) can explain the optimal EFVS settings for different phases of flight and meteorological conditions.

Communic ations		
Avionics and Communic ations	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of techniques for identifying visual references with natural vision at 100 feet above the TDZE for EFVS-100 operations. There may be several techniques that crews can use to ensure that visual references are seen with natural vision while continuing to use the EFVS image. It is important that these techniques do not reinforce deactivating the EFVS image more than momentarily during the EFVS operation.
Avionics and Communic ations	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of considerations for conducting EFVS operations with a limited EFVS FOV. A combination of crosswind correction, approach course offset, and the lateral FOV may result in the inability of the pilot to acquire and maintain visual references.
Avionics and Communic ations	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of considerations for executing a go-around below a DA/DH or MDA. Whether a pilot is using an EFVS or natural vision, obstacle clearance should not be assumed when initiating a go-around below a DA/DH or MDA or after the missed approach point. The missed approach procedure should be thoroughly briefed and accurately flown, and may need additional climb performance beyond the standard 200 feet per nautical mile to ensure adequate obstacle clearance.
Avionics and Communic ations	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for visual segment obstacle clearance. Pilots using an EFVS should be careful not to conclude that the flightpath is free of obstacles because no obstacles are distinctly visible in the EFVS image. The approach procedure should be thoroughly briefed and accurately flown.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of the considerations for conducting EFVS operations on special instrument approach procedures (IAP). Operators that have a specific approval from the FAA to conduct instrument approaches using special IAPs should evaluate those instrument procedures to determine their compatibility with EFVS operations. These procedures may have nonstandard features or special conditions that may not be compatible with EFVS operations or the performance of an EFVS sensor.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for conducting taxi operations after conducting an EFVS operation. Once the EFVS operation is complete, the pilot may have to taxi at an airport with Low-Visibility Operations (LVO)/Surface Movement Guidance and Control System (SMGCS) operations in effect. Although an EFVS may provide some increased situation awareness during taxi operations, natural vision is still essential.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) can demonstrate an overview of the effect of obscuration types, precipitation conditions, and low ceilings or cloud layers as contributing factors to the variable and unpredictable characteristics of EFVS sensor performance or EFVS sensor and image quality.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) demonstrate an overview of visibility reporting equipment (e.g., Runway Visual Range (RVR), automated surface observing system (ASOS), and Automated Weather Observing System (AWOS)) and their limitations, reporting increments, and relationship to actual flight visibility on the approach.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-TD operations, as applicable.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-100 operations, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: a. An integrity check of the sensor window.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: b. System tests and warmup time.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: c. System control adjustments, to include appropriate setting of EFVS contrast, brightness, and symbology.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: d. EFVS image alignment procedures with the natural vision image.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: a. Callouts for continuing descent below the DA/DH or MDA using the EFVS.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: b. Callouts for transition from enhanced image to natural vision at 100 feet above the TDZE during an EFVS-100 operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: c. Callouts to clearly communicate the decision to land or go around.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: d. Callouts for abnormal EFVS operations.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: a. Expectations of system performance and limitations in reported weather conditions and a minimum visibility for the use of an EFVS (if applicable).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: b. EFVS callouts.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: c. Other approach considerations that may affect EFVS operations such as final approach offsets and ground infrastructure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: d. Missed approach considerations and procedure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: e. The taxi operation considerations in reported weather conditions.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the PM use of the repeater display during EFVS-TD operations. The PM uses the display to assess the safe conduct of the approach, landing, and rollout, and intervene, if necessary, in visibilities where natural vision may not be sufficient.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the procedure used for determining minimum visibility for use of EFVS for the purpose of releasing the flight or executing an approach, as applicable.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can demonstrate an overview of techniques for identifying EFVS system failures and corresponding procedures. A proper cross-check of the HUD instrumentation presentations against the EFVS sensor image could help recognize malfunctions of the navigation equipment or improper presentation of elements in the visual scene during the approach. In the event any required component fails during an EFVS operation until touchdown, the PF should initiate a go-around. However, this does not preclude a pilot's authority to continue to a landing and rollout if the pilot considers that a safer course of action.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(viii) can integrate the following: it is necessary for the pilot training curriculum to include the interpretation of approach and runway lighting systems and their display characteristics when using an EFVS. This could be accomplished by including an overview of different light sources used in airport and approach lighting systems and the ability of the EFVS to detect them. An EFVS based only on infrared sensor technology may not be capable of imaging light-emitting diode (LED) lighting because energy is not emitted in an infrared spectrum. It is important that pilots are familiar with the potential use of LEDs at their destination and any corresponding limitations of their EFVS. For more information, please refer to Information for Operators (InFO) 11004, Enhanced Flight Vision System (EFVS), Enhanced Vision Systems (EVS), and Night Vision Goggles (NVG) Compatibility with Light-Emitting Diodes (LEDs) at Airports and on Obstacles. You can find InFO 11004 at https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info.
Avionics and Communications	Understand EFVS Operations	Can explain those portions of this chapter that relate to EFVS flight operations and limitations, including the Airplane Flight Manual or Rotorcraft Flight Manual limitations.

Avionics and Communications	Understand EFVS Operations	Can explain EFVS sensor imagery, required aircraft flight information, and flight symbology.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS display, controls, modes, features, symbology, annunciations, and associated systems and components.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS sensor performance, sensor limitations, scene interpretation, visual anomalies, and other visual effects.
Avionics and Communications	Understand EFVS Operations	Can explain preflight planning and operational considerations associated with using EFVS during taxi, takeoff, climb, cruise, descent and landing phases of flight, including the use of EFVS for instrument approaches, operating below DA/DH or MDA, executing missed approaches, landing, rollout, and balked landings.
Avionics and Communications	Understand EFVS Operations	Can explain weather associated with low visibility conditions and its effect on EFVS performance.
Avionics and Communications	Understand EFVS Operations	Can explain normal, abnormal, emergency, and crew coordination procedures when using EFVS.
Avionics and Communications	Understand EFVS Operations	Can interpret approach and runway lighting systems and their display characteristics when using an EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to touchdown and rollout. This includes a displayed EFVS sensor image for the pilot monitoring where the symbology does not obscure the runway environment. See 91.176(a)(1)(i)(A) through (F) and (ii) for details.
Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.

Avionics and Communications	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.
Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (a)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Ensure when a minimum flightcrew of more than one pilot required, the pilot monitoring must use the display specified in paragraph (a)(1)(ii) to monitor and assess the safe conduct of the approach, landing, and rollout.
Avionics and Communications	Understand EFVS Operations	Can appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Appreciate why the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing.
Avionics and Communications	Understand EFVS Operations	Can ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operators, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;
Avionics and Communications	Understand EFVS Operations	Can ensure each person acting as a required pilot flightcrew member for a foreign air carrier subject to part 129, or any person serving as a required pilot flightcrew member of a foreign registered aircraft, must be qualified in accordance with the training requirements of the civil aviation authority of the State of the operator for the EFVS operation to be conducted.

Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under this part must conduct the operation in accordance with a letter of authorization for the use of EFVS unless the operation is conducted in an aircraft that has been issued an experimental certificate under § 21.191 of this chapter for the purpose of research and development or showing compliance with regulations, or the operation is being conducted by a person otherwise authorized to conduct EFVS operations under paragraphs (a)(2)(ix) through (xii) of this section. A person applying to the FAA for a letter of authorization must submit an application in a form and manner prescribed by the Administrator.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless from the authorized DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references - (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the enhanced flight visibility using EFVS must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can explain the Administrator may prescribe additional equipment, operational, and visibility and visual reference requirements to account for specific equipment characteristics, operational procedures, or approach characteristics. These requirements will be specified in an operator's operations specifications, management specifications, or letter of authorization authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to 100 feet above the touchdown zone. See 91.176(a)(1)(i)(A) through (F) for details; however, a flare prompt, flare guidance, or height above ground level need not be present for operations to 100 feet above the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.

Avionics and Communications	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.
Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (b)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Can appreciate why for operations conducted under part 121 or part 135 of this chapter, the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing
Avionics and Communications	Understand EFVS Operations	Ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operators, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless from the authorized MDA or DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references- (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the flight visibility must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot without reliance on the EFVS - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can consider the compliance date. Beginning on March 13, 2018, a person conducting an EFVS operation to 100 feet above the touchdown zone elevation must comply with the requirements of paragraph (b) of this section.
Avionics and Communications	Understand EFVS Operations	Can determine the recommended EFVS Operational Credit capability for their make/model and possibly serial number for their aircraft using Appendices 1 and 2.
Avionics and Communications	Understand EFVS Operations	Can appreciate the EFVS Operational Credit Tables in Appendix 3 for risk management under Part 91 operations or compliance for air carrier operations.
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Powerplant	Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU
Powerplant	Understand Powerplant - turbine wheels	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - turbine wheels	Can explain system or component limitations

Powerplant	Understand Powerplant - turbine wheels	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - turbine wheels	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - turbine wheels	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - turbine wheels	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - allowable types of oil	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - allowable types of oil	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - allowable types of oil	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - compressors	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - compressors	Can explain system or component limitations
Powerplant	Understand Powerplant - compressors	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - compressors	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - compressors	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Powerplant	Understand Powerplant - compressors	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - controls and indications	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - controls and indications	Can explain system or component limitations
Powerplant	Understand Powerplant - controls and indications	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - controls and indications	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - controls and indications	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - controls and indications - Engine Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - controls and indications - Pylon Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - deicing, anti-icing	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain system or component limitations
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Powerplant	Understand Powerplant - deicing, anti-icing	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Oil System	Understand Powerplant - allowable types of oil	Can describe the operation of the airplane systems and components using correct terminology
Oil System	Understand Powerplant - allowable types of oil	Can explain system or component limitations
Oil System	Understand Powerplant - allowable types of oil	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oil System	Understand Powerplant - oil system capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain system or component limitations
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain immediate action items or memory items, if appropriate
Oil System	Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Oil System	Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Thrust Reverse	Understand Powerplant - thrust reverse	Can describe the operation of the airplane systems and components using correct terminology
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain system or component limitations
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain immediate action items or memory items, if appropriate
Thrust Reverse	Understand Powerplant - thrust reverse	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Thrust Reverse	Understand Powerplant - thrust reverse - Dispatch With Inoperative Thrust Reverser(s) On Wet Runways procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Thrust Reverse	Understand Powerplant - thrust reverse - Thrust Reverser Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Thrust Reverse	Understand Powerplant - thrust reverse - Thrust Reverser Manual Stow Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Fuel System	Understand Fuel system - additives	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - additives	Can explain system or component limitations

Fuel System	Understand Fuel system - additives	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - additives	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - additives	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - additives	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - capacity and quantities	Can explain system or component limitations
Fuel System	Understand Fuel system - capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - capacity and quantities	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - capacity and quantities - Fuel Leak In Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - capacity and quantities - low fuel state procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - controls and indicators	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - controls and indicators	Can explain system or component limitations

Fuel System	Understand Fuel system - controls and indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - controls and indicators	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - controls and indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - controls and indicators - Fuel Tank Temperature procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - cross-feeding	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - cross-feeding	Can explain system or component limitations
Fuel System	Understand Fuel system - cross-feeding	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - cross-feeding	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - cross-feeding	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - cross-feeding	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - drains	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - drains	Can explain system or component limitations
Fuel System	Understand Fuel system - drains	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Fuel System	Understand Fuel system - drains	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - drains	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - drains	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - fuel grade	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - fuel grade	Can explain system or component limitations
Fuel System	Understand Fuel system - fuel grade	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - fuel grade	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - fuel grade	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - fuel grade	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - fuel substitutions	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - fuel substitutions	Can explain system or component limitations
Fuel System	Understand Fuel system - fuel substitutions	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - fuel substitutions	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - fuel substitutions	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Fuel System	Understand Fuel system - fuel substitutions	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - fueling and defueling procedures	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - fueling and defueling procedures	Can explain system or component limitations
Fuel System	Understand Fuel system - fueling and defueling procedures	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - fueling and defueling procedures	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - pumps	Can explain system or component limitations
Fuel System	Understand Fuel system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - pumps	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Fuel System	Understand Fuel system - pumps - fuel boost pump failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - pumps - fuel boost pump failure procedure - Fuel Return Fail Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - transferring	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - transferring	Can explain system or component limitations
Fuel System	Understand Fuel system - transferring	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - transferring	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - transferring	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - transferring	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - capacity	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - capacity	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - capacity	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - capacity	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - capacity	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - capacity	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - pressure	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - pressure	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - pressure	Can explain immediate action items or memory items, if appropriate

Hydraulic System	Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - pressure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - pumps	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - pumps	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - pumps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain immediate action items or memory items, if appropriate

Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - reservoirs	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - reservoirs	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - reservoirs	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Landing Gear and Brakes	Conduct nosewheel steering - Nosewheel Steering failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain immediate action items or memory items, if appropriate

Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - tires	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - tires	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - tires	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Course 2	Tasks	Knowledge & Cognitive Learning Objectives
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain immediate action items or memory items, if appropriate
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Equipment Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Floor Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can describe the operation of the airplane systems and components using correct terminology

Suppression		
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental - Airplane Interior Fire / Smoke / Fumes procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fire and Smoke Detection, Protection and	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain immediate action items or memory items, if appropriate

Suppression		
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain immediate action items or memory items, if appropriate

Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Flight Controls	Conduct Clean Configuration Stall prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Landing Configuration Stall Prevention	Can explain the effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Partial Flap Configuration Stall Prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Recovery From Unusual Flight Attitudes	Can explain and reference the operating envelope and structural limitations for the airplane
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Envelope protection—angle of attack warning	Can explain system or component limitations

	and protection and speed protection	
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - elevator	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - elevator	Can explain system or component limitations
Flight Controls	Understand Flight Controls - elevator	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - elevator	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - elevator	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - elevator	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Flight Controls	Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - flaps	Can explain system or component limitations
Flight Controls	Understand Flight Controls - flaps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - flaps	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - flaps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - rudder	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - rudder	Can explain system or component limitations
Flight Controls	Understand Flight Controls - rudder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - rudder	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - rudder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - rudder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - speed brakes	Can explain system or component limitations
Flight Controls	Understand Flight Controls - speed brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Flight Controls	Understand Flight Controls - speed brakes	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - speed brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - speed brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - spoilers	Can explain system or component limitations
Flight Controls	Understand Flight Controls - spoilers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - spoilers	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - spoilers - Ground Spoiler Failure Inflight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain system or component limitations
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - Ailerons	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - Ailerons	Can explain system or component limitations
Flight Controls	Understand Flight Controls - Ailerons	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - Ailerons	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - Ailerons	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - Ailerons	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - Other Flight Deck Systems	Can describe Other flight deck systems related to AWO operations (e.g., autobrakes or autospoilers), and any associated limitations, characteristics, or constraints (e.g., touchdown pitch up or pitch down tendency of certain autospoiler or autobrake settings or non-normal conditions, time delays, or auto-deactivation features with go-around)
Flight Controls	Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology

Flight Controls	Understand Flight Controls - trim systems	Can explain system or component limitations
Flight Controls	Understand Flight Controls - trim systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - trim systems	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - trim systems - mach trim failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Ice Protection - anti-ice & de-ice.	Can explain system or component limitations
Flight Controls	Understand Ice Protection - pitot-static system protection	Can explain system or component limitations
Flight Controls	Understand Ice Protection airfoil surfaces	Can explain system or component limitations
Flight Controls	Understand Ice Protection windshield	Can explain system or component limitations
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain immediate action items or memory items, if appropriate

Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environme	Understand Pneumatic and environmental	Can describe the operation of the airplane systems and components using correct terminology

ntal Systems	system - heating, cooling, ventilation	
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and	Understand Pneumatic and	Can explain immediate action items or memory items, if appropriate

Environmental Systems	environmental system - pressurization	
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization - Unpressurized Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain system or component limitations
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain immediate action items or memory items, if appropriate
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain system or component limitations
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain immediate action items or memory items, if appropriate
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Ice Protection	Understand ground operations in icing conditions	Can explain that for aircraft type specific procedures, pilots should refer to the aircraft flight manuals or other manufacturer documents developed for that particular type aircraft
Ice Protection	Understand ground operations in icing conditions	Can explain that it is essential that the PIC have a thorough understanding of the deicing and anti-icing process and the approved procedures necessary to ensure that the aircraft is clean for takeoff.
Ice Protection	Understand Ice Protection - anti-ice & de-ice - Ice Shedding Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection - pitot-static system protection	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection - pitot-static system protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection - pitot-static system protection	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection - pitot-static system protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Ice Protection	Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection airfoil surfaces	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection airfoil surfaces	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection windshield	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection windshield	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection windshield	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection windshield	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection windshield - Windshield Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection windshield - Windshield Heat Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 2	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Oxygen	Understand Crew and Passenger	Can describe the operation of the airplane systems and components using correct terminology

	Equipment - oxygen system	
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain immediate action items or memory items, if appropriate
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain immediate action items or memory items, if appropriate

Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system - Inadvertent Oxygen Mask Activation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system - Overweight Landing procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain immediate action items or memory items, if appropriate

Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Simulator Training Learning Objectives

SIM 1 Learning Objectives

SIM 1 Briefing Items

Tasks	Knowledge & Cognitive Learning Objectives
Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Understand determining landing performance per AFM	Can explain the importance of accurate and timely assessments of landing distance
Understand determining landing performance per AFM	Can explain the origin and use of runway Declared Distances
Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing
Understand determining landing performance per AFM	Can explain the risks associated with tailwind landings and landings on contaminated runways
Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining landing performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Conduct after landing, parking and securing	Can explain parking, shutdown, securing, and postflight inspection.
Conduct Arrival Procedures	Can use standard Terminal Arrival (STAR) charts, U.S. Terminal Procedures Publications, and IFR Enroute High and Low Altitude Charts
Conduct Arrival Procedures	Can use a Flight Management System (FMS) or GPS to follow a STAR

Conduct Arrival Procedures	Can explain two-way radio communication failure procedures during an arrival
Conduct Arrival Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Arrival Procedures	Can explain reasons other than visibility that a go around may suddenly be required
Conduct Arrival Procedures	Can explain the characteristics of a pilot braking action report
Conduct Arrival Procedures	Can explain items to consider when a pilot braking action report is reliable
Conduct Before Takeoff Checks	Can explain the purpose of checking each item during before takeoff checks
Conduct Before Takeoff Checks	Can describe how to detect malfunctions
Conduct Before Takeoff Checks	Can ensure the aircraft is in safe operating condition
Conduct Before Takeoff Checks	Can explain deicing and anti-icing procedures
Conduct Before Takeoff Checks	Can describe how to conduct a proper pre-takeoff contamination check
Conduct Before Takeoff Checks	Can describe how adverse weather conditions effect takeoff performance (e.g., snow, ice, gusting crosswinds, low-visibility)
Conduct Before Takeoff Checks	Can give a before takeoff briefing
Conduct Clean Configuration Stall prevention	Can explain aerodynamics associated with stalls in a clean configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance
Conduct Clean Configuration Stall prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Clean Configuration Stall prevention	Can explain factors and situations that Can lead to a stall during cruise flight and actions that Can be taken to prevent it
Conduct Clean Configuration Stall prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or

	autothrottle/autothrust, if applicable to the aircraft
Conduct Clean Configuration Stall prevention	Can explain fundamentals of stall recovery
Conduct Clean Configuration Stall prevention	Can explain the effects of altitude on performance (e.g., thrust available) and flight control effectiveness during a recovery
Conduct Departure Procedures	Can explain takeoff minimums
Conduct Departure Procedures	Can explain obstacle Departure Procedure (ODP), including Visual Climb over the Airport (VCOA) and Diverse Vector Area (Radar Vectors)
Conduct Departure Procedures	Can explain Standard Instrument Departures (SID), including RNAV departure
Conduct Departure Procedures	Can explain required climb gradients
Conduct Departure Procedures	Can explain U.S. Terminal Procedures Publications and En Route Charts
Conduct Departure Procedures	Can explain proper use of a Flight Management System (FMS) to follow a DP
Conduct Departure Procedures	Can explain pilot/controller responsibilities, communication procedures, and ATC services available to pilots
Conduct Departure Procedures	Can explain two-way radio communication failure procedures after takeoff
Conduct Departure Procedures	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity)
Conduct Departure Procedures	Can explain communication failure procedures
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can explain declaring an emergency and selection of a suitable airport or landing location

Conduct Go-Around/Rejected Landing	Can describe Proper airborne system use for go-around, including consideration of height loss during transition to a go-around, performance assurance for obstacle clearance, management of any necessary mode changes, and assurance of appropriate vertical and lateral flightpath tracking.
Conduct Go-Around/Rejected Landing	Can explain stabilized approach, to include energy management concepts.
Conduct Go-Around/Rejected Landing	Can explain effects of atmospheric conditions, including wind and density altitude on a go-around or rejected landing.
Conduct Go-Around/Rejected Landing	Can explain wind correction techniques on takeoff/departure and approach/landing.
Conduct Go-Around/Rejected Landing	Can explain situations and considerations on approach that could require a go-around/rejected landing, to include the inability to comply with a LAHSO clearance.
Conduct Go-Around/Rejected Landing	Can explain Go-around/rejected landing procedures, the importance of a timely decision, and appropriate airspeed/V-speeds for the maneuver.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Interior and exterior preflight	Can explain which items must be inspected per the OEM Manuals using pictorial preflight
Conduct Interior and exterior preflight	Can explain the reasons for checking each item during preflight
Conduct Interior and exterior preflight	Can describe how to detect possible defects
Conduct Interior and exterior preflight	Can explain how to coordinate checklist with crew, if appropriate
Conduct Landing Configuration Stall Prevention	Can explain aerodynamics associated with stalls in the landing configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance, aircraft attitude, and sideslip effects

Conduct Landing Configuration Stall Prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Landing Configuration Stall Prevention	Can explain factors and situations that Can lead to a stall when configured for landing and actions that Can be taken to prevent it
Conduct Landing Configuration Stall Prevention	Can explain the effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Conduct Landing Configuration Stall Prevention	Can explain fundamentals of stall recovery
Conduct Landing From a Precision Approach	Can recognize significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH.
Conduct Landing From a Precision Approach	Can recognize ground or navigation system faults, failures or abnormalities at any point during the approach and landing.
Conduct Landing From a Precision Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a precision approach.
Conduct Landing From a Precision Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.
Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure

Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Normal Approach and Landing	Can explain stabilized approach, to include energy management concepts.
Conduct Normal Approach and Landing	Can explain effects of atmospheric conditions, including wind, on approach and landing performance.
Conduct Normal Approach and Landing	Can explain wind correction techniques on approach and landing.
Conduct Normal Approach and Landing	Can identify airport and runway markings, signs, and lights
Conduct Normal Takeoff and Climb	Can describe the effects of atmospheric conditions, including wind, on takeoff and climb performance
Conduct Normal Takeoff and Climb	Can describe the appropriate V-speeds for takeoff and climb
Conduct Normal Takeoff and Climb	Can describe the appropriate aircraft configuration and power setting for takeoff and climb
Conduct Normal Takeoff and Climb	Can identify airport and runway markings, signs, and lights
Conduct Partial Flap Configuration Stall Prevention	Can explain aerodynamics associated with stalls in a partial flap configuration, to include the relationship between angle of attack, airspeed, load factor, power setting, aircraft weight and balance
Conduct Partial Flap Configuration Stall Prevention	Can explain stall characteristics of this aircraft type and impending stall and full stall indications (i.e., how to recognize by sight, sound, or feel)
Conduct Partial Flap Configuration Stall Prevention	Can explain factors and situations that Can lead to a stall during takeoff or while on approach and actions that Can be taken to prevent it
Conduct Partial Flap Configuration Stall Prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft

Conduct Partial Flap Configuration Stall Prevention	Can explain fundamentals of stall recovery
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations without APU
Conduct Powerplant Start	Can describe normal powerplant start procedures and limitations with APU
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU
Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations with APU
Conduct Powerplant Start	Can explain procedures for starting engines under various conditions
Conduct Powerplant Start	Can explain possible malfunctions during powerplant start, procedures to address the malfunction, and any associated limitations
Conduct Powerplant Start	Can describe coordinating and communicating with ground personnel for powerplant start, if applicable
Conduct Pushback	Can describe the published OEM pushback procedure for operations with engines not running, starting the right engine during pushback, and both engines running prior to pushback.
Conduct Precision Approach	Can describe normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures
Conduct Precision Approach	Can describe procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.
Conduct Precision Approach	Can recognize the limits of acceptable aircraft position and flightpath tracking during approach, flare and rollout. This should be addressed using appropriate displays or annunciations for either automatic or manual landing systems.

Conduct Precision Approach	Can identify nearby critical terrain or obstruction environment;
Conduct Precision Approach	Can explain procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in the case of inoperative equipment.
Conduct Precision Approach	Can explain navigation system displays, annunciations, and modes of operation.
Conduct Precision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Precision Approach	Can explain stabilized approach criteria, to include energy management concepts.
Conduct Recovery From Unusual Flight Attitudes	Can explain procedures for recovery from unusual attitudes in this aircraft type
Conduct Recovery From Unusual Flight Attitudes	Can explain unusual flight attitude causal factors, including physiological factors, system and equipment failures, and environmental factors
Conduct Recovery From Unusual Flight Attitudes	Can explain and reference the operating envelope and structural limitations for the airplane
Conduct Recovery From Unusual Flight Attitudes	Can explain the effects of engine location, wing design, and other specific design characteristics that could affect aircraft control during the recovery in this aircraft type
Conduct Steep Turns	Can explain energy management required during steep turns
Conduct Steep Turns	Can explain aerodynamics associated with steep turns, to include: Coordinated and uncoordinated flight
Conduct Steep Turns	Can explain aerodynamics associated with steep turns, to include: Overbanking tendencies as relevant to this aircraft type
Conduct Steep Turns	Can explain maneuvering speed, including the impact of weight changes
Conduct Steep Turns	Can explain load factor and accelerated stalls as relevant to this aircraft type
Conduct Steep Turns	Can explain relationship between rate and radius of turn

Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights
Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew
Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation

Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)
Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway

Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can differentiate between "substitute means of navigation" and "alternate means of navigation"
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using GPS input may be used as an alternate means of navigation without restriction.
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain RAIM prediction requirements when using GPS as a substitute means of navigation
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using WAAS input may be used as an alternate means of navigation without restriction.
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that operators planning to use TSO-C145/-C146 equipment as a substitute means of navigation must check WAAS NOTAMs and confirm WAAS availability for the applicable operation and time
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using DME/DME/IRU, without GPS input, may be used as an alternate means of navigation where valid DME/DME position updating is published as available (for example, by NOTAM or authorization).

Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that In order to use a substitute means of navigation on departure procedures, pilots of aircraft with RNAV systems using DME/DME/IRU, without GPS input, must ensure their aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map display may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement.
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain the definition of Alternate Means of Navigation
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can state the definition of RAIM
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain the definition of Substitute Means of Navigation
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can describe the ways in which a suitable RNAV system may be used
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that the ways in which a suitable RNAV system may be used still apply, even when a facility is identified as required

Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that unless otherwise specified, an otherwise suitable RNAV system cannot be used for navigation on procedures that are identified as not authorized by notam. (For example, an operator may not use a RNAV system to navigate on a procedure affected by an expired or unsatisfactory flight inspection, or a procedure that is based upon a recently decommissioned NAVAID)
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that an otherwise suitable RNAV system cannot be used for substitution of the NAVAID providing lateral guidance for the final approach segment
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that an otherwise suitable RNAV system cannot be used for Lateral navigation on LOC-based courses (including LOC back-course guidance) without reference to raw LOC data
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that AFM guidelines supersede all other information
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that The navigation data should be current for the duration of the flight. If the Aeronautical Information Regulation and Control (AIRAC) cycle will change during flight, operators and pilots should establish procedures to ensure the accuracy of navigation data, including suitability of navigation facilities used to define the routes and procedures for flight. Traditionally, this has been accomplished by verifying electronic data against paper products

Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Pilots must extract waypoints, NAVAIDs, and fixes by name from the onboard navigation database and comply with the charted procedure or route
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that pilots may not manually enter published procedure or route waypoints via latitude/longitude, place/bearing, or place/bearing/distance into the aircraft system
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Pilots are expected to accurately track procedure and route centerlines (CL), as depicted by onboard lateral deviation indicators (LDI), displays, and/or flight guidance during all operations described in this AC unless otherwise authorized to deviate by air traffic control (ATC) or in the instance of an emergency condition
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Operators operating under parts 91K, 121, 125, 129, and 135 must also be equipped with at least one other independent navigation system in addition to an installed and operable RNAV system. This additional system must be suitable, in the event of loss of navigation capability of the RNAV system, for proceeding safely to a suitable airport and completing an instrument approach.
Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that ADF equipment need not be installed and operational, although operators of aircraft without an ADF will be bound by the operational requirements defined in AC 90-108 and not have access to some procedures (that is, there may be instances when some operations might not be conducted without ADF equipment).

Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that for the purposes of flight planning, any required alternate airport must have an available IAP that does not require the use of GPS.
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain system or component limitations
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - autopilot	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - autopilot	Can explain system or component limitations
Understand Avionics and communications - autopilot	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Avionics and communications - autopilot	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - autopilot	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - autopilot	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite) - Radio Failure / Mistune During A Dual Coupled ILS Approach	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable

Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain the features of the PlaneView System
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the functional characteristics of the cursor control device
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - emergency locator transmitter.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - emergency locator transmitter.	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - emergency locator transmitter.	Can explain system or component limitations
Understand Avionics and communications - emergency locator transmitter.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Avionics and communications - emergency locator transmitter.	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - emergency locator transmitter.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - Flight Management System (FMS)	Can explain that DPs and STARs are flown as RNAV 1 procedures. RNAV routes are flown as RNAV 2 unless otherwise specified
Understand Avionics and communications - Flight Management System (FMS)	Can explain that at system initialization, pilots must confirm the navigation database is current and verify the aircraft's present position.
Understand Avionics and communications - Flight Management System (FMS)	Can explain that RNAV DPs and STAR procedures must be retrieved by procedure name from the onboard navigation database and conform to the charted procedure
Understand Avionics and communications - Flight Management System (FMS)	Can explain that whenever possible, RNAV routes should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. Selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted
Understand Avionics and communications - Flight Management System (FMS)	Can explain that manual entry of waypoints using latitude/longitude or place/bearing is not permitted
Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must not change any RNAV DP or STAR database waypoint type from a flyby to a flyover or vice versa.

Understand Avionics and communications - Flight Management System (FMS)	Can explain that flightcrews should crosscheck the cleared flight plan against charts or other applicable resources, as well as the navigation system textual display and the aircraft map display, if applicable
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verification of assigned route and correct entry of transitions into RNAV System/FMS
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying their aircraft navigation system is operating correctly and the correct runway and DP (including any applicable en route transition) are entered and properly depicted prior to flight
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying proper entry of their ATC assigned route upon initial clearance and after any subsequent change of route.
Understand Avionics and communications - Flight Management System (FMS)	Can explain the importance of verifying their aircraft navigation system is operating correctly and the transition and arrival runway is entered and properly displayed
Understand Avionics and communications - Flight Management System (FMS)	Can explain that For DPs, the pilot must be able to engage RNAV equipment to follow flight guidance for lateral RNAV no later than 500 feet above airport elevation.
Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must use a lateral deviation indicator (or equivalent navigation map display), flight director and/or autopilot in lateral navigation mode on RNAV 1 routes. The full-scale course deviation indicator (CDI) deflection value of ±1 NM is acceptable
Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots of aircraft without GPS/GNSS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map may also be used to confirm aircraft position, if

	pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement
Understand Avionics and communications - Flight Management System (FMS)	Can describe the depiction of waypoint types (flyover and flyby) and path terminators
Understand Avionics and communications - Flight Management System (FMS)	Can describe the required navigation equipment for operation on RNAV routes, DPs, and STARs (for example, DME/DME/IRU and GPS/GNSS)
Understand Avionics and communications - Flight Management System (FMS)	Can describe system specific levels of automation, mode annunciations, mode changes, alerts, interactions, reversions and degradation
Understand Avionics and communications - Flight Management System (FMS)	Can describe the functional interaction with other aircraft systems
Understand Avionics and communications - Flight Management System (FMS)	Can describe the meaning and appropriateness of route discontinuities as well as related flightcrew procedures
Understand Avionics and communications - Flight Management System (FMS)	Can describe the monitoring procedures for each phase of flight (for example, monitor PROG or LEGS page)
Understand Avionics and communications - Flight Management System (FMS)	Can explain the types of navigation sensors (for example, DME, IRU, GPS/GNSS) utilized by the RNAV system and associated system prioritization/weighting/logic
Understand Avionics and communications - Flight Management System (FMS)	Can explain turn anticipation regarding speed and altitude effects
Understand Avionics and communications - Flight Management System (FMS)	Can describe proper interpretation of electronic displays and symbols
Understand Avionics and communications - Flight Management System (FMS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Flight Management System (FMS)	Can describe the operation of the airplane systems and components using correct terminology

Understand Avionics and communications - Flight Management System (FMS)	Can explain system or component limitations
Understand Avionics and communications - Flight Management System (FMS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Flight Management System (FMS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Flight Management System (FMS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - Flight Management System (FMS) - FMS Powers Up In Single or Independent Mode procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the onboard navigation data must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and relevant coded terminal airspace procedures for the departure, arrival, and alternate airfields.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the pilot must notify ATC of any loss of the RNAV capability, together with the proposed course of action. If unable to comply with the requirements of an RNAV procedure, pilots must advise ATC as soon as possible.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 1 requires a total system error of not more than 1 nautical mile (NM) for 95 percent of the total flight time.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 2 requires a total system error of not more than 2 NM for 95 percent of the total flight time

Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that Receiver Autonomous Integrity Monitoring (RAIM) is a technique used within a GPS receiver/processor to monitor GPS signal performance and is achieved by a consistency check among redundant measurements.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that an Instrument Departure Procedure (DP) is a published instrument flight rules (IFR) procedure providing obstruction clearance from the terminal area to the en route structure.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that there are two types of DPs: Standard Instrument Departures (SIDs) and Obstacle Departure Procedures (ODPs)
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a SID is a published IFR air traffic control (ATC) DP providing obstacle clearance and a transition from the terminal area to the en route structure.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that SIDs are primarily designed for air traffic system enhancement to expedite traffic flow and to reduce pilot/controller workload.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that ODPs are recommended for obstruction clearance and may be flown without ATC clearance unless an alternate DP (SID or radar vector) has been specifically assigned by ATC.
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a Standard Terminal Arrival (STAR) is a published IFR ATC arrival procedure that provides a transition from the en route structure to the terminal area
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that an RNAV route within the high or low altitude structure of the contiguous United States, is designated by a “Q” or “T”
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs relies on normal descent profiles and identifies minimum segment altitude requirements

Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that pilots operating aircraft with an approved barometric vertical navigation (baro-VNAV) system may continue to use their baro-VNAV system while executing U.S. RNAV routes, DPs, and STARs, however operators must ensure compliance with all altitude constraints as published in the procedure by reference to the barometric altimeter
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs does not require the pilot to monitor ground-based Navigational Aids (NAVAID) used in position updating unless required by the Airplane Flight Manual (AFM), pilot's operating handbook (POH), or the operating manual for their avionics
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that operation on U.S. RNAV routes, DPs and STARs bases obstacle clearance assessments on the associated required RNAV system performance
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain system or component limitations
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Avionics and communications - Global Navigation Satellite System (GNSS) - GPS / SBAS Reception Loss During RNAV (GPS) Approach to Minima procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the performance requirement and the fail-down capabilities of the system
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe alternate airport requirements and selection of an alternate airport.
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the meaning and proper use of aircraft equipment/navigation suffixes
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can explain instrument procedure characteristics as determined from chart depiction and textual description
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can state that manual change of waypoints included in the approach is prohibited
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can differentiate between ILS flight guidance cues and LPV guidance cues
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can obtain required navigation equipment for approach operations using WAAS or any operational restrictions/limitations, as outlined in the AFM, RFM, AFMS, OpSpec, MSpec, or LOA.

Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradations.
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe functional integration with other aircraft systems
Understand Avionics and communications - ground-based navigation systems and components	Can describe The navigation systems to be used, such as the instrument landing system (ILS) with its associated critical area protection criteria, marker beacons, distance measuring equipment (DME), compass locators, or other relevant systems should be addressed to the extent necessary for safe operations. For Ground Based Augmentation System (GBAS) Landing System (GLS)), any characteristics or constraints regarding that method of navigation must be addressed (e.g., proper procedure waypoint selection and use, integrity assurance, loss of satellite availability or failure, terrain masking).
Understand Avionics and communications - ground-based navigation systems and components	Can identify Visual aids including Approach Lighting Systems (ALS), runway lighting systems, markings/lighting associated with declared distances, taxiway lighting, color coding of the centerline lighting for distance remaining, Low-Visibility Operations (LVO)/Surface Movement Guidance and Control System (SMGCS) lighting, and any other lighting systems relevant to an AWO environment should be addressed.
Understand Avionics and communications - ground-based navigation systems and components	Can identify automatic or perform manual input requiring parameters, such as inbound course or automatic/manually tuned navigation frequencies, the importance of checking that proper selections have been made to ensure appropriate system performance, and the

	sequence and management of any mode changes.
Understand Avionics and communications - ground-based navigation systems and components	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - ground-based navigation systems and components	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - ground-based navigation systems and components	Can explain system or component limitations
Understand Avionics and communications - ground-based navigation systems and components	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - ground-based navigation systems and components	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - ground-based navigation systems and components	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and Communications - HUD	Can identify all HUD symbology
Understand Avionics and Communications - HUD	Can explain the FPV
Understand Avionics and Communications - HUD	Can explain non-conformal LDI
Understand Avionics and Communications - HUD	Can recognize unusual attitudes when using the HUD

Understand Avionics and Communications - HUD	Can describe crew coordination when using the HUD
Understand Avionics and Communications - HUD	Can describe crew briefings and callouts
Understand Avionics and Communications - HUD	Can describe duties of the pilot flying and pilot monitoring when using HUD
Understand Avionics and Communications - HUD	Can interpret HUD II symbology including caged FPV, non-conformal LDI, and unusual attitudes
Understand Avionics and communications - indicating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - indicating devices	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - indicating devices	Can explain system or component limitations
Understand Avionics and communications - indicating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - indicating devices	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - indicating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - indicating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - indicating devices	Can interpret PFD mode annunciations
Understand Avionics and communications - indicating devices - (EVS) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - indicating devices - (HUD) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - indicating devices - Charts Function DU 2 and 3 Inoperative procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Avionics and communications - indicating devices - Charts Function Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - indicating devices - Equipment Loss While in RVSM Airspace procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - indicating devices - Video Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain system or component limitations
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Inertial Navigation Systems (INS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - Inertial Navigation Systems (INS) - IRS Align In Motion procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and Communications - Instruments	Can interpret situation information displays, as applicable.
Understand Avionics and Communications - Instruments	Can describe proper application of controlling and/or advisory RVR, appropriate runway light settings, and proper determination of RVR values reported at foreign facilities.

Understand Avionics and Communications - Instruments	Can describe proper application of MDA, DA/DH, or AH, including proper use and setting of altimeter bugs, use of the inner marker (IM) where authorized or required due to irregular underlying terrain, and appropriate altimeter setting procedures for the barometric altimeter consistent with the operator's practice of using either altimeter setting referenced to airport ambient local pressure (QNH) or altimeter setting referenced to airport field elevation (QFE).
Understand Avionics and communications - Radar	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - Radar	Can explain system or component limitations
Understand Avionics and communications - Radar	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - Radar	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - Radar	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - Radar	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe the meaning and proper use of aircraft equipment/navigation capability codes used on the flight plan

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain instrument procedure characteristics as determined from chart depiction and textual description
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret the depiction of waypoint types (flyover and flyby) as well as associated aircraft flightpaths
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain that a waypoint may be a flyover in one procedure and the same waypoint may also be a flyby in another procedure;
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list required equipment for RNP operations
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret aircraft automation, mode annunciations, changes, alerts, interactions, reversions, and degradations
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain functional integration with other aircraft systems
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the meaning of route discontinuities and appropriate flightcrew procedures;
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list the types of navigation sensors used by the RNP system and their annunciations
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain turn anticipation with consideration to speed and altitude effects

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret electronic displays and symbols
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe appropriate selection of course deviation indicator (CDI) scaling (lateral deviation display scaling)
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the importance of maintaining the published path and maximum airspeeds while performing RNP operations with Radius to Fix (RF) legs (if applicable)
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret the depiction of path terminators, associated aircraft flightpaths, altitude, and speed restrictions
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe flightcrew contingency procedures for a loss of RNP capability; and
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the performance requirement to couple the autopilot (AP)/flight director (FD) to the navigation system's lateral guidance on RNP procedures, if required
Understand Avionics and Communications - Supporting Systems	Can interpret Other associated instrumentation and displays including any head-up display, guidance system, vision system, monitoring displays, status displays, mode annunciation displays, failure or warning annunciations, and associated system status displays that may be relevant. When such airborne systems are used as the basis for category(s) of minima (e.g., HUD or SVGS for Special Authorization (SA) CAT I; AP, F/D, or HUD for CAT I Landing Minima with Reduced Lighting (RVR 1800)), training should address the relationships between

	the various system components and the minima for which they are required.
Understand Avionics and communications - terrain awareness/warning/alert systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - terrain awareness/warning/alert systems	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain system or component limitations
Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - terrain awareness/warning/alert systems	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - terrain awareness/warning/alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - terrain awareness/warning/alert systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - terrain awareness/warning/alert systems - (EGPWS) Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - transponder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology

Understand Avionics and communications - transponder	Can explain system or component limitations
Understand Avionics and communications - transponder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - transponder	Can explain immediate action items or memory items, if appropriate
Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - transponder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Avionics and communications - transponder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Accelerate-Stop Distance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely decisions in relation V_1
Understand determining accelerate-stop / accelerate-go distance per AFM	Can state the different causes of RTOs
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run
Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the Balanced Field Concept
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Understand determining accelerate-stop / accelerate-go distance per AFM	Can conduct a complete takeoff briefing and explain its importance
Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of timely and correct decisions related to rejected takeoffs (RTO)
Understand determining climb performance per AFM	Can explain why OEI data may not ensure climb gradient compliance nor obstacle clearance

Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for "all engine" or "engine inoperative" missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified "all-engine lateral flightpath" (or radar vectors) and any specified "engine-inoperative lateral flightpath," using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Understand determining climb performance per AFM	Can state the definition of takeoff segment
Understand determining climb performance per AFM	Can state the definitions of gross and net flightpath
Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining climb performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Understand determining climb performance per AFM	Can locate FAA TALPA videos online
Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure

Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining descent performance per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand Envelope protection—angle of attack warning and protection and speed protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Envelope protection—angle of attack warning and protection and speed protection	Can describe the operation of the airplane systems and components using correct terminology
Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain system or component limitations
Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain immediate action items or memory items, if appropriate
Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Envelope protection—angle of attack warning and protection and speed protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Lighting	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Lighting	Can describe the operation of the airplane systems and components using correct terminology
Understand Lighting	Can explain system or component limitations
Understand Lighting	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Lighting	Can explain immediate action items or memory items, if appropriate
Understand Lighting	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Lighting	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Lighting	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can interpret and make proper runway condition reports
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the point at which landing configuration should be established in a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe a stabilized approach profile for both VMC and IMC conditions
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of indicated airspeed during a stabilized approach
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that ATP criteria for touchdown point is the aiming point markings - 250/+500 feet, or where there are no runway aiming point markings 750 to 1,500 feet from the approach threshold of the runway.
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the effect of downhill runway slope on required landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the impact of excess airspeed on landing distance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the purpose and variables involved in a landing performance assessment at time of arrival
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the effect of wind on landing performance
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain proper landing and braking technique
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the difference between AFM dry, certified/approved data and advisory/supplemental data
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can discuss the chain of events that lead to an overrun in this example, and relate it to their own experiences
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain the Can U StoP process
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why multiple small errors during landing can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how an unstabilized approach can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how high airport elevation can contribute to a runway overrun

Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excess airspeed can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how airplane landing weight can contribute to an aircraft overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing beyond the intended touchdown point can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how downhill runway slope can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how excessive height over the runway threshold can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how delayed use of deceleration/maximum breaking can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain how landing with a tailwind can contribute to a runway overrun
Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain predeparture planning versus runway condition at time of arrival
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the difference between the generic samples in table 3-2 where cumulative errors are made, and table 3-3 where errors are not made
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain how use of published approach guidance in visual conditions can reduce errors
Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the characteristics of effective CRM
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: AP or autothrottle (AT) uncommanded disconnect
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Stall protection/stall warning activation.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: EGPWS alert.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Windshear alert
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recognition

Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear pilot technique
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff after liftoff
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Understand recognizing and escaping severe weather situations (windshear)	Can define windshear as any rapid change in wind direction or velocity
Understand recognizing and escaping severe weather situations (windshear)	Can define severe windshear as a rapid change in wind direction or velocity causing airspeed changes greater than 15 knots or vertical speed changes greater than 500 feet per minute
Understand recognizing and escaping severe weather situations (windshear)	Can define Increasing Headwind Shear as windshear in which headwind increases, causing an airspeed increase
Understand recognizing and escaping severe weather situations (windshear)	Can define Decreasing Headwind Shear as windshear in which headwind decreases, causing an airspeed loss
Understand recognizing and escaping severe weather situations (windshear)	Can define Increasing Tailwind Shear as windshear in which tailwind increases, causing an airspeed loss
Understand recognizing and escaping severe weather situations (windshear)	Can define Decreasing Tailwind Shear as windshear in which tailwind decreases, causing an airspeed increase
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter on the approach
Understand recognizing and escaping severe weather situations (windshear)	Can discuss takeoff precautions
Understand recognizing and escaping severe weather situations (windshear)	Can discuss approach precautions
Understand recognizing and escaping severe weather situations (windshear)	Can discuss the characteristics of a microburst
Understand recognizing and escaping severe weather situations (windshear)	Can discuss general windshear recovery technique
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recovery technique after liftoff/on approach
Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recovery technique during takeoff/on runway
Understand recognizing and escaping severe weather situations (windshear)	Can discuss why other techniques of recovery reduce the chances of survival

Understand Specific Flight Characteristics	Can describe Any aircraft characteristics relevant to all weather operations, such as flight deck visibility cutoff angles and the effect on flight deck visibility of proper eye height, seat position or instrument lighting intensities related to transition through areas of varying brightness levels. Pilots should be aware of the effects on flight visibility related to use of different flap settings, approach speeds, use of various landing or taxi lights, and proper procedures for use of windshield wipers and rain repellent. If windshield defog, anti-ice, or de-icing systems affect forward visibility, pilots should be aware of those effects and be familiar with proper settings for use of that equipment related to low-visibility landing.
Understand Specific Flight Characteristics	Can describe Visual reference information and address aircraft geometry limitations on visual references, actions to take with loss or partial loss of visual references, risks of inappropriate use of visual references, and necessary visual references for continuation after MDA or DA/DH. Issues discussed in Chapter 4, Procedures, for continuation or discontinuation of an approach should be comprehensively addressed.
Understand Specific Flight Characteristics	Can identify expected minimum visual references that occur on approach when the weather is at acceptable minimum conditions as well as the expected sequence of visual cues during an approach in which the visibility is at or above the specified landing minima. Training on this topic should include identifying required visual references over a range of actual or simulated low-visibility

Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of impending stall indications and understanding of the need to initiate the stall recovery procedure at an impending stall.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of full stall indication (see paragraph 1-7) with the realization that most swept-wing transport category aircraft exhibit full stall characteristics different from those typically experienced in General Aviation (GA) aircraft used during certification training.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: For airplanes equipped with a stick pusher, recommended recovery actions in response to stick pusher activation.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Avoiding cyclical or oscillatory control inputs to prevent exceeding the structural limits of the airplane.

Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Structural considerations, including explanation of limit load, ultimate load, and the dangers of combining accelerative and rolling moments (i.e., the rolling pull) during recovery.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: The necessity for smooth, deliberate, and positive control inputs to avoid unacceptable load factors and secondary stalls.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: AOA must be reduced prior to controlling roll.
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Effectiveness of control surfaces and the order in which the control surfaces lose and regain their effectiveness (e.g., spoilers, ailerons, etc.).
Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: If a terrain awareness warning system (TAWS) warning is encountered during recovery from a low altitude stall event, recovery from the stall warning

	should take precedence. Once the airplane recovers from the stall event, then execute the TAWS escape maneuver.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: AOA versus pitch angle.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Rate of onset including rate of airspeed decay (both low and high).
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Airplane configuration and condition including weight, center of gravity (CG), landing gear, flaps/slats, spoilers/speed brakes, etc.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Asymmetric loading including thrust asymmetries, wing loading due to roll or yaw transients or uncoordinated flight.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: G loading.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Bank angle.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust and lift vectors.

Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust required versus thrust available.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Wind shear.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Altitude.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mach effects.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Situational Awareness.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mode confusion, including unexpected/unannounced mode changes.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Unexpected transition from automated to manual flight.
Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Contamination (ice), including the effect of icing on stall speed and stall warnings.
Understand Stall Prevention and Recovery	Can demonstrate an understanding of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.

Understand Stall Prevention and Recovery	Can explain specific stall and low-speed buffet characteristics unique to the airplane type and any implications for the expected flight operations and airplane-specific stall recovery procedure (e.g., underwing mounted engines, t-tail, propellers, etc.).
Understand Stall Prevention and Recovery	Can describe thrust settings and its application.
Understand Stall Prevention and Recovery	Can describe autothrottle/autothrust protection.
Understand Stall Prevention and Recovery	Can demonstrate awareness of autoflight mode indications.
Understand Stall Prevention and Recovery	Can explain incorrect use of (including input errors) flightpath automated systems.
Understand Stall Prevention and Recovery	Can explain the operation and function of stall protection systems in normal, abnormal, and emergency situations, including the hazards of overriding or ignoring stall protection system indications. Awareness of the factors that may lead such systems to fail, as well as degraded modes, indications, or behaviors that may occur with system failures.
Understand Stall Prevention and Recovery	Can explain buffet boundary and margins in flight planning and operational flying.
Understand Stall Prevention and Recovery	Can explain the lower margins for stall onset and recovery (i.e., coffin corner) and possible buffet cueing differences on the high-speed versus the low-speed margin.
Understand Stall Prevention and Recovery	Can explain the principles of high-altitude aerodynamics, performance capabilities, and limitations; including high altitude operations and flight techniques (i.e., the need to avoid secondary stall by extended nose-down recovery, compared to lower altitudes).
Understand Stall Prevention and Recovery	Can explain the differences in airplane performance (e.g., thrust available) during high versus low altitude operations, the effects of those differences on stall recovery, and the anticipated altitude loss during a recovery.

Understand Stall Prevention and Recovery	Can explain the differences between transport category airplane certification and GA airplane certification regarding use of flight controls at high AOA. For example, if the roll control system is compromised and the ailerons are unable to produce the required roll recovery, the rudder may be used with care during stall prevention and recovery. To maintain structural integrity, it is important to guard against control reversals—avoid rapid full-scale reversal of control deflection
Understand Stall Prevention and Recovery	Can demonstrate general awareness of example events. Although significant emphasis should be placed on preventing stall events, it is important for pilots to understand that, although rare, stall events continue to occur. Studying the causes and contributing factors of stall events give pilots more knowledge to help prevent or if necessary, recover from a stall event. A review of stall-related accidents, incidents, ASAP, FOQA, and ASRS data for the specific airplane type or class should be included in ground training.

Conduct Stall Prevention and Recovery	Can explain the STICK PUSHER. For airplanes equipped with a stick pusher, stall recovery training includes ground training and practical training in an FFS. It is important for pilots to experience the sudden forward movement of the control yoke/stick during a stick pusher activation. From observations, most instructors state that, regardless of previous academic training, pilots usually resist the stick pusher on their first encounter. Usually, they immediately pull back on the control yoke/stick rather than releasing pressure as they have been taught. Therefore, pilots must receive practical stick pusher training in an FFS to develop the proper response (allowing the pusher to reduce AOA) when confronted with a stick pusher activation. Stick pusher training should be completed as a demonstration/practice exercise, including repetitions, until the pilot's reaction is to permit the reduction in AOA even at low altitudes. Pilot response to a deliberate activation of the pusher is not a checked maneuver.

SIM 1 Tasks and Expectations

Tasks	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Expectation Rating**
Understand determining landing performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing	High

		Inaccurate use of performance charts, tables, and data	
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining landing performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Conduct after landing, parking and securing	Can demonstrate runway incursion avoidance procedures.		High
Conduct after landing, parking and securing	Can comply with ATC instructions and perform radio calls as appropriate.		High
Conduct after landing, parking and securing	Can coordinate with crew, if applicable, and execute the appropriate checklist(s) after clearing the runway.		High

Conduct after landing, parking and securing	Can perform parking in the appropriate area, considering the safety of nearby persons and property.		High
Conduct after landing, parking and securing	Can execute a postflight inspection and document discrepancies and servicing requirements, if any.		High
Conduct after landing, parking and securing	Can perform securing the airplane.		High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing propeller, turbofan inlet, and exhaust safety.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks, encompassing airport specific security procedures.	High
Conduct after landing, parking and securing		Can identify, assess, and manage risks,	High

		encompassing disembarking passengers.	
Conduct Arrival Procedures		Can manage the risk of errors when assigned a STAR and subsequently receives a change of landing runway, procedure or transition by verifying the appropriate changes are entered and available for navigation	High
Conduct Arrival Procedures	Can select, identify and use the appropriate communication and navigation facilities associated with the arrival		High
Conduct Arrival Procedures	Can perform setup of FMS and avionics to include flight director and autopilot controls for the arrival, if applicable		High
Conduct Arrival Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Arrival Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Arrival Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High
Conduct Arrival Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High

Conduct Arrival Procedures	Can comply with all applicable charted procedures		High
Conduct Arrival Procedures	Can comply with airspeed restrictions required by regulation, procedure, aircraft limitation or ATC		High
Conduct Arrival Procedures	Can maintain rate of descent consistent with the route segment, airplane operating characteristics and safety		High
Conduct Arrival Procedures	Can maintain the appropriate airspeed/V-speed ±10 knots, but not less than VRef if applicable, heading ±10°, altitude ±100 feet, and accurately track radials, courses, and bearings		High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to recognize limitations of traffic avoidance equipment.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing failure to use see and avoid techniques when possible.	High

Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing improper automation management.	High
Conduct Arrival Procedures		Can identify, assess, and manage risks, encompassing ATC instructions that modify an arrival or discontinue/resume the aircraft's lateral or vertical navigation on an arrival.	High
Conduct Before Takeoff Checks		Can manage the risk of errors when assigned an RNAV DP and subsequently receives a change of runway, procedure or transition by verifying the appropriate changes are entered and available for navigation prior to takeoff.	High
Conduct Before Takeoff Checks	Can determine the airplane's takeoff performance for actual conditions and planned departure runway		High

Conduct Before Takeoff Checks	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Before Takeoff Checks	Can confirm all systems checked are within an acceptable operating range and are safe for the proposed flight		High
Conduct Before Takeoff Checks	Can explain any system operating characteristic or limitation and any corrective action for a malfunction during the checks		High
Conduct Before Takeoff Checks	Can determine airspeeds/V-speeds and set flight instruments appropriately		High
Conduct Before Takeoff Checks	Can use flight director and autopilot controls for the current flight conditions and takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can perform configuration of navigation equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can configure communication equipment for takeoff and departure clearances		High
Conduct Before Takeoff Checks	Can obtain and correctly interpret the takeoff and departure clearance		High
Conduct Before Takeoff Checks	Can conduct a briefing that includes procedures for emergency and abnormal situations (e.g., powerplant failure, windshear), which may be encountered during takeoff, and state the planned action if they were to occur		High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing division of attention while	High

		conducting before takeoff checks	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing an unexpected change in the runway to be used for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to verify performance data is correct and airspeeds and flight instruments are set for actual conditions and the departure runway	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to set navigation and communication equipment for departure	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to configure autopilot and flight director	High

		controls for departure	
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to account for adverse weather conditions prior to takeoff (e.g., snow, ice, gusting crosswinds, low-visibility)	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing A powerplant failure during takeoff or other malfunction considering operational factors such as airplane characteristics, runway/takeoff path length, surface conditions, environmental conditions, and obstructions	High
Conduct Before Takeoff Checks		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High

Conduct Clean Configuration Stall prevention	Can maintain coordinated flight in simulated or actual instrument conditions throughout the maneuver		High
Conduct Clean Configuration Stall prevention	Can perform smooth adjustment of pitch attitude, bank angle (15°-30°), and power setting either manually or with the autopilot engaged		High
Conduct Clean Configuration Stall prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Clean Configuration Stall prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		High
Conduct Clean Configuration Stall prevention	Can execute a return to the desired flight path		High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing factors and situations that could lead to an inadvertent stall, spin, and loss of control during cruise flight	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	High

Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing failure to recognize and recover at the stall warning	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing improper stall recovery procedure	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	High
Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing effect of environmental elements on aircraft performance while in cruise flight as it relates to stalls (e.g., turbulence, microbursts, and high-density altitude)	High

Conduct Clean Configuration Stall prevention		Can identify, assess, and manage risks encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Departure Procedures	Can select the appropriate instrument departure procedure.		High
Conduct Departure Procedures	Can select, identify and use the appropriate communication facilities associated with the procedure		High
Conduct Departure Procedures	Can select, identify and use the appropriate navigation facilities associated with the procedure		High
Conduct Departure Procedures	Can perform programming the FMS prior to departure and execute avionics setup of flight director and autopilot controls for the departure		High
Conduct Departure Procedures	Can use current and appropriate navigation publications or databases for the proposed flight		High
Conduct Departure Procedures	Can initiate two-way communications with the proper controlling agency		High
Conduct Departure Procedures	Can use proper phraseology and comply in a timely manner with all ATC instructions and airspace restrictions		High
Conduct Departure Procedures	Can perform interception of courses, radials, and bearings appropriate to the procedure, route or clearance		High
Conduct Departure Procedures	Can comply with all applicable charted procedures		High

Conduct Departure Procedures	Can maintain the appropriate airspeed ±10 knots, headings ±10°, and altitude ±100 feet, and accurately track a course, radial, or bearing		High
Conduct Departure Procedures	Can execute the departure phase to a point where the transition to the en route environment is complete		High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing failure to communicate with ATC or follow published procedures and required climb gradients	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing limitations of air traffic avoidance equipment and use of see and avoid techniques	High
Conduct Departure Procedures		Can identify, assess, and manage risks, encompassing improper automation management	High

Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and positioning of the aircraft relative to continuation of the approach to landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	High
Conduct EGPWS Escape Maneuver	Can execute procedure with smoothness and accuracy		High
Conduct EGPWS Escape Maneuver	Can operate the airplane within its limitations		High
Conduct EGPWS Escape Maneuver	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct EGPWS Escape Maneuver		Can apply aeronautical knowledge to execution of the task	High

Conduct EGPWS Escape Maneuver		Can apply crew coordination	High
Conduct EGPWS Escape Maneuver		Can conduct effective communication with the other crew members	High
Conduct EGPWS Escape Maneuver		Can manage crew cooperation	High
Conduct EGPWS Escape Maneuver		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct EGPWS Escape Maneuver		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct EGPWS Escape Maneuver		Can demonstrate good judgement and airmanship	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		High
Conduct Emergency Procedure - Flight by reference to standby flight	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High

instruments, backup instrumentation, or partial panel			
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High

Conduct Go-Around/Rejected Landing	Can describe, perform airborne system use for go-around, including consideration of height loss during transition to a go-around, performance assurance for obstacle clearance, management of any necessary mode changes, and assurance of appropriate vertical and lateral flightpath tracking.		High
Conduct Go-Around/Rejected Landing	Can initiate a timely decision to go-around/reject the landing.		High
Conduct Go-Around/Rejected Landing	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		High
Conduct Go-Around/Rejected Landing	Can perform establishing a positive rate of climb and the appropriate airspeed/V-speed, ±5 knots.		High
Conduct Go-Around/Rejected Landing	Can execute configuration and trimming of the airplane, when appropriate.		High
Conduct Go-Around/Rejected Landing	Can perform radio calls as appropriate		High
Conduct Go-Around/Rejected Landing	Can maintain the ground track, heading, or course appropriate for the conditions, or as specified by ATC.		High
Conduct Go-Around/Rejected Landing	Can execute the appropriate procedures and checklist(s) in a timely manner.		High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing delayed recognition of the need for a go-	High

		around/rejected landing.	
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing delayed performance of a go-around at low altitude.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing improper application of power.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing improper airplane configuration.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires vessels, vessels, persons, and wildlife.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing low altitude maneuvering	High

		including stall, spin, or CFIT.	
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Go-Around/Rejected Landing		Can identify, assess, and manage risks, encompassing managing a go-around/rejected landing after accepting a LAHSO clearance.	High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can execute use of LNAV mode(s).		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer	Can execute use of VNAV mode(s).		High

performance without vertical guidance lines of minima using the wide area augmentation system			
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can apply ATC procedures/phraseology		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can apply functionality of vector to final mode		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of	Can perform the use of navigation systems including procedure selection and ILS look-alike principle:		High

minima using the wide area augmentation system			
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform flying of a procedure		High
Conduct GPS instrument approach procedures with localizer performance with vertical guidance and localizer performance without vertical guidance lines of minima using the wide area augmentation system	Can perform setup and interpretation of electronic displays and symbols.		High
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing Inoperative equipment discovered prior to flight.	High
Conduct Interior and exterior preflight		Can identify, assess, and manage risks encompassing	High

		external pressures and Aviation security concerns.	
Conduct Landing Configuration Stall Prevention	Can perform smooth adjustment of pitch attitude, bank angle (15°-30°), and power setting either manually or with the autopilot engaged		High
Conduct Landing Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Landing Configuration Stall Prevention	Can perform establishment of the landing configuration (i.e., lift/drag devices set and landing gear extended) and maintain coordinated flight in simulated or actual instrument conditions throughout the maneuver		High
Conduct Landing Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Landing Configuration Stall Prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		High
Conduct Landing Configuration Stall Prevention	Can execute retraction of the flaps or other lift/drag devices to the recommended setting, retract the landing gear after a positive rate of climb is established and return to the desired flight path		High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing factors and situations that could lead to	High

		an inadvertent stall, spin, and loss of control during landing	
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing failure to recognize and recover at the stall warning	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing improper stall recovery procedure	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing secondary stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	High

Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing the effect of environmental elements on aircraft performance while landing as it relates to stalls (e.g., turbulence, icing, microbursts, and high-density altitude)	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing stalls at a low altitude	High
Conduct Landing Configuration Stall Prevention		Can identify, assess, and manage risks encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Landing From a Precision Approach	Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		High

Conduct Landing From a Precision Approach	Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		High
Conduct Landing From a Precision Approach		Can appreciate that pilots should be familiar with the need to report navigation system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown zone (TDZ) lights, centerline lights), or any other discrepancies that could be pertinent to operations.	High
Conduct Landing From a Precision Approach		Can demonstrate familiarization with operator’s policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered	High

		runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Landing From a Precision Approach	Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point where visual maneuvering is used to accomplish a normal landing.		High
Conduct Landing From a Precision Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		High

Conduct Landing From a Precision Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Landing From a Precision Approach	Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct Landing From a Precision Approach	Can demonstrate SRM or CRM, as appropriate.		High
Conduct Landing From a Precision Approach	Can apply runway incursion avoidance procedures.		High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks,	High

		encompassing planning for missed approach	
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of	High

		situational awareness, or improper task management.	
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for transitioning from instrument to visual references for landing.	High
Conduct Missed Approach	Can execute a missed approach from the MDA, DA/DH, or AH.		High
Conduct Missed Approach	Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		High
Conduct Missed Approach	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		High

Conduct Missed Approach	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots.		High
Conduct Missed Approach	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		High
Conduct Missed Approach	Can comply with the published or alternate missed approach procedure.		High
Conduct Missed Approach	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		High
Conduct Missed Approach	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		High
Conduct Missed Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		High
Conduct Missed Approach	Can demonstrate effective CRM		High
Conduct Missed Approach	Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		High
Conduct Missed Approach	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator.		High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to	High

		follow prescribed procedures.	
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP or to a go-around below DA/MDA.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to manage	High

		automated navigation and auto flight systems.	
Conduct Normal Approach and Landing	Can execute normal landings at the lowest applicable minima for each authorized flight guidance and/or visual system.		High
Conduct Normal Approach and Landing	Can perform manual rollout in low visibility at applicable minima. (except for aircraft using an automatic fail operational (FO) rollout system)		High
Conduct Normal Approach and Landing	Can perform landings at the limiting environmental conditions authorized for that operator with respect to wind, crosswind components, and runway surface friction characteristics		High
Conduct Normal Approach and Landing	Can coordinate with crew and execute after landing checklists(s).		High
Conduct Normal Approach and Landing	Can perform radio calls as appropriate		High
Conduct Normal Approach and Landing	Can maintain a ground track that ensures the desired traffic pattern will be flown taking into consideration obstructions and ATC		High
Conduct Normal Approach and Landing	Can confirm the airplane is aligned with the correct/assigned runway or landing surface.		High
Conduct Normal Approach and Landing	Can scan runway or landing surface and adjoining area for traffic and obstructions.		High
Conduct Normal Approach and Landing	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		High

Conduct Normal Approach and Landing	Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		High
Conduct Normal Approach and Landing	Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		High
Conduct Normal Approach and Landing	Can perform smooth, timely, and correct control application before, during, and after touchdown.		High
Conduct Normal Approach and Landing	Can execute touch down with the runway centerline between the main landing gear at the appropriate speed and pitch attitude at the runway aiming point markings -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Normal Approach and Landing	Can execute deceleration to taxi speed (20 knots or less on dry pavement, 10 knots or less on contaminated pavement) to within the calculated landing distance plus 25% for the actual conditions with the runway centerline between the main landing gear		High
Conduct Normal Approach and Landing	Can execute a timely go-around if the approach cannot be made within the tolerances specified above or for any other condition that may result in an unsafe approach or landing.		High
Conduct Normal Approach and Landing	Can apply runway incursion avoidance procedures.		High

Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing selection of a runway or approach path and touchdown area-based aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing Go-Around/Rejected Landing	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing land and Hold Short Operations (LAHSO)	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft,	High

		terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Normal Approach and Landing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, incorrect airport surface approach and landing, or improper task management.	High
Conduct Normal Takeoff and Climb	Can perform takeoff in limiting crosswinds, winds, gusts, and runway surface friction to levels authorized. Training should be done at weights or on runways that represent a critical field length		High
Conduct Normal Takeoff and Climb	Can coordinate with crew and complete the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Normal Takeoff and Climb	Can perform radio calls as appropriate		High
Conduct Normal Takeoff and Climb	Can verify assigned/correct runway		High

Conduct Normal Takeoff and Climb	Can verify the airplane is configured for takeoff		High
Conduct Normal Takeoff and Climb	Can execute clearing of the area and taxi into takeoff position and align the airplane on the runway centerline		High
Conduct Normal Takeoff and Climb	Can maintain centerline and proper flight control inputs during the takeoff roll		High
Conduct Normal Takeoff and Climb	Can confirm takeoff power and proper engine and flight instrument indications prior to rotation and perform callouts as appropriate, for the airplane or per the operator’s procedures		High
Conduct Normal Takeoff and Climb	Can perform rotation and lift off at the recommended airspeed		High
Conduct Normal Takeoff and Climb	Can maintain a power setting and a pitch attitude to maintain the desired climb airspeed/V-speed, ±5 knots for each climb segment		High
Conduct Normal Takeoff and Climb	Can maintain desired heading ±5°		High
Conduct Normal Takeoff and Climb	Can perform Retraction of the landing gear and flaps in accordance with manufacturer or operator procedures and limitations, as appropriate		High
Conduct Normal Takeoff and Climb	Can perform wake turbulence avoidance		High
Conduct Normal Takeoff and Climb	Can follow noise abatement procedures		High
Conduct Normal Takeoff and Climb	Can execute appropriate after-takeoff checklist(s) in a timely manner		High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing selection of a runway, or runway	High

		intersection aircraft limitations, available distance, surface conditions, and wind	
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing wake turbulence	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for rejected takeoff	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for engine failure in takeoff phase of flight	High
Conduct Normal Takeoff and Climb		Can demonstrate proper planning for engine failure in climb phase of flight	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing improper aircraft configuration or settings (e.g., trim, flaps,	High

		autobrakes, etc.)	
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	High
Conduct Normal Takeoff and Climb		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Partial Flap Configuration Stall Prevention	Can recognize the cues and execute prompt recovery at the first indication of an impending stall (e.g., buffet, stall horn, stick shaker, etc.)		High
Conduct Partial Flap Configuration Stall Prevention	Can execute a stall recovery in accordance with procedures set forth in the POH/AFM		High
Conduct Partial Flap Configuration Stall Prevention	Can execute retraction of the flaps or other lift/drag devices to the recommended setting, retract the landing gear after a positive rate of climb is established, and return to the desired flight path		High

Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing factors and situations that could lead to an inadvertent stall and loss of control during takeoff or while on approach	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing range and limitations of stall warning indicators (e.g., aircraft buffet, stall horn, stick shaker, etc.)	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing failure to recognize and recover at the stall warning	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing improper stall recovery procedure	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing secondary	High

		stalls, accelerated stalls, elevator trim stalls, and cross-control stalls	
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing the effect of environmental elements on aircraft performance while in a partial flap configuration as it relates to stalls (e.g., turbulence, microbursts, and high-density altitude)	High
Conduct Partial Flap Configuration Stall Prevention		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can execute procedure with smoothness and accuracy		High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can operate the airplane within its limitations		High

Conduct PFD malfunction procedure (AGM 1 or DU1)	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply aeronautical knowledge to execution of the task	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply crew coordination	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can conduct effective communication with the other crew members	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can manage crew cooperation	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can demonstrate good	High

		judgement and airmanship	
Conduct Powerplant Start	Can ensure the ground safety procedures are followed during the before-start, start, and after- start phase		High
Conduct Powerplant Start	Can coordinate with crew and complete the appropriate checklist(s) prior to and after powerplant start.		High
Conduct Powerplant Start	Can identify an abnormal start or malfunction and execute the correct procedure		High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing malfunctions during powerplant start	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing turbine powerplant safety	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing managing situations where specific instructions or checklist items are not published	High
Conduct Powerplant Start		Can identify, assess, and manage risks encompassing personnel, vehicles,	High

		vessels, foreign object debris, and other aircraft in the vicinity during powerplant start	
Conduct Pushback	Can conduct a pushback operation in accordance with the published OEM checklist.		High
Conduct Precision Approach	Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		High
Conduct Precision Approach	Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		High
Conduct Precision Approach		Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors	High

		(F/D), or other system (e.g., HUD, SVGS, etc.) performance. For systems such as HUDs that have a limited field of view (FOV), or synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.	
Conduct Precision Approach	Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, or circling minima, if applicable); according to the operator's manuals, charts and checklists, on the aircraft type, model and series flown.		High
Conduct Precision Approach	Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		High
Conduct Precision Approach	Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		High

Conduct Precision Approach	Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored approach, or call-outs);		High
Conduct Precision Approach		Can demonstrate familiarization with airport and runway characteristics typically experienced;	High
Conduct Precision Approach	Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and		High
Conduct Precision Approach	Can respond appropriately to aircraft and ground system failures.		High
Conduct Precision Approach	Can perform the precision instrument approaches selected by the instructor/evaluator.		High
Conduct Precision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Precision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High

Conduct Precision Approach	Can comply in a timely manner with all clearances, instructions, and procedures.		High
Conduct Precision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		High
Conduct Precision Approach	Can coordinate with ATC if unable to comply with a clearance.		High
Conduct Precision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High
Conduct Precision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Precision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Precision Approach	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		High
Conduct Precision Approach	Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either the vertical or lateral guidance		High

	indications and maintain the desired airspeed ±5 knots		
Conduct Precision Approach	Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH.		High
Conduct Precision Approach	Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		High
Conduct Precision Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to follow the correct approach procedure (e.g., descending below the glideslope, etc.).	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing selecting an	High

		incorrect navigation frequency.	
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	High

Conduct Precision Approach		Can identify, assess, and manage risks, encompassing continuing to descend below the Decision Altitude (DA)/Decision Height (DH) when the required visual references are not visible.	High
Conduct Recovery From Unusual Flight Attitudes	Can use instrument cross-check and interpretation to identify a nose low unusual attitude		High
Conduct Recovery From Unusual Flight Attitudes	Can use instrument cross-check and interpretation to identify a nose high unusual attitude		High
Conduct Recovery From Unusual Flight Attitudes	Can apply the appropriate pitch, bank, and power corrections, in the correct sequence, to return to a stabilized level flight attitude		High
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing situations that could lead to loss of control or unusual flight attitudes (e.g., stress, task saturation, and distractions).	High
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing exceeding the	High

		operating envelope during the recovery	
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing failure to recognize an unusual flight attitude and follow the proper recover procedure	High
Conduct Recovery From Unusual Flight Attitudes		Can identify, assess, and manage risks, encompassing exceeding the operating envelope during the recovery	High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify currency and integrity of aircraft navigation data		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can obtain a receiver autonomous integrity monitoring (RAIM) prediction for the planned RNP operation		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify successful completion of RNP system self-tests;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform initialization navigation system position		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform retrieval of an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can execute an RNP procedure (e.g., Standard Instrument Departure (SID) or a Standard Terminal Arrival (STAR) with appropriate transition)		High
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can perform adherence to speed and/or altitude constraints associated with RNP operations		High

and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can select the appropriate STAR or SID for the active runway in use and be familiar with procedures to deal with a runway change		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify waypoints and flight plan programming;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform a manual or automatic runway update (with takeoff point shift for Inertial Reference Units (IRU) only);		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying direct to a waypoint		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying a course/track to a waypoint		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform interception of a course/track		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform flying vectors, and rejoining an RNP route/procedure from the 'heading' mode;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform selecting/arming the navigation system for an ILS or GLS transition		High
Conduct RNP operations in the United States, oceanic and remote continental airspace,	Can perform insertion and deletion of a route discontinuity;		High

and in foreign countries which adopt ICAO standards for RNP operations.			
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform removal and reselection of a navigation sensor input;		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can confirm exclusion of a specific navigation aid or navigation aid type (distance measuring equipment (DME) and very high frequency omni-directional range (VOR) only);		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform changing of the arrival airport and alternate airport		High
Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can verify the RNP value set in the flight management system (FMS) matches the equipment capability and authorizations as annotated in the flight plan		High

Conduct RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can perform parallel offset function if capability exists		High
Conduct Steep Turns	Can maintain the manufacturer's recommended airspeed; or if one is not available, an airspeed not to exceed VA		High
Conduct Steep Turns	Can maintain at least a 45° bank solely by reference to instruments and make a coordinated steep turn of at least 180°		High
Conduct Steep Turns	Can perform reversal of direction and establish at least a 45° bank solely by reference to instruments and make a coordinated steep turn of at least 180°		High
Conduct Steep Turns	Can perform smooth pitch, bank, and power adjustments as needed		High
Conduct Steep Turns	Can maintain the entry altitude ±100 feet, airspeed ±10 knots, bank ±5°, and roll out on the specified heading, ±10°		High
Conduct Steep Turns	Can maintain avoidance of any indications of impending stall, abnormal flight attitude, or exceedance of any structural or operating limitation		High
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing spatial disorientation when	High

		conducting a steep turn while flying by reference to instruments	
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing failure to maintain coordinated flight	High
Conduct Steep Turns		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management	High
Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		High
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft characteristics (e.g., single HUD).		High

Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		High
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		High
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related	High

		to taxi instructions	
Conduct Taxi		Can identify, assess, and manage risks, encompassing a taxi route or departure runway change	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	High
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot	High

		who is taxiing the aircraft	
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or accomplishing checklists	High
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	High
Conduct Taxi		Can maintain a sterile cockpit	High

		during taxi operations	
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and not the ones they expected to receive.	High
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	High
Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions	High

		from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	
Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	High
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance when approaching an entrance to a runway.	High
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communicatio	High

		ns with ATC to regain orientation.	
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	High
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	High
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any		High

	doubt, speaks up and resolve the uncertainty before taxi		
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	High
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: “I’m heads-down, right turn ahead at Alpha,” or	High

		"I'm back, any changes?"	
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or transmitted during that flightcrew member's absence from the ATC frequency should be reviewed and confirmed upon his or her return.	High
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	High

Conduct Taxi		Can state "approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach paths, and coordinate verbally (e.g., "clear right/left" or that the scan area is not clear).	High
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft's parking area after landing	High

Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		High
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High
Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	High
Conduct use of FMS	Can perform use of the automatic throttle, flight management computer, or other speed management system, if applicable.		High

Conduct use of FMS		Can manage the risk of errors when receiving a change to assigned routing by ensuring the waypoints sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	High
Conduct use of FMS	Can verify currency of aircraft navigation data.		High
Conduct use of FMS	Can perform flying a course/track to a waypoint.		High
Conduct use of FMS	Can perform interception of a course/track		High
Conduct use of FMS	Can comply with a vectored off and execute rejoining a procedure.		High
Conduct use of FMS	Can determine cross-track error/deviation		High
Conduct use of FMS	Can execute insertion and deletion of a route discontinuity		High
Conduct use of FMS	Can execute removal and reselection of navigation sensor inputs.		High
Conduct use of FMS	Can confirm exclusion of a specific navigation aid or navigation aid type.		High
Conduct use of FMS	Can execute insertion and deletion of a lateral offset		High

Conduct use of FMS	Can execute a change of the arrival airport and alternate airport		High
Conduct use of FMS	Can execute insertion and delete a holding pattern		High
Conduct use of FMS	Can verify successful completion of RNAV system self-tests		High
Conduct use of FMS	Can execute initialization of RNAV system position		High
Conduct use of FMS	Can execute retrieval and flying of a DP or STAR with appropriate transition		High
Conduct use of FMS	Can comply with speed and/or altitude constraints associated with a DP or STAR.		High
Conduct use of FMS	Can execute making a runway change associated with a DP or STAR		High
Conduct use of FMS	Can verify waypoints and flight plan programming		High
Conduct use of FMS	Can perform a manual or automatic runway update (with takeoff point shift, if applicable)		High
Conduct use of FMS	Can perform flying direct to a waypoint		High
Conduct use of FMS	Can perform a complex SID consisting of multiple altitude and speed constraints		High
Conduct use of FMS	Can perform a complex STAR consisting of multiple altitude and speed constraints		High
Conduct use of FMS	Can input a lat/long waypoint to the FMS		High
Conduct use of FMS	Can demonstrate general awareness of all three styles of flight director		High
Conduct use of FMS	Can identify symbology available in synthetic vision system		High
Conduct use of FMS	Can differentiate between conformal and non-conformal scaling in the HUD and synthetic vision		High

Conduct use of FMS	Can use the cursor control device effectively		High
Conduct use of FMS	Can perform transition between automatic (FMS-controlled) to manual mode and back in the event of a flightpath deviation due to input error or system malfunction.		High
Conduct use of HUD	Conduct takeoff or missed approach without using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct instrument approach without using HUD to ATP ACS standards		High
Conduct use of HUD	Can use the pitch limit indicator (PLI) during windshear escape.		High
Conduct use of HUD	Can relate glidepath angle to the symbolic runway.		High
Conduct use of HUD	Can perform recovery from unusual attitudes using HUD		High
Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		High
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - autopilot		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - autopilot		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - autopilot		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and		Can identify, assess, and manage risks	High

communications - autopilot		encompassing failure to monitor and manage automated systems.	
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - Electronic Flight		Can identify, assess, and manage risks encompassing failure to	High

Instrument Systems (EFIS)		detect system malfunctions or failures.	
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - emergency locator transmitter.		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Avionics and communications - Flight Management System (FMS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Global Navigation Satellite System (GNSS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system		Can appreciate flightcrew contingency procedures for a loss of GPS and/or WAAS capability to emphasize maintaining separation from terrain, obstacles and other aircraft.	High
Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system		Can appreciate impact of aircraft integrations that incorporate both (WAAS) LPV capability and baro-VNAV capability.	High
Understand Avionics and communications - ground-based navigation systems and components		Can appreciate that ground systems and NAVAIDs are considered to include characteristics of the airport, electronic navigation aids, lighting, markings, other systems (e.g., RVR), and any other relevant information necessary for	High

		safe AWO operations.	
Understand Avionics and communications - ground-based navigation systems and components		Can appreciate the importance of checking that proper selections have been made to ensure appropriate system performance, and the sequence and management of any mode changes.	High
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing improper management	High

		of a system failure	
Understand Avionics and communications - ground-based navigation systems and components		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - indicating devices		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - indicating devices		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - indicating devices		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - indicating devices		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Avionics and communications - indicating devices	Can interpret flight path vector symbology as it relates to the PFD and HUD, both caged and uncaged		High
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Inertial Navigation Systems (INS)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing	High

		failure to detect system malfunctions or failures.	
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - Radar		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply monitoring procedures for each phase of flight (e.g., monitor PROG or LEGS page)		High

Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with automatic and/or manual setting of the required RNP value		High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can demonstrate familiarization with the navigation equipment regarding lateral and vertical capture from an RNP routing to an instrument landing system (ILS) or Ground Based Augmentation System (GBAS) Landing System (GLS)		High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.		Can appreciate the importance of awareness of possible false vertical and lateral captures during a transition on an ILS capture	High
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which	Can demonstrate how offsets are applied, the functionality of their particular navigation system and the need to advise air traffic control (ATC) if this functionality is not available		High

adopt ICAO standards for RNP operations.			
Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can apply receiver/transmitter (R/T) phraseology for RNP applications		High
Understand Avionics and communications - terrain awareness/warning/ alert systems		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - terrain awareness/warning/ alert systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - terrain awareness/warning/ alert systems		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications -		Can identify, assess, and manage risks	High

terrain awareness/warning/ alert systems		encompassing failure to monitor and manage automated systems.	
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - transponder		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can explain the adverse effects of exceeding an airplane	High

		limitation or the airplane operating envelope.	
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining takeoff performance (e.g., balance field length, VMCG) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop /		Can explain the adverse effects of exceeding an	High

accelerate-go distance per AFM		airplane limitation or the airplane operating envelope.	
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High
Understand determining accelerate-stop / accelerate-go distance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining accelerate-stop /		Can appreciate that take off distance	High

accelerate-go distance per AFM		numbers provided by the AFM are the most restrictive result of numerous part 25 requirements	
Understand determining climb performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining climb performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance	High

		and stall warning, and runway excursions	
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and Runway excursions	High

Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining descent performance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on performance and stall warning, and	High

		Runway excursions	
Understand determining descent performance per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand determining fuel requirements per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining fuel requirements per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining weight and balance per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining weight and balance per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High

Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Envelope protection—angle of attack warning and protection and speed protection		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Lighting		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Lighting		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Lighting		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Lighting		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand OEM checklist philosophy		Can appreciate that while there are no defined memory items in the AFM, pilots should still be familiar enough with the aircraft to be able to perform initial and critical items without first referencing associated documentation . In addition, pilots are expected to don oxygen	High

		masks promptly when appropriate (e.g., when smoke is detected).	
Understand OEM checklist philosophy		Can appreciate that abnormal and emergency procedures are presented in quick reference handbooks (QRH) of an identical format for all three aircraft. Although some individual steps may differ or use different acronyms, these steps are carried out under the guidance of the handbook in a logical decision-making manner	High
Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and		High

	adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer's recommended procedures or procedures applicable to the operator.		
Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can conduct EFVS operations in visibilities less than IAP minimum visibilities. This may not be practical if training is conducted in an aircraft. If the training is accomplished in a full flight simulator (FFS), conduct the training with the enhanced visibilities representative of the EFVS sensor performance.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when conducting an approach without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual		High

	references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100 feet during an EFVS-100 operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		High
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes and associated systems, and adjustments for brightness and contrast under day and night conditions.		High
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including		High

	missed approaches and balked landings.		
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument ap proaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		High
Conduct EFVS Operations	Can determine enhanced flight visibility.		High
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		High
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		High
Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and crew coordination procedures when using an EFVS.		High
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include reducing AOA is the proper way to recover from a stall event. Pilots must accept that reducing the airplane's AOA will normally result in altitude loss. The amount of altitude loss will be affected by the airplane's operational environment (e.g., entry altitude, airplane weight, density altitude, bank angle, airplane configuration, etc.). At high altitudes, stall recovery will likely require losing several thousand feet.		High

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include declaring an emergency if necessary. Do not delay recovery due to degrading airspeed or a stall event to obtain air traffic control (ATC) clearance to a lower altitude.		High
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include understanding that early recognition and return of the airplane to a controlled and safe state are the most important factors in surviving stall events. Only after recovering to a safe maneuvering speed and AOA should the pilot focus on establishing an assigned heading, altitude, and airspeed.		High
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include an abrupt pitch-up or trim change can occur when the autopilot unexpectedly disconnects during a stall event. This dramatic pitch-up or trim change typically adds an unexpected physical challenge to the pilot when trying to reduce AOA. In some airplanes, this may be aggravated by an additional pitch up when the pilot increases thrust during stall recovery.		High

Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include secondary stall warnings are indicative of a pilot prioritizing minimum loss of altitude over proper stall recovery or flight control inputs that are too aggressive. In some airplanes, depending on AOA representations, it may be difficult to determine the point where the pitch can begin to be increased and a momentary secondary stall warning may be encountered. A secondary stall warning is acceptable as long as AOA is promptly reduced and the airplane's limitations are not exceeded.		High
Conduct Stall Prevention and Recovery	Can conduct maneuver-based recovery procedures to include air carriers should develop stall prevention evaluation strategies that are a direct reflection to the aircraft type. Between different aircraft types and variations of an aircraft type there is a broad range of available airspeed/AOA/energy information to the pilot. Therefore, an evaluation of a stall prevention with an attitude direction indicator (ADI) that has sufficient information to determine the flight envelope (pitch limit indicators, speed tape with low-speed awareness, airspeed trend needles) should be more stringent. Obviously with this expectation, the assumption is made that the air carrier's stall training prepares the pilot to interpret this information in		High

	low energy states. Conversely, a stall prevention evaluation of a pilot that has limited flight envelope information could allow momentary reactivations of the stall warning after the pilot has reduced the AOA to cease the stall warning and is attempting to return the aircraft to safe flight.		
Conduct Stall Prevention and Recovery	Can recognize how changes to factors such as weight, G loading, CG, bank angle, altitude, and icing affect the handling characteristics and stall speeds of the airplane.		High
Conduct Stall Prevention and Recovery	Can appreciate inappropriate use or inadequate monitoring of autoflight modes can be a contributing factor to a stall event. For example, climbing in vertical speed can lead to a stall event when pilots do not notice the airspeed reducing as the altitude increases; whereas, climbing in modes such as indicated airspeed or flight level change can protect against unnoticed deceleration in a climb.		High
Conduct Stall Prevention and Recovery	Can recognize impending stall characteristics for the specific airplane, including buffeting of a severity that may make it		High

	difficult to read the instruments.		
Conduct Stall Prevention and Recovery	Can recognize and review of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.		High
Conduct Stall Prevention and Recovery	Can recognize noises associated with stick shakers, autopilot, and autothrottle/autothrust disconnect alarms can cause confusion in the cockpit.		High
Conduct Stall Prevention and Recovery	Can appreciate the effects of malfunctioning or deferred equipment on stall protection and stick pusher systems.		High
Conduct Stall Prevention and Recovery	Can differentiate between high and low altitude stalls, pitch rate sensitivity of flight controls (due to lack of aerodynamic damping), and amount of altitude loss required for recovery.		High
Conduct Stall Prevention and Recovery	Can appreciate the altitude effects of thrust available for recovery, and lack of airflow through engines at high AOA (reinforces reduction of AOA must precede any increase of thrust).		High

Conduct Stall Prevention and Recovery	Can execute Scenario-Based Training (SBT). The goal of SBT is to develop decision-making skills relating to stall prevention and recovery during Line-Oriented Flight Training (LOFT). Emphasis should be placed on preventing conditions that may lead to a stall event. SBT would normally be used after a pilot demonstrates proficiency in maneuver-based training and during advanced stages of training, such as upgrade training and recurrent training. (1) Scenarios. When possible, scenarios should include accident, incident, ASAP, FOQA, and/or ASRS data to provide realistic opportunities to see how threat situations may develop and how they should be managed during line operations. Sample SBT lesson plans are provided in Appendix 3. (2) Briefing. Pilots should not normally be briefed that they are receiving SBT. The concept is line-oriented flying, which allows the pilots to recognize and manage the expected or unexpected stall threats as they develop during normal operations. However, situations may arise where pilots exhibit excellent stall prevention skills and initiate a recovery prior to the complete		High

	unfolding of a scenario. That is the desired objective. In those instances, the instructor has the discretion whether to repeat the scenario and then showing and discussing how the many cues typically cascade as the event progresses. Such explanations can reinforce a pilot's knowledge and allow sharpening of awareness and prevention skills.		

Conduct Stall Prevention and Recovery	Can appreciate USING SURPRISE IN TRAINING. Surprise has been a factor in stall incidents and accidents. Although it may be difficult to create surprise in the training environment, if achieved, surprise events may provide a powerful lesson for the crew. The goal of using surprise in training is to provide the crew with a surprise experience to reinforce timely application of the effective recovery technique under potentially confusing circumstances. Considerable care should be used in surprise training to avoid a negative learning experience. Surprise should not be used during checking. Stall prevention training should incorporate event conditions and variables typical of an unintentional stall that are likely to result in surprise due to the unexpected stall development, presentation, and behavior.		High
Conduct and Checking: Stall Prevention and Recovery	CHECKING CRITERIA. Checking of prevention, recognition, and recovery from an impending stall should be evaluated on the timely and proper response to the impending stall including effective use of available energy; the criteria should not focus on altitude loss. The check pilot should consider the variables present at the time of the impending stall and their effect on the recovery. Checking criteria are:		High

	• Prompt recognition of impending stall, • Correct application of the stall recovery procedure, and • Recovering without exceeding the airplane's limitations.		
Conduct Stall Prevention and Recovery	Can appreciate the STICK PUSHER. For airplanes equipped with a stick pusher, stall recovery training includes ground training and practical training in an FFS. It is important for pilots to experience the sudden forward movement of the control yoke/stick during a stick pusher activation. From observations, most instructors state that, regardless of previous academic training, pilots usually resist the stick pusher on their first encounter. Usually, they immediately pull back on the control yoke/stick rather than releasing pressure as they have been taught. Therefore, pilots must receive practical stick pusher training in an FFS to develop the proper response (allowing the pusher to reduce AOA) when confronted with a stick pusher activation. Stick pusher training should be completed as a demonstration/practice exercise, including repetitions, until the pilot's reaction is to permit the reduction in AOA		High

	even at low altitudes. Pilot response to a deliberate activation of the pusher is not a checked maneuver.		
Conduct Stall Prevention and Recovery	Can conduct a stick pusher demonstration. See Appendix 2, Demonstration 2 for details.		High
Conduct Stall Prevention and Recovery	Can conduct a takeoff configuration stall prevention scenario. See Appendix 3, Scenario 2 for details.		High
Conduct Stall Prevention and Recovery	Can conduct a landing configuration stall prevention scenario. See Appendix 3, Scenario 3 for details.		High

SIM 2 Learning Objectives

SIM 2 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**
Conduct Circling Approach	Can explain elements related to circling approach procedures and limitations including approach categories and related airspeed restrictions

Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain the flight characteristics and controllability associated with maneuvering the airplane with powerplant(s) inoperative to include the importance of drag reduction.
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can explain powerplant restart procedures and conditions where a restart attempt is appropriate.
Conduct Holding	Can explain elements related to holding procedures, including reporting criteria, appropriate speeds, and recommended entry procedures for standard, nonstandard, published, and non-published holding patterns.
Conduct Holding	Can explain determining holding endurance based upon factors to include an expect further clearance (EFC) time, fuel on board, fuel flow while holding, fuel required to destination and alternate, etc., as appropriate.
Conduct Holding	Can explain when to declare minimum fuel or a fuel-related emergency.
Conduct Holding	Can explain use of automation for holding to include autopilot and flight management systems, if equipped.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Landing From a Circling Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a circling approach.
Conduct Landing From a Circling Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can explain airplane flight characteristics when flaps, leading edge devices, and other similar devices malfunction or become inoperative.
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can explain other airplane system limitations when landing at a high speed.
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can explain how to determine required landing distance and a suitable runway for landing.

Conduct a Landing with Pitch Mistrim	Can explain airplane flight characteristics when pitch is mistrimmed.
Conduct a Landing with Pitch Mistrim	Can explain other airplane system limitations when landing at a high speed.
Conduct a Landing with Pitch Mistrim	Can explain how to determine required landing distance and a suitable runway for landing.
Conduct Missed Approach	Can explain that when executing a missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure
Conduct Missed Approach	Can explain elements related to missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach
Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments increase pilot workload and potential errors during a critical phase of flight.
Conduct Nonprecision Approach	Can explain that the practice commonly referred to as "dive and drive," can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.

Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help eliminate CFIT.
Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point
Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.
Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous descent final approach) technique.
Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the "dive and drive" technique.
Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off.
Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.

Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV systems, or by manually computing rate of descent.
Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)
Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.
Conduct Nonprecision Approach	Can explain procedures and limitations associated with a nonprecision approach, including the differences between Localizer Performance (LP) and Lateral Navigation (LNAV) approach guidance
Conduct Nonprecision Approach	Can explain navigation system displays and annunciations, modes of operation, and RNP lateral accuracy values associated with an RNAV (GPS) approach.
Conduct Nonprecision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Nonprecision Approach	Can explain criteria for a stabilized approach, to include energy management concepts.
Conduct Visual Approach (VFR Procedures)	Can explain the visual approach procedure.
Conduct nosewheel steering - Nosewheel Steering failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes

Conduct Taxi	Can identify airport and runway markings, signs, and lights
Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew
Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)

Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand Auxiliary Power Unit (APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Auxiliary Power Unit (APU)	Can describe the operation of the airplane systems and components using correct terminology
Understand Auxiliary Power Unit (APU)	Can explain system or component limitations
Understand Auxiliary Power Unit (APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Auxiliary Power Unit (APU)	Can explain immediate action items or memory items, if appropriate

Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Auxiliary Power Unit (APU)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Auxiliary Power Unit (APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can define TA (Traffic Advisory) as Aural voice and display information provided by TCAS to a flightcrew, identifying the location of nearby traffic that meets certain minimum separation criteria
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe TCAS on-ground performance
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the see-and-avoid concept is still valid even with TCAS
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can define Increase, reversal, crossing, and weakened Ras
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that That TCAS II assures separation from aircraft equipped with an altitude-reporting transponder;

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain the detection and protection provided by TCAS against altitude-reporting and non-altitude-reporting intruders
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the system detects multiple aircraft
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain TCAS to TCAS coordination
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate the potential impact of not following RAs
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can differentiate between TCAS surveillance range versus display range
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain when an intruder will not be displayed
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain the normal, expected pilot response to TAs, RAs, use of displayed traffic information to establish visual contact, and constraints on maneuvering based solely on Tas.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state RA inhibit altitudes
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can discuss the risks inherent to an inability to comply with an RA due to aircraft performance limitations after an engine failure, and appropriate response to RAs in limiting performance conditions, such as during heavy weight takeoff or while en route at maximum altitude for a particular weight.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain communication and coordination with ATC related to or following a TCAS event, when to contact ATC, and accepted TCAS phraseology.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can identify TCAS symbology
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain radar altimeter inputs to TCAS, and weather radar/electronic flight information system (EFIS) interfaces

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate familiarization with AFM provisions including information on TCAS modes of operation; normal and atypical flightcrew operating procedures; and response to TAs, RAs, and any AFM limitations.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate familiarization with MEL procedures related to TCAS
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe appropriate pilot response to TCAS RAs and TAs, ATC clearance compliances and nuisance alerts.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can sate that TCAS interrogates other transponder-equipped aircraft within a nominal range of 14 nautical miles (NM).
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TCAS surveillance range can be reduced in geographic areas with a large number of ground interrogators and/or TCAS II equipped aircraft
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state that TAs can be issued against any transponder-equipped aircraft which responds to the ICAO Mode C interrogations, even if the aircraft does not have altitude reporting capability.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state that RAs can be issued only against aircraft that are reporting altitude and only in the vertical plane
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state that RAs issued against a TCAS-equipped intruder are coordinated to ensure the issuance of complementary RAs
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that TCAS advisories are based on time to CPA rather than distance. The time must be short and vertical separation must be small, or projected to be small, before an advisory can be issued. The separation standards provided by Air Traffic Services (ATS) are different from the missed distances against which TCAS issues an alert
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that the time must be short and vertical separation must be small, or projected to be small, before an advisory can be issued.

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the separation standards provided by Air Traffic Services (ATS) are different from the missed distances against which TCAS issues an alert
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that the thresholds for issuing a TA or RA vary with altitude, and are larger at higher altitudes.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TA tau threshold (trigger point) varies from 20 to 48 seconds before the projected CPA and the RA tau threshold varies from 15 to 35 seconds
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that RAs are chosen to provide the desired vertical missed distance at CPA. As a result, RAs can instruct a climb or descent through the intruder aircraft's altitude.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TCAS will neither track nor display non-transponder-equipped aircraft, nor aircraft not responding to TCAS Mode C interrogations.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain that TCAS will automatically fail if the input from the aircraft's barometric altimeter, radio altimeter, or transponder is lost
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that TCAS may not display all proximate transponder-equipped aircraft in areas of high-density traffic.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that, Because of design limitations, the bearing displayed by TCAS is not sufficiently accurate to support the initiation of horizontal maneuvers based solely on the traffic display
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that Because of design limitations, TCAS will not track intruders with a Vertical Speed (VS) in excess of 10,000 feet per minute (fpm). In addition, the design implementation may result in some short-term errors in the tracked VS of an intruder during periods of high vertical acceleration by the intruder

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that Ground proximity warning system (GPWS) warnings and windshear warnings take precedence over TCAS advisories. When either a GPWS or windshear warning is active, TCAS aural annunciations will be inhibited.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that "INCREASE DESCENT" RAs are inhibited below 1,450 (±100) feet AGL
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that "DESCEND" RAs are inhibited below 1,100 (±100) feet AGL.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that all RAs are inhibited below 1,000 (±100) feet AGL.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that all TCAS aural annunciations are inhibited below 500 (±100) feet AGL.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that if your aircraft type provides RA climb and increase climb commands at certified ceiling, the commands are to be followed.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate that low display ranges are used in the terminal area and the higher display ranges are used in the en route environment and in the transition between the terminal and en route environment.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate that if available, recommended usage of the "ABOVE/BELOW" mode selector. "ABOVE" mode should be used during climb and the "BELOW" mode should be used during descent.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate that the configuration of the display does not affect the TCAS surveillance volume.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including appreciate the benefits of selecting lower ranges when an advisory is issued, in order to increase display resolution

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate the proper use of controls including differentiate between the display of absolute altitude and relative altitude and explain the limitations of using this display if a barometric correction is not provided to TCAS.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can execute proper configuration to display the appropriate TCAS information without eliminating the display of other needed information.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize traffic within the selected display range that is not proximate traffic, (not causing a TA or RA to be issued).
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize proximate traffic in the display, i.e., traffic that is within 6 NM and ±1200 feet.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize non-altitude reporting traffic in the display.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can recognize no bearing TAs and RAs
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can determine when it is necessary to change the selected range for off-scale TAs and RAs to ensure that all available information on the intruder is displayed.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe how to select the minimum available display range which allows the display of TAs to provide the maximum display resolution
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe how to select the minimum available display range which allows the display of TAs to provide the maximum display resolution
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that navigation displays oriented on track-up may require a pilot to make a mental adjustment for drift angle when assessing the bearing of proximate traffic.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain the meaning of the red and green areas displayed on the RA display and when the green areas will and will not be displayed.

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate general familiarization with the operator's guidance for the use of "TA-ONLY."
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that if "TA-ONLY" is not selected when an airport is conducting simultaneous operations from parallel runways separated by less than 1,200 feet, and to some intersecting runways, RAs can be expected
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that in TA mode, the TA aural annunciation is inhibited below 500 feet AGL. As a result, TAs issued below 500 feet AGL may not be noticed unless the TA display is included in the routine instrument scan.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can appreciate that in TA-ONLY mode, TAs will be issued at the time an RA is normally issued.
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe the division of duties between Pilot Flying (PF) and pilot monitoring (PM)
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can state the expected callouts during a TA or RA
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe proper communications with ATC during a TA or RA
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe the conditions under which an RA may not be followed and who will make this decision
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can describe the operation of the airplane systems and components using correct terminology
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain system or component limitations
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can explain immediate action items or memory items, if appropriate

Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Avionics and communications - traffic awareness/warning/avoidance systems	Can apply the knowledge items specified in AC120-55C
Understand Avionics and communications - traffic awareness/warning/avoidance systems - TCAS Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - circuit breakers and protection devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System - circuit breakers and protection devices	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - circuit breakers and protection devices	Can explain system or component limitations
Understand Electrical System - circuit breakers and protection devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - circuit breakers and protection devices	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - circuit breakers and protection devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - controls	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Electrical System - controls	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - controls	Can explain system or component limitations
Understand Electrical System - controls	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - controls	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - controls	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - controls	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain system or component limitations
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - generators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - generators	Can explain system or component limitations

Understand Electrical System - generators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - generators	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - generators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - generators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Electrical System - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System - indicators	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System - indicators	Can explain system or component limitations
Understand Electrical System - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System - indicators	Can explain immediate action items or memory items, if appropriate
Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Electrical System - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Electrical System -batteries	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Electrical System -batteries	Can describe the operation of the airplane systems and components using correct terminology
Understand Electrical System -batteries	Can explain system or component limitations
Understand Electrical System -batteries	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Electrical System -batteries	Can explain immediate action items or memory items, if appropriate
Understand Electrical System -batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Electrical System -batteries	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - elevator	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - elevator	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - elevator	Can explain system or component limitations
Understand Flight Controls - elevator	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - elevator	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - elevator	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - elevator	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Flight Controls - elevator	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - flaps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - flaps	Can explain system or component limitations
Understand Flight Controls - flaps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - flaps	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - flaps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - flaps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - rudder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - rudder	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - rudder	Can explain system or component limitations
Understand Flight Controls - rudder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - rudder	Can explain immediate action items or memory items, if appropriate

Understand Flight Controls - rudder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - rudder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - rudder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - speed brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - speed brakes	Can explain system or component limitations
Understand Flight Controls - speed brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - speed brakes	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - speed brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - speed brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - speed brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - spoilers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology

Understand Flight Controls - spoilers	Can explain system or component limitations
Understand Flight Controls - spoilers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - spoilers	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - spoilers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - spoilers - Ground Spoiler Failure Inflight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain system or component limitations
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to

	document inoperative components of this system and explain related procedures
Understand Flight Controls - Ailerons	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - Ailerons	Can describe the operation of the airplane systems and components using correct terminology
Understand Flight Controls - Ailerons	Can explain system or component limitations
Understand Flight Controls - Ailerons	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - Ailerons	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - Ailerons	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - Ailerons	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Flight Controls - Ailerons	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - Other Flight Deck Systems	Can describe Other flight deck systems related to AWO operations (e.g., autobrakes or autospoilers), and any associated limitations, characteristics, or constraints (e.g., touchdown pitch up or pitch down tendency of certain autospoiler or autobrake settings or non-normal conditions, time delays, or auto-deactivation features with go-around)
Understand Flight Controls - trim systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology

Understand Flight Controls - trim systems	Can explain system or component limitations
Understand Flight Controls - trim systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Flight Controls - trim systems	Can explain immediate action items or memory items, if appropriate
Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Flight Controls - trim systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Flight Controls - trim systems - mach trim failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - additives	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - additives	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - additives	Can explain system or component limitations
Understand Fuel system - additives	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - additives	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - additives	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - additives	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - additives	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to

	document inoperative components of this system and explain related procedures
Understand Fuel system - capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - capacity and quantities	Can explain system or component limitations
Understand Fuel system - capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - capacity and quantities	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - capacity and quantities - Fuel Leak In Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - capacity and quantities - low fuel state procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - controls and indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - controls and indicators	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - controls and indicators	Can explain system or component limitations
Understand Fuel system - controls and indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Fuel system - controls and indicators	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - controls and indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - controls and indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - controls and indicators - Fuel Tank Temperature procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - cross-feeding	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - cross-feeding	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - cross-feeding	Can explain system or component limitations
Understand Fuel system - cross-feeding	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - cross-feeding	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - cross-feeding	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - cross-feeding	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - cross-feeding	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - drains	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Fuel system - drains	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - drains	Can explain system or component limitations
Understand Fuel system - drains	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - drains	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - drains	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - drains	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - drains	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - fuel grade	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - fuel grade	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - fuel grade	Can explain system or component limitations
Understand Fuel system - fuel grade	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - fuel grade	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - fuel grade	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - fuel grade	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Fuel system - fuel grade	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - fuel substitutions	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - fuel substitutions	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - fuel substitutions	Can explain system or component limitations
Understand Fuel system - fuel substitutions	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - fuel substitutions	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - fuel substitutions	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - fuel substitutions	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - fuel substitutions	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - fueling and defueling procedures	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - fueling and defueling procedures	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - fueling and defueling procedures	Can explain system or component limitations
Understand Fuel system - fueling and defueling procedures	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - fueling and defueling procedures	Can explain immediate action items or memory items, if appropriate

Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - fueling and defueling procedures	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - pumps	Can explain system or component limitations
Understand Fuel system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - pumps	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fuel system - pumps - fuel boost pump failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - pumps - fuel boost pump failure procedure - Fuel Return Fail Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Fuel system - transferring	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fuel system - transferring	Can describe the operation of the airplane systems and components using correct terminology
Understand Fuel system - transferring	Can explain system or component limitations
Understand Fuel system - transferring	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fuel system - transferring	Can explain immediate action items or memory items, if appropriate
Understand Fuel system - transferring	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fuel system - transferring	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fuel system - transferring	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - allowable types of fluid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - allowable types of fluid	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - allowable types of fluid	Can explain system or component limitations
Understand Hydraulic system - allowable types of fluid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - allowable types of fluid	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - allowable types of fluid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - capacity	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - capacity	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - capacity	Can explain system or component limitations
Understand Hydraulic system - capacity	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - capacity	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - capacity	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - capacity	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - capacity	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - pressure	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - pressure	Can explain system or component limitations

Understand Hydraulic system - pressure	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - pressure	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - pressure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - pressure	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - pumps	Can explain system or component limitations
Understand Hydraulic system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - pumps	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - pumps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Hydraulic system - regulators/accumulators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - regulators/accumulators	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - regulators/accumulators	Can explain system or component limitations
Understand Hydraulic system - regulators/accumulators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - regulators/accumulators	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - regulators/accumulators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Hydraulic system - reservoirs	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Hydraulic system - reservoirs	Can describe the operation of the airplane systems and components using correct terminology
Understand Hydraulic system - reservoirs	Can explain system or component limitations
Understand Hydraulic system - reservoirs	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Hydraulic system - reservoirs	Can explain immediate action items or memory items, if appropriate
Understand Hydraulic system - reservoirs	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Understand Hydraulic system - reservoirs	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Hydraulic system - reservoirs	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - antiskid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - antiskid	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - antiskid	Can explain system or component limitations
Understand Landing Gear - antiskid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - antiskid	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - antiskid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - antiskid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - antiskid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - brakes	Can explain system or component limitations

Understand Landing Gear - brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - brakes	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - extension/retraction system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - extension/retraction system	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - extension/retraction system	Can explain system or component limitations
Understand Landing Gear - extension/retraction system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - extension/retraction system	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - extension/retraction system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Landing Gear - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - indicators	Can explain system or component limitations
Understand Landing Gear - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - indicators	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - nosewheel steering	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - nosewheel steering	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - nosewheel steering	Can explain system or component limitations
Understand Landing Gear - nosewheel steering	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - nosewheel steering	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - nosewheel steering	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Understand Landing Gear - nosewheel steering	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - shock absorbers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - shock absorbers	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - shock absorbers	Can explain system or component limitations
Understand Landing Gear - shock absorbers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - shock absorbers	Can explain immediate action items or memory items, if appropriate
Understand Landing Gear - shock absorbers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - shock absorbers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - shock absorbers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Landing Gear - tires	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Landing Gear - tires	Can describe the operation of the airplane systems and components using correct terminology
Understand Landing Gear - tires	Can explain system or component limitations
Understand Landing Gear - tires	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Landing Gear - tires	Can explain immediate action items or memory items, if appropriate

Understand Landing Gear - tires	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Landing Gear - tires	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Landing Gear - tires	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Flight control jams.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Total loss of braking.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: TCAS alert
Understand Powerplant - turbine wheels	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - turbine wheels	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - turbine wheels	Can explain system or component limitations
Understand Powerplant - turbine wheels	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - turbine wheels	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - turbine wheels	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - turbine wheels	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Powerplant - turbine wheels	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - allowable types of oil	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - allowable types of oil	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - allowable types of oil	Can explain system or component limitations
Understand Powerplant - allowable types of oil	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - allowable types of oil	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - allowable types of oil	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - allowable types of oil	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - allowable types of oil	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - compressors	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - compressors	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - compressors	Can explain system or component limitations
Understand Powerplant - compressors	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - compressors	Can explain immediate action items or memory items, if appropriate

Understand Powerplant - compressors	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - compressors	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - compressors	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - controls and indications	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - controls and indications	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - controls and indications	Can explain system or component limitations
Understand Powerplant - controls and indications	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - controls and indications	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - controls and indications	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - controls and indications	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - controls and indications - Engine Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - controls and indications - Pylon Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Powerplant - deicing, anti-icing	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - deicing, anti-icing	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - deicing, anti-icing	Can explain system or component limitations
Understand Powerplant - deicing, anti-icing	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - deicing, anti-icing	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - deicing, anti-icing	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - oil system capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - oil system capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - oil system capacity and quantities	Can explain system or component limitations
Understand Powerplant - oil system capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - oil system capacity and quantities	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - oil system capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - thrust reverse	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Powerplant - thrust reverse	Can describe the operation of the airplane systems and components using correct terminology
Understand Powerplant - thrust reverse	Can explain system or component limitations
Understand Powerplant - thrust reverse	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Powerplant - thrust reverse	Can explain immediate action items or memory items, if appropriate
Understand Powerplant - thrust reverse	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Powerplant - thrust reverse	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Powerplant - thrust reverse - Dispatch With Inoperative Thrust Reverser(s) On Wet Runways procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - thrust reverse - Thrust Reverser Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Powerplant - thrust reverse - Thrust Reverser Manual Stow Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

SIM 2 Tasks and Expectations

Tasks	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Experience Rating**
Conduct Circling Approach	Can comply with the circling approach procedure considering turbulence, windshear, and the maneuvering capability and approach category of the aircraft.		High
Conduct Circling Approach	Can confirm the direction of traffic and adhere to all restrictions and instructions issued by ATC.		High
Conduct Circling Approach	Can perform establishing the correct approach and landing configuration		High
Conduct Circling Approach	Can maintain a stabilized approach and a descent rate that ensures arrival at the MDA, or the preselected circling altitude above the MDA, prior to the missed approach point.		High
Conduct Circling Approach	Can maintain airspeed ±5 knots, desired heading/track ±5°, and altitude +100/-0 feet until descending below the MDA or the preselected circling altitude above the MDA.		High
Conduct Circling Approach	Can perform visually maneuvering to a base or downwind leg appropriate for the landing runway and environmental conditions.		High
Conduct Circling Approach	Can perform a turn in the appropriate direction using the correct procedure and execute configuring the airplane if a missed approach occurs		High

Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to follow prescribed circling approach procedures.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing executing a circling approach at night or with marginal visibility.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing losing visual contact with an identifiable part of the airport.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing failure to	High

		maintain an appropriate altitude or airspeed while circling.	
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Circling Approach		Can identify, assess, and manage risks, encompassing executing an improper missed approach after the MAP while circling.	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure	Can execute procedure with smoothness and accuracy		High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure	Can operate the airplane within its limitations		High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Dual Hydraulic System (L SYS and R SYS)		Can apply aeronautical knowledge to	High

Failure - AUX Pump Available procedure		execution of the task	
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can apply crew coordination	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can conduct effective communication with the other crew members	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can manage crew cooperation	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Dual Hydraulic System (L SYS and R SYS) Failure - AUX Pump Available procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Dual Hydraulic System (L SYS and R SYS)		Can demonstrate good judgement	High

Failure - AUX Pump Available procedure		and airmanship	
Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and positioning of the aircraft relative to continuation of the approach to landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		High

Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can coordinate with crew and execute the appropriate emergency procedures and checklist(s) for propeller feathering or powerplant shutdown.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can determine the cause for the powerplant failure and assess if a restart is a viable option.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain the operating powerplant(s) within acceptable operating limits.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can maintain airspeed ±10 knots, specified heading ±10° and altitude ±100 feet as specified		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can assess powerplant restart and, if appropriate, demonstrate the powerplant restart procedures in accordance with the manufacturer or operator specified procedures and checklists.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can select the nearest suitable airport or landing area.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart	Can perform communication with ATC as appropriate for the situation.		High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing failure to plan	High

		for a powerplant failure during flight.	
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing failure to follow checklist procedures for a powerplant failure or a powerplant restart.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing incorrect diagnosis of the cause of the powerplant failure.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Emergency Procedure - Inflight		Can identify, assess, and manage risks,	High

Powerplant Failure and Restart		encompassing improper airplane configuration.	
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing factors and situations that could lead to an inadvertent stall, spin, and loss of control with an inflight powerplant failure.	High
Conduct Emergency Procedure - Inflight Powerplant Failure and Restart		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Holding	Can identify instrument navigation aids associated with the assigned hold.		High
Conduct Holding	Can apply the appropriate entry procedure for a standard, nonstandard, published, or non- published holding pattern.		High
Conduct Holding	Can change to the appropriate holding airspeed for the airplane and holding altitude to cross the holding fix at or below maximum holding airspeed		High
Conduct Holding	Can comply with the holding pattern leg length and other restrictions, if applicable,		High

	associated with the holding pattern.		
Conduct Holding	Can comply with ATC reporting requirements.		High
Conduct Holding	Can use proper wind correction procedures to maintain the desired pattern and to arrive over the fix as close as possible to a specified time.		High
Conduct Holding	Can maintain the airspeed ±10 knots, altitude ±100 feet, headings ±10°, and accurately track a selected course, radial, or bearing.		High
Conduct Holding	Can use automation to include autopilot, flight director controls, and navigation displays associated with the assigned hold.		High
Conduct Holding	Can calculate fuel reserve calculations based on EFC times.		High
Conduct Holding		Can identify, assess, and manage risks, encompassing recalculating fuel reserves if assigned an unanticipated EFC time.	High
Conduct Holding		Can identify, assess, and manage risks, encompassing scenarios and circumstances that could result in minimum fuel or the need to declare an emergency.	High

Conduct Holding		Can describe scenarios that could lead to holding, including deteriorating weather at the planned destination.	High
Conduct Holding		Can identify, assess, and manage risks, encompassing improper holding entry and improper wind correction while holding.	High
Conduct Holding		Can identify, assess, and manage risks, encompassing holding while in icing conditions.	High
Conduct Holding		Can identify, assess, and manage risks, encompassing improper automation management.	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure	Can execute procedure with smoothness and accuracy		High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG)	Can operate the airplane within its limitations		High

On With Both Hydraulic Systems Operating procedure			
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can apply crew coordination	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can conduct effective communication with the other crew members	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can manage crew cooperation	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both		Can maintain a general survey of the aircraft operation by	High

Hydraulic Systems Operating procedure		appropriate supervision	
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct ILS approach and Landing With The Standby Electrical Power System (HMG) On With Both Hydraulic Systems Operating procedure		Can demonstrate good judgement and airmanship	High
Conduct Jammed Aileron Procedure	Can execute procedure with smoothness and accuracy		High
Conduct Jammed Aileron Procedure	Can operate the airplane within its limitations		High
Conduct Jammed Aileron Procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Jammed Aileron Procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct Jammed Aileron Procedure		Can apply crew coordination	High
Conduct Jammed Aileron Procedure		Can conduct effective	High

		communication with the other crew members	
Conduct Jammed Aileron Procedure		Can manage crew cooperation	High
Conduct Jammed Aileron Procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Jammed Aileron Procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Jammed Aileron Procedure		Can demonstrate good judgement and airmanship	High
Conduct Jammed Elevator Procedure	Can execute procedure with smoothness and accuracy		High
Conduct Jammed Elevator Procedure	Can operate the airplane within its limitations		High
Conduct Jammed Elevator Procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High

Conduct Jammed Elevator Procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct Jammed Elevator Procedure		Can apply crew coordination	High
Conduct Jammed Elevator Procedure		Can conduct effective communication with the other crew members	High
Conduct Jammed Elevator Procedure		Can manage crew cooperation	High
Conduct Jammed Elevator Procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Jammed Elevator Procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Jammed Elevator Procedure		Can demonstrate good judgement and airmanship	High

Conduct Landing From a Circling Approach	Can maintain the airport environment in sight and remain within the circling approach radius applicable to the approach category to a position from which a stabilized descent to landing can be made.		High
Conduct Landing From a Circling Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		High
Conduct Landing From a Circling Approach	Can perform alignment of the airplane for a normal landing on the selected runway without excessive maneuvering and without exceeding the normal operating limits of the airplane. The angle of bank should not exceed 30°.		High
Conduct Landing From a Circling Approach	Can perform smooth, timely, and correct control application throughout the circling maneuver and maintain appropriate airspeed, ±5 knots. If applicable, maintain altitude +100/−0 feet, and desired heading/track, ±5°.		High
Conduct Landing From a Circling Approach	Can confirm the airplane is configured for landing.		High
Conduct Landing From a Circling Approach	Can scan the landing runway and adjoining area for traffic and obstructions		High
Conduct Landing From a Circling Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the		High

	approach threshold of the runway		
Conduct Landing From a Circling Approach	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct Landing From a Circling Approach	Can demonstrate SRM or CRM, as appropriate.		High
Conduct Landing From a Circling Approach	Can apply runway incursion avoidance procedures.		High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing landing from a circling approach	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing	High

		wake turbulence.	
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for missed approach	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for land and hold short operations (LAHSO)	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	High

Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	High
Conduct Landing From a Circling Approach		Can identify, assess, and manage risks, encompassing planning for attempting to land from an unstable approach.	High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can perform non-normal configuration approaches and landings in instrument conditions. For these approaches, the simulated weather minima may be above, or well above, the lowest minima authorized. Minima should be at levels that might typically be experienced in line operations for a landing with the non-normal condition used. During these approaches, representative autoflight, instrument, and aircraft system configurations or combinations of configurations should be demonstrated (e.g., F/D, autopilot, HUD, vision systems, autothrottles, raw data, and inoperative electrical or hydraulic components).		High

Conduct Landing from a No Flap or Nonstandard Flap Approach	Can recognize the malfunction.		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can coordinate with crew, if applicable, and complete applicable checklist(s) for the malfunction, approach, and landing.		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can coordinate with ATC as needed and select an airport/runway with sufficient length for landing.		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can calculate the correct airspeeds/V-speeds for approach and landing.		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can perform establishing the recommended approach and landing configuration and airspeed, and adjust pitch attitude and power as required to maintain a stabilized approach.		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can perform smooth, timely, and correct control application before, during, and after touchdown.		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Landing from a No Flap or Nonstandard Flap Approach	Can maintain positive aircraft control throughout the landing using drag and braking		High

	devices, as appropriate, to come to a stop.		
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing hazards associated with a no flap or nonstandard flap approach and landing to include an asymmetrical flap situation.	High
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing selection of a runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing go-	High

		around/rejected landing.	
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Landing from a No Flap or Nonstandard Flap Approach		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct a Landing with Pitch Mistrim	Can recognize the malfunction.		High
Conduct a Landing with Pitch Mistrim	Can coordinate with crew, if applicable, and complete applicable checklist(s) for the malfunction, approach, and landing.		High

Conduct a Landing with Pitch Mistrim	Can coordinate with ATC as needed and select an airport/runway with sufficient length for landing.		High
Conduct a Landing with Pitch Mistrim	Can calculate the correct airspeeds/V-speeds for approach and landing.		High
Conduct a Landing with Pitch Mistrim	Can perform establishing the recommended approach and landing configuration and airspeed, and adjust pitch attitude and power as required to maintain a stabilized approach.		High
Conduct a Landing with Pitch Mistrim	Can select a suitable touchdown point considering wind, landing surface, and obstructions.		High
Conduct a Landing with Pitch Mistrim	Can perform smooth, timely, and correct control application before, during, and after touchdown.		High
Conduct a Landing with Pitch Mistrim	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct a Landing with Pitch Mistrim	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing hazards associated with a pitch mistrim	High

		approach and landing.	
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing selection of a runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing go-around/rejected landing.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels,	High

		persons, and wildlife.	
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct a Landing with Pitch Mistrim		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Missed Approach	Can execute a missed approach from the MDA, DA/DH, or AH.		High
Conduct Missed Approach	Can execute a missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		High
Conduct Missed Approach	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance.		High
Conduct Missed Approach	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V-speed, ±5 knots.		High

Conduct Missed Approach	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner.		High
Conduct Missed Approach	Can comply with the published or alternate missed approach procedure.		High
Conduct Missed Approach	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		High
Conduct Missed Approach	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure.		High
Conduct Missed Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		High
Conduct Missed Approach	Can demonstrate effective CRM		High
Conduct Missed Approach	Can execute re-engagement of the autopilot at appropriate times during the missed approach procedure.		High
Conduct Missed Approach	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator.		High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures.	High
Conduct Missed Approach		Can identify, assess, and manage risks,	High

		encompassing holding, diverting, or electing to fly the approach again.	
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing factors that might lead to executing a missed approach procedure before the MAP or to a go-around below DA/MDA.	High
Conduct Missed Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems.	High

Conduct Nonprecision Approach		Can appreciate that there are environments in which using CDFA technique is not advisable or practical, for example airports that do not offer straight in non-precision approaches.	High
Conduct Nonprecision Approach	Can perform the nonprecision instrument approaches selected by the instructor/evaluator		High
Conduct Nonprecision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Nonprecision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High
Conduct Nonprecision Approach	Can Comply with all clearances issued by ATC.		High
Conduct Nonprecision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		High
Conduct Nonprecision Approach	Can coordinate with ATC if unable to comply with a clearance.		High
Conduct Nonprecision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High

Conduct Nonprecision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Nonprecision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Nonprecision Approach	Can maintain a stabilized descent to the appropriate altitude.		High
Conduct Nonprecision Approach	Can maintain no more than ¼ scale CDI deflection, airspeed ±5 knots of selected value, and altitude above MDA +50/-0 feet (to the VDP or MAP) during the final approach segment		High
Conduct Nonprecision Approach	Can execute the missed approach procedure if the required visual references are not distinctly visible and identifiable at the appropriate point or altitude for the approach profile, or execute a normal landing from a straight-in or circling approach.		High
Conduct Nonprecision Approach	Can use a Multi-Function Display (MFD) and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High

Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to follow the correct approach procedure (e.g., descending too early, etc.).	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Selecting an incorrect navigation frequency.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to manage automated navigation and auto flight systems.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to ensure proper airplane configuration during an approach and missed approach.	High

Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing An unstable approach, including excessive descent rates.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Deteriorating weather conditions on approach.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Operating below the minimum descent altitude (MDA) or continuing a descent below decision altitude (DA) without proper visual references.	High
Conduct Visual Approach (VFR Procedures)	Can conduct a visual approach.		High

Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		High
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft characteristics (e.g., single HUD).		High
Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		High
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use		High

	of wheel brakes and reverse thrust		
Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing a taxi route or departure runway change	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing	High

		low visibility taxi operations	
Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot who is taxiing the aircraft	High
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or	High

		accomplishing checklists	
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	High
Conduct Taxi		Can maintain a sterile cockpit during taxi operations	High
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and	High

		not the ones they expected to receive.	
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High
Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	High
Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can	High

		safely comply.	
Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	High
Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance when approaching an entrance to a runway.	High
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communications with ATC	High

		to regain orientation.	
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in order obtain awareness of any aircraft that may be landing on your runway.	High
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	High
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a		High

	runway. If there is any doubt, speaks up and resolve the uncertainty before taxi		
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when it becomes necessary for a flightcrew member to stop monitoring any ATC frequency to prepare the aircraft for takeoff or landing.	High
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: "I'm	High

		heads-down, right turn ahead at Alpha," or "I'm back, any changes?"	
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or transmitted during that flightcrew member's absence from the ATC frequency should be reviewed and confirmed upon his or her return.	High
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the	High

		airport diagram and the heading indicator	
Conduct Taxi		Can state “approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach paths, and coordinate verbally (e.g., “clear right/left” or that the scan area is not clear).	High
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points	High

		of an intersecting runway and the aircraft's parking area after landing	
Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		High
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High
Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	High

Conduct TCAS Resolution Advisory (RA)	Can respond to the RA with positive control inputs, when required, while the PM provides updates on the traffic location and cross-checks between the traffic display and monitors the response to the RA		High
Conduct TCAS Resolution Advisory (RA)	Can interpret the displayed information, and recognize the intruder causing the issuance of the RA (red square on display).		High
Conduct TCAS Resolution Advisory (RA)	Can respond to the corrective RA in the proper direction within 5 seconds of the RA being displayed		High
Conduct TCAS Resolution Advisory (RA)	Can respond to a change in the initially displayed RA withing 2.5 seconds		High
Conduct TCAS Resolution Advisory (RA)	Can recognize and respond to altitude crossing RAs		High
Conduct TCAS Resolution Advisory (RA)	Can respond to preventive RAs by ensuring the VS needle remains outside the red area on the RA display.		High
Conduct TCAS Resolution Advisory (RA)	Can maintain vertical speed during "maintain rate" Ras		High
Conduct TCAS Resolution Advisory (RA)	Can recognize that a maintain rate RA may result in crossing through the intruder’s altitude.		High
Conduct TCAS Resolution Advisory (RA)		Can appreciate that if a decision is made to not follow an RA, no changes in the existing VS are made in a direction opposite to the sense of	High

		the displayed RA. Pilots should be aware that if the intruder is also TCAS equipped, the decision to not follow an RA may result in a decrease in separation at CPA because of the intruder's RA response	
Conduct TCAS Resolution Advisory (RA)	Can execute a return towards the original clearance when the RA weakens, and when clear of conflict is annunciated, pilot executes a complete the return to the original clearance		High
Conduct TCAS Resolution Advisory (RA)		Can inform the controller of the RA as soon as time and workload permit, using the standard phraseology	High
Conduct TCAS Resolution Advisory (RA)	Can comply with an ATC clearance while responding to an RA when possible. (For example, if the aircraft can level at the assigned altitude while responding to a reduce climb or reduce descent RA, it should be done)		High
Conduct TCAS Resolution Advisory (RA)		Can appreciate that If pilots simultaneousl y receive	High

		instructions to maneuver from ATC and an RA that are in conflict, the pilot should follow the RA.	
Conduct TCAS Resolution Advisory (RA)		Can appreciate that TCAS only considers intruders that it believes to be a threat when selecting an RA. As such, it is possible for TCAS to issue an RA against one intruder that results in a maneuver towards another intruder that is not classified as a threat. If the second intruder becomes a threat, the RA will be modified to provide separation from that intruder.	High

Conduct TCAS Resolution Advisory (RA)		Can appreciate the consequences of both responding to, and not responding to, an RA	High
Conduct TCAS Traffic Advisory (TA)		Can confirm that the aircraft they have visually acquired is that which has caused the TA to be issued	High
Conduct TCAS Traffic Advisory (TA)	Can use all information shown on the display, and interpret bearing and range of the intruder (amber circle), whether it is above or below (data tag), and its VS direction (trend arrow).		High
Conduct TCAS Traffic Advisory (TA)	Can use other available information is used to assist in visual acquisition. This includes ATC party-line information, traffic flow in use, etc.		High
Conduct TCAS Traffic Advisory (TA)		Can appreciate that the PF should not maneuver the aircraft based solely on the information shown on the TCAS display. No attempt should be made to adjust the	High

		current flightpath in anticipation of what an RA would advise.	
Conduct TCAS Traffic Advisory (TA)		Can appreciate the limitations of making maneuvers based solely on visual acquisition, especially at high altitude or without a definite horizon	High
Conduct TCAS Traffic Advisory (TA)		Can take account of traffic advisory while preparing for a potential resolution advisory (pilot flying)	High
Conduct TCAS Traffic Advisory (TA)		Can monitor traffic location shown on the TCAS display, using this information to help visually acquire the intruder.	High
Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		High

Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		High
Conduct use of HUD	Can use caged, uncaged and clear modes in crosswind conditions		High
Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		High
Conduct use of HUD	Can perform TCAS RA using HUD		High
Conduct use of lateral control switch (GIV-X)	Can use lateral control switch and explain functionality		High
Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		High
Conduct use of TCAS	Can demonstrate the proper use of controls including aircraft configuration required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including steps required to initiate a self-test.		High
Conduct use of TCAS	Can demonstrate the proper use of controls including recognizing when the self-test was successful and when it was unsuccessful. When the self-test is unsuccessful, recognizing the reason for the failure, and if possible, correcting the problem.		High
Conduct use of TCAS	Can perform the procedures specified in AC120-55C		High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)	Can execute procedure with smoothness and accuracy		High

Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)	Can operate the airplane within its limitations		High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can apply aeronautical knowledge to execution of the task	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can apply crew coordination	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can conduct effective communicatio n with the other crew members	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can manage crew cooperation	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can maintain a general survey of the aircraft operation by appropriate supervision	High

Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Nose Wheel Steering (NWS) Failure on landing (prior to completion of before landing checklist)		Can demonstrate good judgement and airmanship	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind	Can execute procedure with smoothness and accuracy		High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind	Can operate the airplane within its limitations		High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can apply aeronautical knowledge to execution of the task	High

Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can apply crew coordination	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can conduct effective communication with the other crew members	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can manage crew cooperation	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with minimum 15 kt crosswind		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Nose Wheel Steering (NWS) Failure on landing upon touchdown with		Can demonstrate good judgement	High

minimum 15 kt crosswind		and airmanship	
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Auxiliary Power Unit (APU)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can appreciate that system limitations include the inability of TCAS to detect	High

		nontransponder-equipped aircraft, no RAs issued for traffic without an altitude-reporting transponder	
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - traffic awareness/warning/avoidance systems		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - circuit breakers and protection devices		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System - controls		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - controls		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Electrical System - controls		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - controls		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Electrical System - external and auxiliary power sources. (ground power and APU)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System - generators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - generators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - generators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - generators		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System - indicators		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Electrical System -batteries		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - elevator		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - flaps		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - flaps		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - flaps		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - flaps		Can identify, assess, and manage risks	High

		encompassing failure to monitor and manage automated systems.	
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - rudder		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing failure to	High

		detect system malfunctions or failures.	
Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - speed brakes		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - spoilers		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - spoilers		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Flight Controls - spoilers		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - spoilers		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Flight Controls - stability augmentation system (e.g., yaw damper)		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - Ailerons		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Flight Controls - trim systems		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - additives		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - additives		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Fuel system - additives		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - additives		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Fuel system - capacity and quantities		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - controls and indicators		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - cross-feeding		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - drains		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Fuel system - drains		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - drains		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - drains		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - fuel grade		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - fuel substitutions		Can identify, assess, and manage risks	High

		encompassing failure to monitor and manage automated systems.	
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - fueling and defueling procedures		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing failure to	High

		detect system malfunctions or failures.	
Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - pumps		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fuel system - transferring		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Hydraulic system - allowable types of fluid		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - capacity		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Hydraulic system - pressure		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - pressure		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - pressure		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - pressure		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - pumps		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - pumps		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Hydraulic system - pumps		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - pumps		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - regulators/accumulator s		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - regulators/accumulator s		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - regulators/accumulator s		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Hydraulic system - regulators/accumulators		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Hydraulic system - reservoirs		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - antiskid		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - brakes		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - extension/retraction system		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - indicators		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - indicators		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - indicators		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - indicators		Can identify, assess, and manage risks	High

		encompassing failure to monitor and manage automated systems.	
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - nosewheel steering		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing failure to	High

		detect system malfunctions or failures.	
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - shock absorbers		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Landing Gear - tires		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Powerplant - turbine wheels		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - allowable types of oil		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - compressors		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - controls and indications		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - controls and indications		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Powerplant - controls and indications		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - controls and indications		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing improper	High

		management of a system failure	
Understand Powerplant - deicing, anti-icing		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - oil system capacity and quantities		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Powerplant - thrust reverse		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer's recommended procedures or procedures applicable to the operator.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) use a sample of crosswind conditions and offset angles that emphasize the challenges		High

	of operating with the limited FOV with an EFVS.		
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can conduct EFVS operations in visibilities less than IAP minimum visibilities. This may not be practical if training is conducted in an aircraft. If the training is accomplished in a full flight simulator (FFS), conduct the training with the enhanced visibilities representative of the EFVS sensor performance.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when		High

	conducting an approach without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		
Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100		High

	feet during an EFVS-100 operation.		
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		High
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes and associated systems, and adjustments for brightness and contrast under day and night conditions.		High
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings.		High
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument ap proaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		High
Conduct EFVS Operations	Can determine enhanced flight visibility.		High
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		High
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		High

Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and crew coordination procedures when using an EFVS.		High

SIM 3 Learning Objectives

SIM 3 Briefing Items

Tasks	**Knowledge & Cognitive Learning Objectives**
Conduct Emergency Procedure - Airframe icing	Can explain actions required if icing conditions exceed the capabilities of the airplane.
Conduct Emergency Procedure - Airframe icing	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain go-around/rejected landing procedures with a powerplant failure.
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can explain how to determine a suitable airport.
Conduct Emergency Procedure - Decompression	Can explain airplane decompression.
Conduct Emergency Procedure - Decompression	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Emergency Decent	Can explain situations that would require an emergency descent (e.g., depressurization, smoke, or engine fire).
Conduct Emergency Procedure - Emergency Decent	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Emergency evacuation	Can explain when an emergency evacuation may be necessary.
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Inflight fire and smoke	Can explain causes of inflight fire or smoke.

Conduct Emergency Procedure - Inflight fire and smoke	Can explain declaring an emergency and selection of a suitable airport or landing location
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain the procedures used during a powerplant failure on takeoff, the appropriate reference airspeeds, and the specific pilot actions required.
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can explain operational considerations to include: airplane performance, takeoff warning systems, runway length, surface conditions, density altitude, wake turbulence, environmental conditions, obstructions
Conduct OEI Climb to En Route Altitude	Can explain the OEI climb to en route altitude OEM procedure to include an understanding of the difference between climbing at V_{SE} vs. a greater speed per the OEM procedure.
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain flight characteristics and controllability associated with maneuvering to a landing with inoperative powerplant(s).
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain missed approach considerations with a powerplant failure.
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can explain how to determine a suitable airport.

Conduct Instrument Takeoff	Can describe procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use. Pilots should be aware of the operator's policy for responding to loss of suitable visual reference during takeoff, in the low and high-speed regimes, both before and after V1 (refer to AC 120-62 for additional information and recommendations for training).
Conduct Instrument Takeoff	Can explain operational factors that could affect an instrument takeoff (airports available in the event of an emergency after takeoff).
Conduct Lower than Standard Minimum Takeoff	Can discuss all relevant OpSpec requirements for Lower than Standard Minimum Takeoff.
Conduct integrated use of EICAS Messages, switch positions and synoptic pages	Can determine aircraft system status
Conduct Landing From a Precision Approach	Can recognize significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH.
Conduct Landing From a Precision Approach	Can recognize ground or navigation system faults, failures or abnormalities at any point during the approach and landing.
Conduct Landing From a Precision Approach	Can explain elements related to the pilot's responsibilities, and the environmental, operational, and meteorological factors that affect landing from a precision approach.
Conduct Landing From a Precision Approach	Can explain approach lighting systems and runway and taxiway signs, markings and lighting.

Conduct Missed Approach - OEI	Can explain that when executing a one engine inoperative missed approach prior to the MAP and not cleared by an air traffic control (ATC) climb-out instruction, pilots should fly the published missed approach procedure by proceeding on published track to the MAP before accomplishing a turn, complying with published altitude restrictions between the FAF and the MAP, and continuing on or climbing to the altitude specified in the missed approach procedure.
Conduct Missed Approach - OEI	Can explain elements related to a one engine inoperative missed approach procedures to include reference to standby or backup instruments.
Conduct Missed Approach - OEI	Can explain limitations associated with standard instrument approaches, including while using an FMS or autopilot, if equipped.
Conduct Nonprecision Approach	Can explain that unstabilized approaches are a key contributor to CFIT events, and explain that present NPAs are designed with and without stepdown fixes in the final approach
Conduct Nonprecision Approach	Can explain why stepdowns flown without a constant descent will require multiple thrust, pitch, and altitude adjustments inside the final approach fix (FAF), and can explain that these adjustments increase pilot workload and potential errors during a critical phase of flight.
Conduct Nonprecision Approach	Can explain that the practice commonly referred to as “dive and drive,” can result in extended level flight as low as 250 feet above the ground in instrument meteorological conditions (IMC) and shallow or steep final approaches.
Conduct Nonprecision Approach	Can explain that a stabilized approach is a key feature to a safe approach and landing. Can explain that operators are encouraged by the FAA and the International Civil Aviation Organization (ICAO) to use the stabilized approach concept to help eliminate CFIT.

Conduct Nonprecision Approach	Can explain that the stabilized approach concept is characterized by maintaining a stable approach speed, descent rate, vertical flightpath, and configuration to the landing touchdown point
Conduct Nonprecision Approach	Can explain that precision IAPs and approach procedures with vertical guidance (APV) have a continuous descent approach profile in their design.
Conduct Nonprecision Approach	Can explain that NPAs were not originally designed with this vertical path, but may easily be flown using the CDFA (continuous descent final approach) technique.
Conduct Nonprecision Approach	Can explain why Flying NPAs with a continuous descent profile will provide a safety advantage over flying approaches using the “dive and drive” technique.
Conduct Nonprecision Approach	Can explain that CDFA is a technique for flying the final approach segment of an NPA as a continuous descent. The technique is consistent with stabilized approach procedures and has no level-off.
Conduct Nonprecision Approach	Can explain the six advantages of CDFA: Increased safety by employing the concepts of stabilized approach criteria and procedure standardization; Improved pilot situational awareness (SA) and reduced pilot workload; Improved fuel efficiency by minimizing the low-altitude level flight time; Reduced noise level by minimizing the level flight time at high thrust settings; Procedural similarities to APV and precision approach operations; Reduced probability of infringement on required obstacle clearance during the final approach segment.
Conduct Nonprecision Approach	Can explain that CDFA requires no specific aircraft equipment other than that specified by the title of the NPA procedure and that Pilots can safely fly suitable NPAs with CDFA using basic piloting techniques, aircraft flight management systems (FMS) and RNAV

	systems, or by manually computing rate of descent.
Conduct Nonprecision Approach	Can calculate a rate of descent for VDA (see example in this paragraph)
Conduct Nonprecision Approach	Can explain that some approach characteristics (e.g., circling-only minima) and environmental factors (e.g., icing) could make the use of CDFA inadvisable.
Conduct Nonprecision Approach	Can explain procedures and limitations associated with a nonprecision approach, including the differences between Localizer Performance (LP) and Lateral Navigation (LNAV) approach guidance
Conduct Nonprecision Approach	Can explain navigation system displays and annunciations, modes of operation, and RNP lateral accuracy values associated with an RNAV (GPS) approach.
Conduct Nonprecision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Nonprecision Approach	Can explain criteria for a stabilized approach, to include energy management concepts.
Conduct Precision Approach	Can describe normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures
Conduct Precision Approach	Can describe procedures to address the transition from electronic monitoring displays to external visual references for

	both PF and PM for systems that include such displays.
Conduct Precision Approach	Can recognize the limits of acceptable aircraft position and flightpath tracking during approach, flare and rollout. This should be addressed using appropriate displays or annunciations for either automatic or manual landing systems.
Conduct Precision Approach	Can identify nearby critical terrain or obstruction environment;
Conduct Precision Approach	Can explain procedures and limitations associated with a precision approach, including determining required descent rates and adjusting minimums in the case of inoperative equipment.
Conduct Precision Approach	Can explain navigation system displays, annunciations, and modes of operation.
Conduct Precision Approach	Can explain ground-based and satellite-based navigation (orientation, course determination, equipment, tests and regulations, interference, appropriate use of navigation data, signal integrity).
Conduct Precision Approach	Can explain stabilized approach criteria, to include energy management concepts.
Conduct Rejected Takeoff	Can describe safety considerations following a rejected takeoff
Conduct Rejected Takeoff	Can explain the procedure for accomplishing a rejected takeoff
Conduct Rejected Takeoff	Can explain accelerate/stop distance
Conduct Rejected Takeoff	Can describe conditions and situations that could warrant a rejected takeoff (e.g., takeoff warning systems, powerplant failure, other systems warning/failure)
Conduct Rejected Takeoff	Can define relevant V-speeds for a rejected takeoff
Conduct Taxi	Can explain the information available on an airport diagram, chart supplement and NOTAMS
Conduct Taxi	Can interpret taxi instructions including published taxi routes
Conduct Taxi	Can identify airport and runway markings, signs, and lights

Conduct Taxi	Can describe proper procedures for entering or crossing runways
Conduct Taxi	Can explain procedures for taxi on one engine
Conduct Taxi	Can explain the hazards of low visibility taxi operations
Conduct Taxi	Can describe appropriate aircraft lighting for day and night operations
Conduct Taxi	Can describe appropriate flight deck activities prior to taxi, including route planning, identifying the location of Hot Spots, and coordinating with crew
Conduct Taxi	Can identify The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, runway slope, suitability of threshold crossing height (TCH), critical area protection, taxiway position markings, runway distance remaining markings, runway distance remaining signs, and LVO/SMGCS should be addressed.
Conduct Taxi	Can explain the definition of a runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.
Conduct Taxi	Can explain why thorough planning for taxi operations is essential for a safe operation
Conduct Taxi	Can conduct briefing of the expected taxi route to include any hold short lines and runways to cross, hot spots, and any other potential conflicts. (Once taxi instructions are received, the pretaxi route should be reviewed and monitored. It is essential that any changes to the taxi route be understood by all crewmembers)

Conduct Taxi	Can identify critical locations on the taxi route, where verbal coordination between the PIC and the SIC is important to avoid a runway incursion. (e.g., hot spots/complex intersections, crossing intervening runways, entering and lining up on the runway for takeoff, and approaching and lining up on the runway for landing)
Conduct Taxi	Can conduct briefing of requirements and special considerations during low visibility operations such as: the low visibility taxi chart, if published for the airport
Conduct Taxi	Can maintain knowledge of the aircraft's precise position throughout the taxi operation and mentally calculate the next location on the route that will require increased attention (e.g., a turn onto another taxiway, an intersecting runway, or hot spots)
Conduct Taxi	Can interpret and use all visual aids, and signage and lighting on the airport surface
Conduct Taxi	Can write down complex taxi instructions or copy taxi instructions into the scratch pad of the CDU
Conduct Taxi	Can explain that before entering a runway for takeoff, the flightcrew should verbally coordinate to ensure correct flap setting, identification of the runway, compass heading, FMC entry, and receipt of the proper ATC clearance to use that runway
Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).

Understand Crew and Passenger Emergency Equipment - emergency exits	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Crew and Passenger Emergency Equipment - emergency exits	Can describe the operation of the airplane systems and components using correct terminology
Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain immediate action items or memory items, if appropriate
Understand Crew and Passenger Emergency Equipment - emergency exits	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Emergency Equipment - emergency exits	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Crew and Passenger Emergency Equipment - survival gear	Can explain the location, purpose and operation of emergency equipment in the aircraft
Understand Crew and Passenger Equipment - oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Crew and Passenger Equipment - oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Understand Crew and Passenger Equipment - oxygen system	Can explain system or component limitations
Understand Crew and Passenger Equipment - oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Equipment - oxygen system	Can explain immediate action items or memory items, if appropriate
Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Crew and Passenger Equipment - oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Crew and Passenger Equipment - passenger oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Crew and Passenger Equipment - passenger oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Understand Crew and Passenger Equipment - passenger oxygen system	Can explain system or component limitations
Understand Crew and Passenger Equipment - passenger oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Equipment - passenger oxygen system	Can explain immediate action items or memory items, if appropriate
Understand Crew and Passenger Equipment - passenger oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Crew and Passenger Equipment - passenger oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Crew and Passenger Equipment - passenger oxygen system - Inadvertent Oxygen Mask Activation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Equipment - passenger oxygen system - Overweight Landing procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can describe the operation of the airplane systems and components using correct terminology
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain system or component limitations

Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain immediate action items or memory items, if appropriate
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain the airspeeds used during specific phases of flight
Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Understand determining performance with an inoperative powerplant for all phases of flight per AFM - Engine Failure Considerations procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand evacuation procedures and crew duties - Cabin Window Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand evacuation procedures and crew duties - Ditching procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand evacuation procedures and crew duties - External Baggage Door Not Secure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand evacuation procedures and crew duties - Main Entrance Door Not Secure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand evacuation procedures and crew duties - Planned Airplane Evacuation procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Equipment Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Floor Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can describe the operation of the airplane systems and components using correct terminology

Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental - Airplane Interior Fire / Smoke / Fumes procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - lavatory	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - lavatory	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Fire & smoke detection, protection, and suppression - lavatory	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Fire & smoke detection, protection, and suppression - powerplant	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Fire & smoke detection, protection, and suppression - powerplant	Can describe the operation of the airplane systems and components using correct terminology
Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain system or component limitations
Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain immediate action items or memory items, if appropriate
Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Fire & smoke detection, protection, and suppression - powerplant	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand flight operations in icing conditions	Can explain that "severe icing" is when the rate of ice accumulation is such that ice protection systems fail to remove the accumulation of ice and accumulation occurs in areas not normally prone to icing, such as aft of protected surfaces and other areas identified by the manufacturer
Understand ground operations in icing conditions	Can explain that regulations prohibit takeoff when snow, ice, or frost is adhering to wings, propellers, or control surfaces of an aircraft.

Understand ground operations in icing conditions	Can explain that the degradation in aircraft performance and changes in flight characteristics when frozen contaminants are present are wide ranging, unpredictable, and highly dependent upon individual aircraft design
Understand ground operations in icing conditions	Can explain that the PIC has the ultimate responsibility to determine if the aircraft is clean and that the aircraft is in a condition for safe flight.
Understand ground operations in icing conditions	Can explain the general adverse effects of ice, snow and frost on aircraft performance and flight characteristics: decreased thrust, decreased lift, increased stall speed, trim changes, and altered stall characteristics and handling qualities
Understand ground operations in icing conditions	Can explain that in order to achieve compliance with the clean aircraft concept, it is imperative that takeoff not be attempted in any aircraft unless the pilot-in-command (PIC) is certain that critical components of the aircraft are free of frozen contaminants.
Understand ground operations in icing conditions	Can explain that for aircraft type specific procedures, pilots should refer to the aircraft flight manuals or other manufacturer documents developed for that particular type aircraft
Understand ground operations in icing conditions	Can explain that icing conditions (during flight or ground operations) can occur, and ice protection systems or procedures should be activated when OAT is below 50 degrees F (10 degrees C) and visible moisture in any form is present or when there is standing water, ice, or snow on the runway and/or taxiways.

Understand ground operations in icing conditions	Can explain that residual ice or slush accumulated on airframe components during landing and taxi operations on contaminated runways, taxiways and ramps, can remain in place if low temperatures and other weather conditions exist unless identified and removed. Contaminants of this type are commonly found in wheel wells, on landing gear components, trailing edge flaps, undersurfaces of wings and horizontal stabilizers
Understand ground operations in icing conditions	Can explain that the deicing process is intended to restore the aircraft to a clean configuration so that neither degradation of aerodynamic characteristics nor mechanical interference from contaminants will occur
Understand ground operations in icing conditions	Can explain that it is essential that the PIC have a thorough understanding of the deicing and anti-icing process and the approved procedures necessary to ensure that the aircraft is clean for takeoff.
Understand ground operations in icing conditions	Can explain that anti-icing should be performed as near to the takeoff time as possible to minimize the risk of exceeding the useful life or time of effectiveness of the anti-icing fluid
Understand Ice Protection - anti-ice & de-ice - Ice Shedding Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Ice Protection - anti-ice & de-ice.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection - anti-ice & de-ice.	Can explain system or component limitations
Understand Ice Protection - anti-ice & de-ice.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Ice Protection - anti-ice & de-ice.	Can explain immediate action items or memory items, if appropriate

Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection - anti-ice & de-ice.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection - anti-ice & de-ice.	Can explain the function and limitations of automatic mode of wing and cowl anti-ice systems
Understand Ice Protection - pitot-static system protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection - pitot-static system protection	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection - pitot-static system protection	Can explain system or component limitations
Understand Ice Protection - pitot-static system protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Ice Protection - pitot-static system protection	Can explain immediate action items or memory items, if appropriate
Understand Ice Protection - pitot-static system protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection - pitot-static system protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection airfoil surfaces	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection airfoil surfaces	Can explain system or component limitations
Understand Ice Protection airfoil surfaces	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Ice Protection airfoil surfaces	Can explain immediate action items or memory items, if appropriate
Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Ice Protection airfoil surfaces	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection windshield	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Ice Protection windshield	Can describe the operation of the airplane systems and components using correct terminology
Understand Ice Protection windshield	Can explain system or component limitations
Understand Ice Protection windshield	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Ice Protection windshield	Can explain immediate action items or memory items, if appropriate
Understand Ice Protection windshield	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Ice Protection windshield	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Ice Protection windshield - Windshield Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Ice Protection windshield - Windshield Heat Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Rejected Takeoff
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Engine failure/fire after takeoff decision speed (V1)
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Emergency descent.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Rapid decompression.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Engine exceedance.
Understand OEM checklist philosophy	Can state the initial critical pilot responses promptly and without reference to a checklist: Overspeed
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain system or component limitations
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain immediate action items or memory items, if appropriate
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pitot Static System - Operation and power sources for other flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pitot Static System - Operation and power sources for other flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain system or component limitations
Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain immediate action items or memory items, if appropriate
Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pitot Static System - Operation and power sources for other flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain system or component limitations
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain system or component limitations
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pneumatic and environmental system - heating, cooling, ventilation	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pneumatic and environmental system - pressurization	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Understand Pneumatic and environmental system - pressurization	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - pressurization	Can explain system or component limitations
Understand Pneumatic and environmental system - pressurization	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pneumatic and environmental system - pressurization	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - pressurization	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Pneumatic and environmental system - pressurization - Unpressurized Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Understand Pneumatic and environmental system - supply for ice protection systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Understand Pneumatic and environmental system - supply for ice protection systems	Can describe the operation of the airplane systems and components using correct terminology
Understand Pneumatic and environmental system - supply for ice protection systems	Can explain system or component limitations
Understand Pneumatic and environmental system - supply for ice protection systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Understand Pneumatic and environmental system - supply for ice protection systems	Can explain immediate action items or memory items, if appropriate
Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Understand Pneumatic and environmental system - supply for ice protection systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance

SIM 2 Tasks and Expectations

Tasks	**Motor Skill Learning Objectives**	**Attitude Learning Objectives**	**Task Experience Rating**
Conduct Automatic Emergency Descent Mode (EDM)procedure	Can execute procedure with smoothness and accuracy		High
Conduct Automatic Emergency Descent Mode (EDM)procedure	Can operate the airplane within its limitations		High
Conduct Automatic Emergency Descent Mode (EDM)procedure	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can apply aeronautical knowledge to execution of the task	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can apply crew coordination	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can conduct effective communication with the other crew members	High

Conduct Automatic Emergency Descent Mode (EDM)procedure		Can manage crew cooperation	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct Automatic Emergency Descent Mode (EDM)procedure		Can demonstrate good judgement and airmanship	High
Conduct EFVS Operations		When using the EFVS, can demonstrate familiarization with the interpretation of the display to ensure proper identification of the runway and positioning of the aircraft relative to	High

		continuation of the approach to landing. Pilots should understand the limitations of these systems, operational credits available, and authorization required for use. For more information on EFVS, refer to AC 90-106.	
Conduct Emergency Procedure - Airframe icing	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind,	High

		terrain, and obstructions in an emergency.	
Conduct Emergency Procedure - Airframe icing		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can respond appropriately to engine failure prior to or during an approach.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain the operating powerplant(s) within acceptable operating limits.		High
Conduct Emergency Procedure - Approach and	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High

Landing with a Powerplant Failure			
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can perform establishing the recommended approach and landing configuration and airspeed, ±5 knots, and adjust pitch attitude and power as required to maintain a stabilized approach.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain directional control and appropriate crosswind correction throughout the approach and landing.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can perform smooth, timely, and correct control application before, during, and after touchdown.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can maintain positive aircraft control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure	Can coordinate with crew and execute after landing checklists(s).		High

Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure inflight or during an approach.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing improper airplane configuration.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing distractions,	High

		loss of situational awareness, or improper task management.	
Conduct Emergency Procedure - Approach and Landing with a Powerplant Failure		Can identify, assess, and manage risks, encompassing performing a go-around/rejected landing with a powerplant failure.	High
Conduct Emergency Procedure - Emergency Decent	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		High
Conduct Emergency Procedure - Decompression	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind,	High

		terrain, and obstructions in an emergency.	
Conduct Emergency Procedure - Decompression		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Emergency Decent	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		High
Conduct Emergency Procedure - Emergency Decent	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and	High

		obstructions in an emergency.	
Conduct Emergency Procedure - Emergency Decent		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Emergency evacuation	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High

Conduct Emergency Procedure - Emergency evacuation		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can coordinate with crew and execute the appropriate checklist(s) in a timely manner		High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Flight by reference to standby flight		Can identify, assess, and manage risks, encompassing	High

instruments, backup instrumentation, or partial panel		failure to consider altitude, wind, terrain, and obstructions in an emergency.	
Conduct Emergency Procedure - Flight by reference to standby flight instruments, backup instrumentation, or partial panel		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Inflight fire and smoke	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing multiple failures or system abnormalities.	High
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and	High

		obstructions in an emergency.	
Conduct Emergency Procedure - Inflight fire and smoke		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can execute continued takeoff following failures including engine failure after V1, and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and operating limitations		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to maintain best performance and trim		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High

Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can maintain the appropriate heading, ±5°, when powerplant failure occurs		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions, environment, obstructions, and LAHSO operations.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to brief the plan for a	High

		powerplant failure during takeoff, in a crew environment.	
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with an inoperative powerplant (AMEL, AMES).	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and	High

		obstructions in an emergency.	
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Powerplant Failure During Takeoff at V_1		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can execute continued takeoff following failures including engine failure after V1, and any critical failures for the aircraft type that could lead to lateral asymmetry during the takeoff;		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can execute continued takeoff if the powerplant failure occurs at a point where the airplane can continue to a specified airspeed and altitude at the end of the runway commensurate with the airplane's performance capabilities and operating limitations		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can maintain the desired airspeed, ±5 knots after establishing a climb, and use flight controls in the proper combination as recommended by the manufacturer, to		High

	maintain best performance and trim		
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can maintain the appropriate heading, ±5°, when powerplant failure occurs		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can coordinate with crew and execute the appropriate checklist(s) following the powerplant failure.		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment	Can perform communication with ATC and the evaluator, as appropriate for the situation.		High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure during takeoff considering operational factors such as takeoff warning inhibit systems, runway/takeoff path length, surface conditions,	High

		environment, obstructions, and LAHSO operations.	
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to brief the plan for a powerplant failure during takeoff, in a crew environment.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to follow proper procedures or checklists in an emergency.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to correctly identify the inoperative engine (AMEL, AMES).	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing inability to climb or maintain altitude with	High

		an inoperative powerplant (AMEL, AMES).	
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing failure to consider altitude, wind, terrain, and obstructions in an emergency.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Powerplant Failure During Second Segment		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct OEI Climb to En Route Altitude	Can conduct an OEI climb enroute at either V_{se} or greater, depending on conditions.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can recognize and correctly identify powerplant failure, execute memory items, and maintain positive airplane control.		High

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can coordinate with crew, if applicable, and complete the appropriate emergency procedures and checklist(s) for simulated propeller feathering or simulated powerplant shutdown.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can use flight controls in the proper combination as recommended by the manufacturer to maintain best performance and trim as required		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain the operating powerplant(s) within acceptable operating limits.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can perform radio calls as appropriate		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can assess and proceed toward the nearest suitable airport.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can coordinate with crew and execute the approach and landing checklists(s).		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain a stabilized approach, adjusting pitch and power as required, allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain a stabilized final approach from the FAF to the DA/DH allowing no more than ¼- scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can maintain directional control and appropriate crosswind correction throughout the approach and landing or missed approach.		High

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can immediately execute the missed approach procedure if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH,		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can execute a transition to a normal landing approach when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering upon reaching the DA/DH		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)	Can perform smooth, timely, and correct control application before, during, and after touchdown or during the missed approach.		High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing failure to plan for a powerplant failure inflight or during an approach.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels,	High

		persons, and wildlife.	
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing improper airplane configuration.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing distractions, loss of situational awareness, or improper task management.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing landing with a powerplant failure.	High
Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing missed approach with a powerplant failure.	High

Conduct Emergency Procedure - Precision Approach with Powerplant Failure (manual control)		Can identify, assess, and manage risks, encompassing maneuvering in IMC with a powerplant failure.	High
Conduct Instrument Takeoff	Can perform applicable procedures during takeoff to address the transition from visual flight to instrument flight for both the pilot flying (PF) and pilot monitoring (PM), to include the use and limitations of any flight guidance or visual systems in use.		High
Conduct Instrument Takeoff		Can demonstrate familiarization with operator’s policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned, and flight	High

		crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Instrument Takeoff	Can execute normal takeoff at lowest applicable minima;		High
Conduct Instrument Takeoff	Can perform takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		High
Conduct Instrument Takeoff	Can coordinate with crew and execute the appropriate checklist(s) prior to takeoff in a timely manner		High
Conduct Instrument Takeoff	Can execute setting of the applicable avionics and flight instruments prior to initiating the takeoff		High
Conduct Instrument Takeoff	Can perform radio calls as appropriate		High
Conduct Instrument Takeoff	Can verify assigned/correct runway		High
Conduct Instrument Takeoff	Can perform clearing the arrival area and execute taxiing into takeoff position and align		High

	the airplane on the runway centerline		
Conduct Instrument Takeoff	Can maintain centerline and proper flight control inputs during the takeoff roll		High
Conduct Instrument Takeoff	can confirm takeoff power and proper engine and flight instrument indications prior to rotation making callouts, as appropriate, for the airplane or per the operator’s procedures		High
Conduct Instrument Takeoff	Can rotates and lift off at the recommended airspeed, establish the desired pitch attitude, and accelerate to the desired airspeed/ V-speed.		High
Conduct Instrument Takeoff	Can execute a smooth transition from visual meteorological conditions (VMC) to actual or simulated instrument meteorological conditions (IMC).		High
Conduct Instrument Takeoff	Can maintain desired heading ±5° and desired airspeeds ±5 knots.		High
Conduct Instrument Takeoff	Can comply with ATC clearances and instructions issued by ATC, as appropriate		High
Conduct Instrument Takeoff	Can execute appropriate after-takeoff checklist(s) in a timely manner		High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing selection of a runway based on aircraft performance and limitations, available distance, surface	High

		conditions, lighting, and wind	
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing wake turbulence	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for rejected takeoff	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in takeoff phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	High

Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for Engine failure in climb phase of flight with the ceiling or visibility below the minimums for an instrument approach at departure airport	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife	High
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include	High

		planning for low altitude maneuvering including stall, spin, or CFIT	
Conduct Instrument Takeoff		Can identify, assess, and manage risks, encompassing abnormal operations, to include planning for distractions, loss of situational awareness, or improper task management.	High
Conduct Lower than Standard Minimum Takeoff	Can conduct a Lower than Standard Minimum Takeoff in accordance with approved OpSpec C052.		High
Conduct Landing From a Precision Approach	Can perform proper reaction to significant airborne system failures experienced prior to and after reaching the final approach fix (FAF), MDA, DA/DH, or AH. Expected pilot response to failure after touchdown should be addressed as well.		High
Conduct Landing From a Precision Approach	Can recognize and execute appropriate actions in response to ground or navigation system faults, failures or abnormalities at any point during the approach and landing.		High
Conduct Landing From a Precision Approach		Can appreciate that pilots should be familiar with the need to report navigation	High

		system anomalies or discrepancies, failures of any lighting system (e.g., approach lights, runway lights, touchdown zone (TDZ) lights, centerline lights), or any other discrepancies that could be pertinent to operations.	
Conduct Landing From a Precision Approach		Can demonstrate familiarization with operator's policies and procedures concerning constraints applicable to AWO takeoffs and landings on contaminated or cluttered runways. Limits should be noted for use of wet or icy runways as far as directional control or stopping performance is concerned,	High

		and flight crews should be familiar with appropriate constraints related to braking reports and the obscuration of appropriate lighting or markings. Refer to AC 91-79 for detailed information on runway contaminants and condition reporting.	
Conduct Landing From a Precision Approach	Can maintain the desired airspeed, ±5 knots, and vertical and lateral guidance within ¼-scale deflection of the indicators during the descent from DA/DH to a point where visual maneuvering is used to accomplish a normal landing.		High
Conduct Landing From a Precision Approach	Can comply with all ATC advisories, such as NOTAMs, windshear, wake turbulence, runway surface, braking conditions, and other operational considerations.		High
Conduct Landing From a Precision Approach	Can execute touch down at the appropriate speed and pitch attitude at the runway aiming point markings, -250/+500 feet, or where there are no runway markings 750 to 1,500 feet from the approach threshold of the runway		High

Conduct Landing From a Precision Approach	Can maintain positive airplane control throughout the landing using drag and braking devices, as appropriate, to come to a stop.		High
Conduct Landing From a Precision Approach	Can demonstrate SRM or CRM, as appropriate.		High
Conduct Landing From a Precision Approach	Can apply runway incursion avoidance procedures.		High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing selection of an approach procedure and runway based on pilot capability, aircraft limitations, available distance, surface conditions, and wind.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing wake turbulence.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for missed approach	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing	High

		planning for land and hold short operations (LAHSO)	
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for collision hazards, to include aircraft, terrain, obstacles, wires, vehicles, vessels, persons, and wildlife.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for low altitude maneuvering including stall, spin, or CFIT.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for distractions, loss of situational awareness, or improper task management.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing	High

		planning for attempting to land from an unstable approach.	
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for flying below the glidepath.	High
Conduct Landing From a Precision Approach		Can identify, assess, and manage risks, encompassing planning for transitioning from instrument to visual references for landing.	High
Conduct Missed Approach - OEI	Can execute a one engine inoperative missed approach from the MDA, DA/DH, or AH.		High
Conduct Missed Approach - OEI	Can execute a one engine inoperative missed approach from a low altitude that could result in a touchdown during go-around (balked or rejected landing).		High
Conduct Missed Approach - OEI	Can apply the appropriate power setting for the flight condition and establish a pitch attitude necessary to obtain the desired performance during a one engine inoperative missed approach.		High

Conduct Missed Approach - OEI	Can perform retraction of the wing flaps/drag devices and landing gear, if appropriate, in the correct sequence and at a safe altitude, and initiate a positive rate of climb at the appropriate airspeed/V- speed, ±5 knots during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can coordinate with crew and execute the appropriate procedures and checklist(s) in a timely manner during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can comply with the published or alternate missed approach procedure during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can coordinate with ATC if unable to comply with a clearance, restriction, or climb gradient.		High
Conduct Missed Approach - OEI	Can maintain the heading, course, or bearing ±5°, and altitude(s) ±100 feet during the missed approach procedure during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can use an MFD and other graphical navigation displays, if installed, to monitor position and track to help navigate the missed approach.		High
Conduct Missed Approach - OEI	Can demonstrate effective CRM during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI	Can execute re-engagement of the autopilot at appropriate times during the one engine inoperative missed approach procedure.		High

Conduct Missed Approach - OEI	Can obtain ATC clearance to attempt another approach, proceed to the alternate airport, holding fix, or other clearance limit, as appropriate, or as directed by the evaluator during a one engine inoperative missed approach.		High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to follow prescribed procedures during a one engine inoperative missed approach.	High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing holding, diverting, or electing to fly the approach again during a one engine inoperative missed approach.	High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed	High

		approach during a one engine inoperative missed approach.	
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing factors that might lead to executing a one engine inoperative missed approach procedure before the MAP or to a go-around below DA/MDA.	High
Conduct Missed Approach - OEI		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and auto flight systems during a one engine inoperative missed approach.	High
Conduct Nonprecision Approach		Can appreciate that there are environments in which using CDFA technique is	High

		not advisable or practical, for example airports that do not offer straight in non-precision approaches.	
Conduct Nonprecision Approach	Can perform the nonprecision instrument approaches selected by the instructor/evaluator		High
Conduct Nonprecision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Nonprecision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High
Conduct Nonprecision Approach	Can Comply with all clearances issued by ATC.		High
Conduct Nonprecision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		High
Conduct Nonprecision Approach	Can coordinate with ATC if unable to comply with a clearance.		High
Conduct Nonprecision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High
Conduct Nonprecision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High

Conduct Nonprecision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Nonprecision Approach	Can maintain a stabilized descent to the appropriate altitude.		High
Conduct Nonprecision Approach	Can maintain no more than ¼ scale CDI deflection, airspeed ±5 knots of selected value, and altitude above MDA +50/-0 feet (to the VDP or MAP) during the final approach segment		High
Conduct Nonprecision Approach	Can execute the missed approach procedure if the required visual references are not distinctly visible and identifiable at the appropriate point or altitude for the approach profile, or execute a normal landing from a straight-in or circling approach.		High
Conduct Nonprecision Approach	Can use a Multi-Function Display (MFD) and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to follow the correct approach procedure (e.g.,	High

		descending too early, etc.).	
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Selecting an incorrect navigation frequency.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to manage automated navigation and auto flight systems.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing An unstable approach, including excessive descent rates.	High

Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Deteriorating weather conditions on approach.	High
Conduct Nonprecision Approach		Can identify, assess, and manage risks, encompassing Operating below the minimum descent altitude (MDA) or continuing a descent below decision altitude (DA) without proper visual references.	High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can execute procedure with smoothness and accuracy		High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can operate the airplane within its limitations		High
Conduct PFD malfunction procedure (AGM 1 or DU1)	Can maintain control of the airplane at all times in such a manner that the successful outcome of the procedure is never in doubt		High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply aeronautical knowledge to execution of the task	High

Conduct PFD malfunction procedure (AGM 1 or DU1)		Can apply crew coordination	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can conduct effective communication with the other crew members	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can manage crew cooperation	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can maintain a general survey of the aircraft operation by appropriate supervision	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can determine priorities and make decisions in accordance with safety aspects and relevant rules and regulations appropriate to the operational situation	High
Conduct PFD malfunction procedure (AGM 1 or DU1)		Can demonstrate good judgement and airmanship	High

Conduct Precision Approach	Can perform appropriate normal and non-normal procedures including crew duties, monitoring assignments, transfer of control during normal operations, appropriate automatic or crew-initiated call-outs, proper use of standard or special IAPs, applicable minima for normal configurations or for alternate or failure configurations, and reversion to higher minima in the event of failures		High
Conduct Precision Approach	Can perform procedures to address the transition from electronic monitoring displays to external visual references for both PF and PM for systems that include such displays.		High
Conduct Precision Approach		Can appreciate constraints for head winds, tail winds, crosswinds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors (F/D), or other system (e.g., HUD, SVGS, etc.) performance. For systems such as HUDs that have a limited field of view (FOV), or	High

		synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.	
Conduct Precision Approach	Can execute types of instrument procedures approved for the air carrier (standard and special, lowest straight-in, or circling minima, if applicable); according to the operator's manuals, charts and checklists, on the aircraft type, model and series flown.		High
Conduct Precision Approach	Can use flight guidance and/or visual system(s) and their corresponding category(s) of minima for each authorized system;		High
Conduct Precision Approach	Can use NAVAID(s) and visual aids used (LVO/SMGCS lighting if applicable);		High
Conduct Precision Approach	Can apply Flightcrew procedures used (e.g., PF/PM duties, monitored approach, or call-outs);		High
Conduct Precision Approach		Can demonstrate familiarization with airport and runway characteristics	High

		typically experienced;	
Conduct Precision Approach	Can perform relevant normal, non-normal, and environmental conditions. Training and evaluation need only be conducted using relevant and representative procedures and conditions (e.g., a representative mix of day, night, dusk, variable/patchy conditions, representative temperatures, landing runway altitudes, precipitation conditions, turbulence, and icing conditions); and		High
Conduct Precision Approach	Can respond appropriately to aircraft and ground system failures.		High
Conduct Precision Approach	Can perform the precision instrument approaches selected by the instructor/evaluator.		High
Conduct Precision Approach	Can initiate two-way communications with ATC appropriate for the phase of flight or approach segment, and use proper communication phraseology.		High
Conduct Precision Approach	Can execute selection, tuning, identification, and confirmation the operational status of navigation equipment to be used for the approach.		High
Conduct Precision Approach	Can comply in a timely manner with all clearances, instructions, and procedures.		High
Conduct Precision Approach	Can recognize if any flight instrumentation is inaccurate or inoperative, and take appropriate action.		High
Conduct Precision Approach	Can coordinate with ATC if unable to comply with a clearance.		High

Conduct Precision Approach	Can maintain the appropriate airplane configuration and airspeed considering meteorological and operating conditions.		High
Conduct Precision Approach	Can maintain altitude ±100 feet, selected heading ±5°, airspeed ±10 knots, and perform tracking of radials, courses, and bearings, prior to beginning the final approach segment.		High
Conduct Precision Approach	Can assess NOTAMs, inoperative aircraft or navigation equipment, or inoperative visual aids associated with the landing environment and adjust the published MDA and visibility criteria for the aircraft approach category		High
Conduct Precision Approach	Can initiate and maintain a predetermined rate of descent which approximates that required for the aircraft to follow the vertical guidance, at the point where vertical guidance begins		High
Conduct Precision Approach	Can maintain a stabilized final approach from the Final Approach Fix (FAF) to DA/DH allowing no more than ¼-scale deflection of either the vertical or lateral guidance indications and maintain the desired airspeed ±5 knots		High
Conduct Precision Approach	Can immediately initiate the missed approach procedures if the required visual references for the runway are not distinctly visible and identifiable upon reaching the DA/DH.		High

Conduct Precision Approach	Can, upon reaching the DA/DH, perform a transition to a normal landing when the aircraft is in a position from which a descent to a landing on the runway can be made at a normal rate of descent using normal maneuvering		High
Conduct Precision Approach	Can use an MFD and other graphical navigation displays, if installed, to monitor position, track wind drift and other parameters to maintain desired flightpath.		High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to follow the correct approach procedure (e.g., descending below the glideslope, etc.).	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing selecting an incorrect navigation frequency.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to manage automated navigation and	High

		auto flight systems.	
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing failure to ensure proper airplane configuration during an approach and missed approach.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing an unstable approach, including excessive descent rates.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing deteriorating weather conditions on approach.	High
Conduct Precision Approach		Can identify, assess, and manage risks, encompassing continuing to descend below the Decision Altitude (DA)/Decision Height (DH) when the required visual	High

		references are not visible.	
Conduct Rejected Takeoff	Can execute Rejected takeoff from a point prior to V1 (including an engine failure);		High
Conduct Rejected Takeoff	Can perform rejected takeoff requiring transfer of control (if applicable) for low-visibility takeoff minima where a flight guidance and/or vision system is required		High
Conduct Rejected Takeoff	Can perform rejected takeoff with failure of the flight guidance device or ground-based guidance system, at a critical point of the takeoff, unless these systems have failure characteristics that are extremely improbable.		High
Conduct Rejected Takeoff	Can execute aborted takeoff if the powerplant failure occurs at a point during the takeoff where the abort procedure can be initiated and the airplane can be safely stopped on the remaining runway		High
Conduct Rejected Takeoff	Can execute prompt reduction of power and maintain positive aircraft control using drag and braking devices, as appropriate, to come to a stop		High
Conduct Rejected Takeoff	Can coordinate with crew, if applicable, and complete the appropriate procedures, checklist(s), and radio calls following a rejected takeoff in a timely manner		High
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing a powerplant	High

		failure or other malfunction during takeoff.	
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing failure to maintain directional control following a rejected takeoff	High
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing rejecting takeoff with inadequate stopping distance	High
Conduct Rejected Takeoff		Can identify, assess, and manage risks, encompassing a high-speed abort distraction, loss of situational awareness, or improper task management	High

Conduct Taxi	Low visibility taxi and ground operations should be trained to the extent practical and beneficial. Such training should address operations at typical airports or alternately, at airports frequently experiencing low-visibility conditions, complex airports on the operator's route system, airports with particular low visibility ground movement difficulties, or rarely used but significant contingency airports, as determined appropriate by the operator.		High
Conduct Taxi	perform either PF or PM duties, unless otherwise limited by the operator's policies or aircraft characteristics (e.g., single HUD).		High
Conduct Taxi	Can record taxi instructions, respond to taxi clearances, and review taxi routes on the airport diagram.		High
Conduct Taxi	Can use an airport diagram or taxi chart during taxi		High
Conduct Taxi	Can comply with ATC clearances and instructions and observe all runway hold lines, ILS critical areas, beacons, and other airport/taxiway markings and lighting		High
Conduct Taxi	Can coordinate with crew, if applicable, and complete the appropriate checklist(s) prior to and during taxi		High
Conduct Taxi	Can maintain situational awareness during taxi		High
Conduct Taxi	Can maintain correct and positive airplane control, proper speed, appropriate use of wheel brakes and reverse thrust		High

Conduct Taxi	Can maintain separation between other aircraft, vehicles, and persons to avoid an incursion/incident/accident		High
Conduct Taxi	Can use aircraft exterior lighting for day and night operations		High
Conduct Taxi		Can identify, assess, and manage risks, encompassing inappropriate activities and distractions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing confirmation or expectation bias as related to taxi instructions	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing a taxi route or departure runway change	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing failure to complete checklist(s)	High
Conduct Taxi		Can identify, assess, and manage risks, encompassing low visibility taxi operations	High

Conduct Taxi		Can conduct a briefing on the timing and execution of aircraft checklists and company communications at the appropriate times and locations, ensuring the pilot who is not taxiing the aircraft can be available to participate in verbal coordination with the pilot who is taxiing the aircraft	High
Conduct Taxi		Can consider the anticipated duration of the taxi operation, the locations of hot spots/complex intersections and runway crossings, and the visibility along the taxi route when briefing tasks or accomplishing checklists	High
Conduct Taxi		Can manage pilot workload and heads-down time during taxi by	High

		conducting predeparture checklists, including setting the takeoff flap setting, when the aircraft is stopped or while taxiing straight ahead on a taxiway without complex intersections and hot spots	
Conduct Taxi		Can maintain a sterile cockpit during taxi operations	High
Conduct Taxi	Can use airport diagram to follow progress of the taxi operation		High
Conduct Taxi		Can manage the risk of expectation bias, and follow the clearance or instructions that are actually received, and not the ones they expected to receive.	High
Conduct Taxi		Can be alert to ATC instructions to hold short of an ILS critical area holding line.	High

Conduct Taxi		Can monitor the aircraft's progress on the airport diagram to ensure that the pilot taxiing the aircraft is following the instructions received from the ATC while maintaining outside vigilance	High
Conduct Taxi		Can determine whether or not to accept last-minute turnoff instructions from ATC, refusing such clearance unless the crew clearly understands the instructions and are certain that they can safely comply.	High
Conduct Taxi		Can respond to all hold short instructions, and verifies with other crew members or ATC to ensure agreement and understanding	High

Conduct Taxi	Can execute bringing the aircraft to a complete stop, or be in a phase of taxiing that has no risk of a runway incursion before continuing with operational duties and checklists		High
Conduct Taxi		Can comply with hold short or crossing clearance when approaching an entrance to a runway.	High
Conduct Taxi		Can explain or demonstrate proper actions if the crew becomes disoriented: never stop on a runway, and initiate communications with ATC to regain orientation.	High
Conduct Taxi		Can demonstrate vigilance when instructed to taxi and “Line Up and Wait”. Turns Traffic Alert and Collision Avoidance System (TCAS)/traffic advisory systems (TAS) on in	High

		order obtain awareness of any aircraft that may be landing on your runway.	
Conduct Taxi		Can resolve all misunderstandings or disagreements regarding taxi clearance to the satisfaction of all flightcrew members before taxiing the aircraft.	High
Conduct Taxi	Can apply use of the airport diagram after receiving a clearance, and confirms and verbalizes the assigned runway and taxi route, including any instructions to hold short of, or cross, a runway. If there is any doubt, speaks up and resolve the uncertainty before taxi		High
Conduct Taxi		Can coordinate with other flightcrew member(s) if stopping and resuming the monitoring of the ATC frequency, for example when it becomes necessary for a flightcrew member to stop monitoring	High

		any ATC frequency to prepare the aircraft for takeoff or landing.	
Conduct Taxi		Can assess any upcoming hold short instructions or clearances that could be misinterpreted prior to stopping and after resuming monitoring of the taxi. An example may include: "I'm heads-down, right turn ahead at Alpha," or "I'm back, any changes?"	High
Conduct Taxi		Can appreciate that time away from monitoring ATC should be avoided with complex taxi routing or crossing of runways. Any instructions or information received or transmitted during that flightcrew member's absence from	High

		the ATC frequency should be reviewed and confirmed upon his or her return.	
Conduct Taxi		Can coordinate verbally at complex intersections to be sure that: the intersection is correctly identified and confirmed using the airport diagram and the heading indicator	High
Conduct Taxi		Can state “approaching (specific runway number) hold short line. Before crossing any hold short line, the flightcrew should visually scan to the left and to the right, including the full length of the runway and its approach paths, and coordinate	High

		verbally (e.g., “clear right/left” or that the scan area is not clear).	
Conduct Taxi		Can coordinate verbally and agree on the runway assigned by ATC, the upcoming assigned exit, and any restrictions, such as hold short points of an intersecting runway and the aircraft’s parking area after landing	High
Conduct Taxi	Can execute turning on the rotating beacon whenever an engine is running		High
Conduct Taxi	Can execute turning on navigation, position, anti-collision, and logo lights, if available, to signal intent to other pilots prior to commencing taxi		High
Conduct Taxi	Can execute turning on the taxi light when the aircraft is moving or intending to move on the ground, and turning it off when stopped or yielding or as a consideration to other pilots or ground personnel		High
Conduct Taxi	Can execute illuminating all lights when crossing a runway when appropriate		High

Conduct Taxi		Can consider any adverse effects to safety that illuminating the forward-facing lights will have on the vision of other pilots or ground personnel during runway crossings, and adjust operation accordingly	High
Conduct use of HUD	Conduct takeoff and departure using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct approach and landing using HUD to ATP ACS standards		High
Conduct use of HUD	Conduct takeoff using FPA to meet a required climb gradient to ATP ACS standards		High
Conduct use of HUD	Can use caged, uncaged and clear modes in crosswind conditions		High
Conduct use of HUD	Can perform approach to a black hole airport using flight path angle (FPA)		High
Conduct use of HUD	Can relate glidepath angle to the symbolic runway.		High
Conduct use of HUD	Can use the flare symbol as a cue in the Honeywell HUD Model 2020 and as guidance in the HUD II.		High
Conduct use of HUD	Can perform approach into the top of an undercast during daylight and night conditions.		High
Conduct use of HUD	Can perform takeoff using the FPA to meet a required climb gradient.		High

Conduct use of PlaneView System, if applicable	Can perform use of the PlaneView system installed in the full flight training equipment		High
Understand Crew and Passenger Emergency Equipment - emergency exits		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Crew and Passenger Emergency Equipment - emergency exits		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Crew and Passenger Emergency Equipment - emergency exits		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Crew and Passenger Emergency Equipment - emergency exits		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing failure to detect system	High

		malfunctions or failures.	
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Crew and Passenger Equipment - oxygen system		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Crew and Passenger Equipment - passenger oxygen system		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing possible differences between calculated performance and actual performance	High
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing airplane icing and its effect on	High

		performance and stall warning, and Runway excursions	
Understand determining performance with an inoperative powerplant for all phases of flight per AFM		Can identify, assess, and manage risks encompassing runway excursions	High
Understand evacuation procedures and crew duties		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing improper management	High

		of a system failure	
Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing failure to detect system	High

		malfunctions or failures.	
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - lavatory		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing failure to follow appropriate	High

		checklists or procedures	
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Fire & smoke detection, protection, and suppression - powerplant		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing improper management of a system failure	High

Understand Ice Protection - anti-ice & de-ice.		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Ice Protection - pitot-static system protection		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection - pitot-static system protection		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Ice Protection - pitot-static system protection		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Ice Protection - pitot-static system protection		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High

Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Ice Protection airfoil surfaces		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Ice Protection windshield		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Ice Protection windshield		Can identify, assess, and manage risks	High

		encompassing failure to follow appropriate checklists or procedures	
Understand Ice Protection windshield		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Ice Protection windshield		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pitot Static System - associated instruments and the power source for those flight instruments		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pitot Static System - associated instruments and the power source for those flight instruments		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pitot Static System - associated instruments and the power source for		Can identify, assess, and manage risks encompassing improper	High

those flight instruments		management of a system failure	
Understand Pitot Static System - associated instruments and the power source for those flight instruments		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pitot Static System - Operation and power sources for other flight instruments		Can identify, assess, and manage risks encompassing failure to monitor and manage	High

		automated systems.	
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental system - controls, indicators, and regulating devices		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pneumatic and environmental system - heating, cooling, ventilation		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High

Understand Pneumatic and environmental system - heating, cooling, ventilation		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pneumatic and environmental system - heating, cooling, ventilation		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental system - heating, cooling, ventilation		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High

Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental system - pressurization		Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Pneumatic and environmental system - supply for ice protection systems		Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Pneumatic and environmental system - supply for ice protection systems		Can identify, assess, and manage risks encompassing failure to follow appropriate checklists or procedures	High
Understand Pneumatic and environmental system - supply for ice protection systems		Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Pneumatic and environmental		Can identify, assess, and manage risks	High

system - supply for ice protection systems		encompassing failure to monitor and manage automated systems.	
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).		Can identify, assess, and manage risks encompassing Inaccurate use of performance charts, tables, and data	High
Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).		Can explain the adverse effects of exceeding an airplane limitation or the airplane operating envelope.	High
Conduct EFVS Operations	Per § 61.66(b)(2)(i) can integrate the following: it is necessary that the flight training curriculum includes preflight and in-flight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes, and associated systems, and adjustments for brightness and contrast under day and night conditions. It may be beneficial to perform these tasks in the curriculum using either the manufacturer's recommended procedures or procedures applicable to the operator.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(ii) can integrate the following: it is necessary that the flight training curriculum includes proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings. It may be beneficial for the curriculum to allow pilots to become familiar with the use of installed equipment such as an EFVS in all phases of flight.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can use a sample of approach types for the EFVS operation being trained (e.g., precision and nonprecision, if applicable).		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) use a sample of crosswind conditions and offset angles that emphasize the challenges of operating with the limited FOV with an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(iii) can conduct EFVS operations in visibilities less than IAP minimum visibilities. This may not be practical if training is conducted in an aircraft. If the training is accomplished in a full flight simulator (FFS), conduct the training with the enhanced visibilities representative of the EFVS sensor performance.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(iv) can integrate the following: it is necessary that the flight training curriculum includes determining enhanced flight visibility. The curriculum can help pilots learn how to determine enhanced flight visibility using techniques and methods similar to the techniques and methods used for determining flight visibility when conducting an approach without an EFVS.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(v) can integrate the following: it is necessary that the flight training curriculum includes identifying required visual references appropriate to EFVS operations. The curriculum can help pilots learn how to identify required visual references using an EFVS with techniques and methods similar to the techniques and methods used for identifying the required visual references when conducting an approach without the use of an EFVS. The PM may use the PM display, if available, to assist the PF in this task.		High

Conduct EFVS Operations	Per § 61.66(b)(2)(vi) can integrate the following: it is necessary that the flight training curriculum includes transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment. The curriculum can help pilots learn how to acquire visual references with natural vison at 100 feet during an EFVS-100 operation. There are many acceptable techniques for identifying the visual references with natural vision while the pilot continues using the EFVS to provide the enhanced flight visibility required for the operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) use procedures applicable to the PF and PM, crew briefings, procedures, callouts, and coordination items for EFVS operations, including annunciation of published minimums during operation below the DA/DH or MDA.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct procedures at 100 feet during an EFVS-100 operation.		High
Conduct EFVS Operations	Per § 61.66(b)(2)(viii) can conduct EFVS failure procedures (procedures for an EFVS failure or a system degradation during an EFVS operation).		High
Conduct EFVS Operations	Can conduct preflight and inflight preparation of EFVS equipment for EFVS operations, including EFVS setup and use of display, controls, modes and		High

	associated systems, and adjustments for brightness and contrast under day and night conditions.		
Conduct EFVS Operations	Can use proper piloting techniques associated with using EFVS during taxi, takeoff, climb, cruise, descent, landing, and rollout, including missed approaches and balked landings.		High
Conduct EFVS Operations	Can use proper piloting techniques for the use of EFVS during instrument app roaches, to include operations below DA/DH or MDA as applicable to the EFVS operations to be conducted, under both day and night conditions.		High
Conduct EFVS Operations	Can determine enhanced flight visibility.		High
Conduct EFVS Operations	Can identify required visual references appropriate to EFVS operations.		High
Conduct EFVS Operations	Can adjust when transitioning from EFVS sensor imagery to natural vision acquisition of required visual references and the runway environment.		High
Conduct EFVS Operations	Can conduct normal, abnormal, emergency, and crew coordination procedures when using an EFVS.		High
Conduct Stall Prevention and Recovery	Can conduct an impending stall recovery with only idle thrust available. See Appendix 2, Demonstration 1 for details.		High
Conduct Stall Prevention and Recovery	Can conduct a clean configuration stall prevention (high altitude) scenario. See Appendix 3, Scenario 1 for details.		High

G-V Standardized Curriculum Course 3 Learning Objectives

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Course 3 Overview			
Day 1 (As Required by 135.351(b)(2))	**Planned Hours**	**Ground**	**Systems Integration**
Quiz	Per §135.351(b)(2) as noted in the Standardized Curriculum Document	8.0	0.0
Aircraft General			
Aircraft Manuals			
Auxiliary Power Unit			
Avionics and Communications			
CRM			
Electrical System			
Fire and Smoke Detection, Protection and Suppression			
Flight Controls			
Flight Planning and Performance			
Flight Profiles and Maneuvers			
Fuel System			
Hydraulic System			
Ice Protection			
Landing Gear and Brakes			
Lighting			
MEL and CDL			
Oil System			
Oxygen			
Pitot-static System			
Pneumatic and Environmental Systems			
Powerplant			
Preflight			
Thrust Reverse			
Weight and Balance			
Windshear			
Ground School Completion Exam			

Simulator Session 1 (Initial Observation)	**Brief**	**Crew**	**Single**
Checking: Preflight Inspection	2.0	4.0	2.0
Checking: Start Procedures			
Checking: Taxiing/Runway Operations			
Checking: Pretakeoff Checks			
Checking: Normal Takeoff			
Checking: Area Departure			

Checking: Steep Turns			
Checking: Stall Prevention (Approaches to Stalls)			
Checking: Area Arrival			
Checking: Holding			
Checking: Normal ILS Approach			
Checking: Coupled Approach			
Checking: Nonprecision Approach			
Checking: Missed Approach from an ILS			
Checking: EFVS Approach			
Checking: Normal Landing			
Checking: Maneuver by Partial Panel			
Checking: Unusual Attitude Recovery			

Simulator Session 2 (Second Checking Event)	**Brief**	**Crew**	**Single**
Checking: Crosswind Takeoff	2.0	4.0	2.0
Checking: Instrument Takeoff			
Checking: Takeoff with Powerplant Failure			
Checking: Rejected Takeoff			
Checking: Powerplant Failure			
Checking: Engine-out ILS			
Checking: Second Nonprecision Approach			
Checking: Second Missed Approach			
Checking: Circling Approach			
Checking: Crosswind Landing			
Checking: Landing from an ILS			
Checking: Landing with an Engine Out			
Checking: Circling Approach to Landing			
Checking: Rejected Landing			
Checking: No-flap Approach to Landing			
Checking: EFVS Landing			
Checking: System Malfunction			

Simulator Session 3 (Scenario 1 or Train-to-Proficiency & Recheck)	**Brief**	**Crew**	**Single**
Scenario 1 to be developed by the training provider IAW TSWG annual guidance OR remaining checking events to be trained-to-proficiency.	2.0	4.0	2.0

Simulator Session 4 (Scenario 1 or 2)	**Brief**	**Crew**	**Single**
	2.0	4.0	2.0

Scenario 2 to be developed by the training provider IAW TSWG annual guidance.			

Course Description and Overview

This category of training is for a flightcrew member who has been trained and qualified under the standardized curriculum, who will continue to serve in the same duty position and aircraft type, and who must receive recurring training and/or checking ***within*** an appropriate eligibility period. Pilots that are not within the eligibility period for recurrent require a requalification curriculum.

The objective of this curriculum is to improve the overall quality of the pilot's training experience and allow the check airman to evaluate the crewmember's skills in a realistic operating environment. Each training event should adapt to the needs of the pilots.

Adaptive recurrent training includes planned eight hours of ground school to cover the items in 135.351(b)(2). In order to allow the instructor to plan the ground school time effectively in advance of the day of ground school, the training center will administer the 135.351(b)(1) quiz prior to ground school commencing. The instructor can then focus the eight hours of ground school on the items in which the students answer incorrectly and required by 135.351.

Simulator events consist of staged training and checking and must be constructed using scenarios to ensure that both pilots complete all required events. Scenarios will be developed in coordination with feedback from the certificate holder's training program manager to ensure the scenarios reflect the certificate holder's operating environment and individual special emphasis items. Scenarios should be scaled to the complexity of the aircraft and the operating environment. Each scenario will include any required training elements in the curriculum (i.e., special emphasis items added by the Training Standardization Working Group) and the opportunity for retraining or re-checking any events that were unsatisfactory. Any time not spent checking will focus on training for Abnormal and Emergency Procedures that may not be scheduled to be checked, such as: TCAS, EGPWS, Operations in Icing Conditions, Smoke Removal, Emergency Descent, etc.

Adaptive Recurrent training allows pilots to display competency throughout the event through a staged checking process. During the course of the staged check, the check airman will grade all required events as the flights progress each sim session. The staged check is administered against the airman certification standards and no training may occur during checking events. The crewmembers will conduct structured briefings at the beginning of each sim session and detailed debriefings at the end of each sim session to make sure each crewmember is fully aware of the events successfully completed.

During a staged check, the crewmember will receive credit for and must complete all proficiency and competency check requirements under 135.293(a)(2)(3) & (b) and 135.297, as applicable to the duty position. All necessary checks will be complete at the end of the multiple-day scenario and the result will be reported to the crewmember or certificate holder as satisfactory or unsatisfactory.

The first simulator training event will be "initial observation." Initial observation is a check during which a check pilot focuses on normal operations, but may include some abnormalities as time permits. All checking items will be graded on the granular four-point grading scale the first time they are performed. Initial observation performance scores will be combined with those of other participants to establish the effectiveness of the training program itself and identify areas for further improvement. All Items Conducted to ATP ACS standards will be recorded on the FAA Form 8410 as satisfactory. Any tasks that do not meet ATP ACS standard will not be recorded on the 8410 and must be retrained and rechecked. Instead, unsatisfactory events will be graded on the four-point scale, and the granular grading information will be aggregated, deidentified, and provided to the TSWG for the purpose of improving the curriculum. The following guidelines shall be used for determining whether the outcome of the staged check is satisfactory or unsatisfactory:

- If in the judgment of the check airman, the crewmember does not meet the standards for any event, the crewmember fails that event.
- Each event can be checked one additional time by the end of the scenario, after retraining occurs.
- Once the event is assessed as unsatisfactory by the check airman, the crewmember will not be checked on the event again until he or she has completed retraining at which time the event can be re-checked.
- A maximum of three events can be retrained/re-checked during the course of the scenario.
- As soon as the staged check becomes unsatisfactory, the crewmember will be transitioned from Adaptive Recurrent training and checking to traditional maneuver-based recurrent training. In accordance with § 135.301(b), the check will be recorded as unsatisfactory on the 8410, and the pilot will be held from line service until the maneuver-based recurrent training and checking is satisfactorily completed.
- The crewmember will have to complete a stand-alone 135 check at the end of the traditional maneuver-based recurrent training in order to successfully complete the recurrent training curriculum.

Enhanced Recurrent training allows pilots to display competency throughout the checking event. A clear determination of when the pilot is undergoing training or checking must be made prior to beginning any maneuver. Items which are performed to less than the required proficiency standard must be retrained and rechecked before completion of the training event. Instructors may use the final simulator session for rechecking any items that were previously performed to less than standard.

NOTE: The final sim session should be used for retraining and rechecking any items that were not yet performed to the ATP ACS. If the pilot performed no maneuvers or few maneuvers unsatisfactorily throughout the training event, extra time may remain during the final sim session. This time may be used to train special emphasis items requested by the pilot or operator.

Prerequisites and SC enrollment:

The pilots will complete all certificate holder training curriculum segments prior to enrollment in SC.

The pilot must have a minimum of 1 year and 100 hours of time in type for fixed wing or 50 hours of time in type for rotor wing.

The pilot must have familiarity with the crew resource management (CRM) concepts in 14 CFR 135.330.

The pilot must have a current 135.293(a)(1), and (3)-(8) for the certificate holder.

The PIC pilot is within 135.293 & 135.297 currency, or

The SIC pilot is within 135.293 currency.

The PIC Curriculum leads to a PIC 135.293 and PIC 135.297 Proficiency Check.
The SIC Curriculum leads to a IFR SIC 135.293 Competency Check.

Ground School Learning Objectives

Day 1 Ground School Learning Objectives

Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can describe the operation of the airplane systems and components using correct terminology
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can explain immediate action items or memory items, if appropriate
Aircraft General	Understand Crew and Passenger Emergency Equipment - emergency exits	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand Crew and Passenger Emergency Equipment - survival gear	Can explain the location, purpose and operation of emergency equipment in the aircraft
Aircraft General	Understand evacuation procedures and crew duties - Cabin Window Cracked procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - Ditching procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Aircraft General	Understand evacuation procedures and crew duties - External Baggage Door Not Secure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - Main Entrance Door Not Secure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand evacuation procedures and crew duties - Planned Airplane Evacuation procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Aircraft General	Understand Specific Flight Characteristics	Can describe Any aircraft characteristics relevant to all weather operations, such as flight deck visibility cutoff angles and the effect on flight deck visibility of proper eye height, seat position or instrument lighting intensities related to transition through areas of varying brightness levels. Pilots should be aware of the effects on flight visibility related to use of different flap settings, approach speeds, use of various landing or taxi lights, and proper procedures for use of windshield wipers and rain repellent. If windshield defog, anti-ice, or de-icing systems affect forward visibility, pilots should be aware of those effects and be familiar with proper settings for use of that equipment related to low-visibility landing.
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Aircraft Manuals	Understand Auxiliary Power Unit (APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that AFM guidelines supersede all other information
Aircraft Manuals	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - autopilot	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications -	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

	Electronic Flight Instrument Systems (EFIS)	
Aircraft Manuals	Understand Avionics and communications - emergency locator transmitter.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Flight Management System (FMS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - ground-based navigation systems and components	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - indicating devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - Radar	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Avionics and communications - transponder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Emergency Equipment - emergency exits	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - passenger oxygen system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - circuit breakers and protection devices	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - controls	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Electrical System - generators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Electrical System - batteries	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Envelope protection—angle of attack warning and protection and speed protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and suppression - lavatory	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fire & smoke detection, protection, and	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

	suppression - powerplant	
Aircraft Manuals	Understand Flight Controls - elevator	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - flaps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - rudder	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - speed brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - spoilers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - Ailerons	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Flight Controls - trim systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - additives	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - controls and indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - cross-feeding	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - drains	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - fuel grade	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Fuel system - fuel substitutions	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - fueling and defueling procedures	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Fuel system - transferring	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - allowable types of fluid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - capacity	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - pressure	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - pumps	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - regulators/accumulators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Hydraulic system - reservoirs	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection - anti-ice & de-ice.	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection - pitot-static system protection	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Ice Protection airfoil surfaces	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

Aircraft Manuals	Understand Ice Protection windshield	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - antiskid	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - brakes	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - extension/retraction system	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - indicators	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - nosewheel steering	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - shock absorbers	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Landing Gear - tires	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Lighting	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pitot Static System - Operation and power sources for other flight instruments	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - controls,	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components

	indicators, and regulating devices	
Aircraft Manuals	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - pressurization	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Pneumatic and environmental system - supply for ice protection systems	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - turbine wheels	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - allowable types of oil	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - compressors	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - controls and indications	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - deicing, anti-icing	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - oil system capacity and quantities	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Aircraft Manuals	Understand Powerplant - thrust reverse	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Auxiliary Power Unit	Can describe the operation of the airplane systems and components using correct terminology	Understand Auxiliary Power Unit (APU)
Auxiliary Power Unit	Can explain system or component limitations	Understand Auxiliary Power Unit (APU)
Auxiliary Power Unit	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals	Understand Auxiliary Power Unit (APU)
Auxiliary Power Unit	Can explain immediate action items or memory items, if appropriate	Understand Auxiliary Power Unit (APU)
Auxiliary Power Unit	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device	Understand Auxiliary Power Unit (APU)
Auxiliary Power Unit	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device	Understand Auxiliary Power Unit (APU)
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain RAIM prediction requirements when using GPS as a substitute means of navigation
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using WAAS input may be used as an alternate means of navigation without restriction.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that RNAV systems using DME/DME/IRU, without GPS input, may be used as an alternate means of navigation where valid DME/DME position updating is published as available (for example, by NOTAM or authorization).

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that In order to use a substitute means of navigation on departure procedures, pilots of aircraft with RNAV systems using DME/DME/IRU, without GPS input, must ensure their aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map display may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can state the definition of RAIM
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Pilots must extract waypoints, NAVAIDs, and fixes by name from the onboard navigation database and comply with the charted procedure or route

Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that pilots may not manually enter published procedure or route waypoints via latitude/longitude, place/bearing, or place/bearing/distance into the aircraft system
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that Operators operating under parts 91K, 121, 125, 129, and 135 must also be equipped with at least one other independent navigation system in addition to an installed and operable RNAV system. This additional system must be suitable, in the event of loss of navigation capability of the RNAV system, for proceeding safely to a suitable airport and completing an instrument approach.
Avionics and Communications	Understand Avionics and communications - suitability and use of Area Navigation (RNAV) systems while operating on, or transitioning to, conventional, i.e., non-RNAV, routes and procedures within the U.S. National Airspace System (NAS)	Can explain that for the purposes of flight planning, any required alternate airport must have an available IAP that does not require the use of GPS.
Avionics and	Understand Avionics and communications -	Can describe the operation of the airplane systems and components using correct terminology

Communications	Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - autopilot	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - autopilot	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - autopilot	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

	link, UHF/VHF/HF, satellite)	
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain system or component limitations

Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite) - Radio Failure / Mistune During A Dual Coupled ILS Approach	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand EFVS Operations	Can apply knowledge specified in FAR § 61.66 for training, recent flight experience, and proficiency requirements for EFVS operations. Refer to the current edition of FAA AC 90-106, Enhanced Flight Vision Systems, and FAR § 135.293(i) for EFVS task requirements during Part 135 competency checks. The FSB has determined that EFVS operations are operationally suitable under FAR § 91.176(a) or (b).
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Crew Alerting System (CAS) Caution Messages and Procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Avionics and Communications	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS) - Synthetic Vision-Primary Flight Display Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - emergency locator transmitter.	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that at system initialization, pilots must confirm the navigation database is current and verify the aircraft’s present position.

Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that RNAV DPs and STAR procedures must be retrieved by procedure name from the onboard navigation database and conform to the charted procedure
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that whenever possible, RNAV routes should be extracted from the database in their entirety, rather than loading RNAV route waypoints from the database into the flight plan individually. Selecting and inserting individual, named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots must use a lateral deviation indicator (or equivalent navigation map display), flight director and/or autopilot in lateral navigation mode on RNAV 1 routes. The full-scale course deviation indicator (CDI) deflection value of ±1 NM is acceptable
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain that pilots of aircraft without GPS/GNSS, using DME/DME/IRU, must ensure the aircraft navigation system position is confirmed, within 1,000 feet, at the start point of takeoff roll. The use of an automatic or manual runway update is an acceptable means of compliance with this requirement. A navigation map may also be used to confirm aircraft position, if pilot procedures and display resolution allow for compliance with the 1,000-foot tolerance requirement
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the depiction of waypoint types (flyover and flyby) and path terminators
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain the types of navigation sensors (for example, DME, IRU, GPS/GNSS) utilized by the RNAV system and associated system prioritization/weighting/logic
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and	Understand Avionics and	Can explain system or component limitations

Communications	communications - Flight Management System (FMS)	
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Flight Management System (FMS) - FMS Powers Up In Single or Independent Mode procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that the onboard navigation data must be current and appropriate for the region of intended operation and must include the navigation aids, waypoints, and relevant coded terminal airspace procedures for the departure, arrival, and alternate airfields.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that RNAV 2 requires a total system error of not more than 2 NM for 95 percent of the total flight time
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that Receiver Autonomous Integrity Monitoring (RAIM) is a technique used within a GPS receiver/processor to monitor GPS signal performance and is achieved by a consistency check among redundant measurements.

Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that a SID is a published IFR air traffic control (ATC) DP providing obstacle clearance and a transition from the terminal area to the en route structure.
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Global Navigation Satellite System (GNSS) - GPS / SBAS Reception Loss During RNAV	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	(GPS) Approach to Minima proccedure	
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the performance requirement and the fail-down capabilities of the system
Avionics and Communications	Understand Avionics and communications - GPS instrument approach procedures with localizer performance with vertical guidance lines of minima using the wide area augmentation system	Can describe the meaning and proper use of aircraft equipment/navigation suffixes
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain system or component limitations
Avionics and	Understand Avionics and communications -	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Communications	ground-based navigation systems and components	
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - ground-based navigation systems and components	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - indicating devices	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - indicating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - indicating devices -	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	(EVS) Malfunctions procedure	
Avionics and Communications	Understand Avionics and communications - indicating devices - (HUD) Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Charts Function DU 2 and 3 Inoperative procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Charts Function Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Equipment Loss While in RVSM Airspace procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - indicating devices - Video Malfunctions procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and	Understand Avionics and	Can explain system or component limitations

Communications	communications - Inertial Navigation Systems (INS)	
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - Inertial Navigation Systems (INS) - IRS Align In Motion procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - Radar	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - Radar	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - Radar	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - Radar	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Avionics and Communications	Understand Avionics and communications - Radar	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can list required equipment for RNP operations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret aircraft automation, mode annunciations, changes, alerts, interactions, reversions, and degradations
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain functional integration with other aircraft systems
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States,	Can list the types of navigation sensors used by the RNP system and their annunciations

	oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can interpret electronic displays and symbols
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the importance of maintaining the published path and maximum airspeeds while performing RNP operations with Radius to Fix (RF) legs (if applicable)
Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe flightcrew contingency procedures for a loss of RNP capability; and

Avionics and Communications	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can explain the performance requirement to couple the autopilot (AP)/flight director (FD) to the navigation system's lateral guidance on RNP procedures, if required
Avionics and Communications	Understand Avionics and Communications - Supporting Systems	Can interpret Other associated instrumentation and displays including any head-up display, guidance system, vision system, monitoring displays, status displays, mode annunciation displays, failure or warning annunciations, and associated system status displays that may be relevant. When such airborne systems are used as the basis for category(s) of minima (e.g. HUD or SVGS for Special Authorization (SA) CAT I; AP, F/D, or HUD for CAT I Landing Minima with Reduced Lighting (RVR 1800)), training should address the relationships between the various system components and the minima for which they are required.
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - terrain awareness/warning/ alert systems - (EGPWS) Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can explain immediate action items or memory items, if appropriate

Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - traffic awareness/warning/ avoidance systems - TCAS Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - transponder	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - transponder	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - transponder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - transponder	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - transponder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-TD capable systems IAW FAR § 91.176(a)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).

Avionics and Communications	Understand EFVS Operations	Can describe applicable airworthiness criteria for EFVS-100 capable systems IAW FAR § 91.176(b)(1) as described in an Airplane Flight Manual or its supplement, AFM(S).
Avionics and Communications	Understand EFVS Operations	Can explain all required pilot flightcrew members must have received and logged the appropriate ground training in EFVS operations IAW FAR § 61.66(a)(1). All PICs or those manipulating the controls (PF) of an aircraft during EFVS operations must have received and logged the appropriate flight training in EFVS operations IAW FAR § 61.66(b)(1). A logbook endorsement or record of training completion is required for the appropriate EFVS operation (EFVS-TD and/or EFVS-100) unless using a military, 61.66(f) exemption OR the pilot can show documentation of satisfactory completion of EFVS-100 operations prior to March 13, 2018.
Avionics and Communications	Understand EFVS Operations	Can explain the checking requirements for EFVS operations as an approved air carrier. For Part 135 operations, FAR § 135.293(i) requires competency checks completed under FAR § 135.293(b) include tasks appropriate to the EFVS operations the certificate holder is authorized to conduct.
Avionics and Communications	Understand EFVS Operations	Can explain pilots conducting EFVS operations for parts 91K, 121, 125, and 135 maintain recent flight experience through satisfactory completion of EFVS tasks and maneuvers during their recurring proficiency checks or competency checks.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS operational credit is credit for a portion of flight visibility prescribed by the IAP being flown that is satisfied by the enhanced image provided by the EFVS. EFVS operational credit is authorized in FAA OpSpec C048.

Avionics and Communications	Understand EFVS Operations	Can describe EFVS operational credit is used by authorized parts 121, 125, and 135 CHs and part 129 foreign air carriers to determine minimum visibilities to: 1. Dispatch, release, or take off a flight under instrument flight rules (IFR) when the forecast weather at the destination airport is equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.613, 125.361, and 135.219); and 2. Begin, execute, or continue an approach when the weather is reported to be equal to or greater than the authorized minimums for use with an EFVS (refer to §§ 121.651, 125.325, 125.381, and 135.225).
Avionics and Communications	Understand EFVS Operations	Can explain a standard EFVS credit. The Flight Technologies and Procedures Division evaluates available performance data from numerous sources such as other operational evaluations and Original Equipment Manufacturer (OEM) demonstrations conducted in the type design approval process. A standard credit is recommended for an installed EFVS sensor and is published in the Operational Suitability Report (OSR), Operational Credit for Enhanced Flight Vision Systems (EFVS). An operator applying for EFVS operational credit that elects to use the standard credit would not need to demonstrate system performance; however, this does not restrict an operator from conducting their own performance demonstration to determine operational credit. Industry consensus methodology for performance demonstrations is contained in RTCA DO-390, Test Procedures for Quantified Visual Advantage. The OSR can be found at https://drs.faa.gov/browse/excelExternalWindow/bb448b0f-d979-42a2-8d67-9346707e6d29.
Avionics and Communications	Understand EFVS Operations	Can explain Minimum Visibility with Use of EFVS for Parts 121, 125, 129, and 135. OpSpec C048 may include authorization to use a credit to reduce the visibility required for operating without the use of the EFVS (see Table 1, Sample Minimum Visibility Table). The creditis based on the demonstrated EFVS sensor performance.

Avionics and Communications	Understand EFVS Operations	Can explain Landing Weather Minimums for Recently Upgraded PICs. Recently upgraded PICs are subject to § 121.652, § 125.379, or § 135.225(e), which temporarily raise IAP minimums to afford an extra layer of safety while experience operating as PIC is gained. EFVS minimum visibility should not be used until the requirements of these regulations are met, as this may negate the safety margins intended by these regulations.
Avionics and Communications	Understand EFVS Operations	Can explain Alternate Airport Weather. The use of EFVS minimum visibility is not advised for alternate airport planning. However, once in flight, a pilot may use EFVS minimum visibilities to begin an approach at an alternate airport.
Avionics and Communications	Understand EFVS Operations	Can ensure considerations for Part 91K, 125, or 135 Pilot Training Programs. Initial training for pilots under part 91K, 125, or 135 must include the required elements listed in FAR § 61.66(a)(2) and (b)(2). The required elements and suggested methods of meeting said requirements can be found in Appendix A. Part 91K, 125, or 135 competency checks should include appropriate EFVS tasks.
Avionics and Communications	Understand EFVS Operations	Can demonstrate familiarization with an overview per FAR § 91.176, parts 121, 125, and 135 CHs require OpSpec C048 to conduct EFVS-100 or EFVS-TD operations, and may include provisions to use EFVS operational credit. Part 91K program managers require MSpec C048 to conduct EFVS-100 or EFVS-TD operations. MSpec C048 does not include provisions to use EFVS operational credit.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 1. Airworthiness Documentation. Excerpts from the AFM(S) that identify the EFVS operation(s) for which the system received airworthiness approval. The FAA recommends incorporating any procedures or operating limitations in the AFM(S) into the approved EFVS training curriculum and operating manuals.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 2. Operating Manuals. Applicable sections of operating manuals (e.g., Airplane Operations Manual (AOM), Flight Operations Manual (FOM), pilot's operating handbook (POH), and/or quick reference handbook (QRH)) that contain the operator's procedures or provisions for using an EFVS. These procedures can be incorporated in the operator's approved EFVS training curriculum and in the AFM(S).

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 3. EFVS Pilot Training Curriculum. A proposed EFVS training curriculum that ensures the pilot meet the requirements of § 61.66. Paragraph 9 and Appendix A contain information for developing a training curriculum to include the required ground training subjects and flight training tasks required by § 61.66(a) and (b). It is acceptable to incorporate a previously approved curriculum provided by a part 141 or 142 school.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 4. EFVS Provisions in the MEL. If the applicant is seeking MEL relief for EFVS, they should provide the proposed MEL containing appropriate operations and maintenance procedures that consider all applicable components of the EFVS during MEL submission, review, and approval.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 5. Application for Operational Credit. Operators operating under parts 121, 125, and 135 CHs applying for authorization to use EFVS operational credit should provide: a. A statement of proposed credit. Operators may propose use of the standard credit published in the EFVS OSR, which is based on previous demonstrations of system visual advantage. When an operator elects to use the standard credit, it is not necessary to demonstrate visual advantage during the operational demonstration. If the applicant elects to perform their own demonstration, AC 20-167 provides methods that can be used to demonstrate quantified visual advantage in the certification process. b. EFVS training curriculum for dispatchers or other persons exercising operational control, as described in paragraph 9 and Appendix C. c. Dispatch procedures manual or a general operations manual, as applicable, containing procedures for using the authorized EFVS operational credit to determine the minimum visibilities for use with EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of applications for OpSpec or MSpec C048 should be submitted to a responsible Flight Standards Safety Assurance office. Although other documentation may be acceptable, the FAA recommends providing the following items in the application to facilitate the review process: 6. EFVS Maintenance Procedures. EFVS maintenance procedures or programs as described in Appendix B. If the applicant is responsible for the training of maintenance personnel, the applicant can also provide an EFVS training curriculum for maintenance personnel, as described in paragraph 9 and Appendix B.

Avionics and Communications	Understand EFVS Operations	Can demonstrate general awareness of EFVS Operational Demonstration for Parts 91K, 121, 125, and 135 Applications. The FAA’s process for approval and acceptance includes observing and evaluating the operator’s ability to perform the proposed operation(s) in accordance with the procedures, guidelines, and parameters described in the operator’s formal application. The means for meeting the operational demonstration objectives and an appropriate timeline are established through an agreement between the operator and the responsible Flight Standards Safety Assurance office. The are many acceptable means by which an operational demonstration can be accomplished (e.g., tabletop exercises, simulators, classroom observations, observations of line operations, observations of training flights, or any other agreed-upon means).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of the regulations relevant to EFVS operations. A list of the regulations are in Appendix D, Related Regulations and Guidance. Appendix D includes 61.66, 91.1065, 121.407, 121.409, 121.441 including Appendices F and H, 125.287, 135.293, 91.176, 91.189(d) and (e), 91.1039, 121.651, 125.325, 125.381, 135.225, 91.905, AC 20-167, AC 61-65, AC 120-54, AC 120-57, AC 120-71, and AC 120-118.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(i) can demonstrate an overview of an AFM or its supplement (AFM(S)) or other manufacturer documentation that specifies the type of EFVS operation the EFVS is certified to conduct, specifies performance applicable to the use of operational credit, or defines specific procedures, conditions, or limitations associated with operating the EFVS. In some cases, procedures described in an AFM(S) may be more restrictive than the regulations.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the characteristics of the enhanced imagery provided by an EFVS. An EFVS image must be real-time, conformal, and sensor-based. Imagery that is computer-generated from a database, such as a synthetic image, cannot be used to conduct an EFVS operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements to be used for EFVS operations to touchdown and rollout (EFVS-TD) operations listed under 14 CFR part 91, § 91.176(a)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(ii) can demonstrate an overview of the symbology and equipment requirements of an EFVS to be used for EFVS operations to 100 feet above the touchdown zone elevation (TDZE) (EFVS-100) operations listed under § 91.176(b)(1).
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the controls for the EFVS image to include display brightness, contrast, and image modes.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the control for turning the EFVS image on or off. This control is important, because if the sensor imagery were to obscure the pilot's view of the outside scene, the pilot should have a readily available means to immediately remove the sensor imagery from the Head-Up Display (HUD). However, in order to continue an EFVS operation, the pilot should reactivate the image as soon as possible.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain how computer-generated synthetic elements are presented in the image, if applicable. Some systems may integrate synthetic vision elements into the image displayed on the HUD. A pilot should be able to differentiate between the sensor-based elements and the computer-generated elements.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iii) explain the runway and extended runway centerline symbology presented during the approach phase.
Avionics and	Understand EFVS Operations	Per § 61.66(a)(2)(iii) can explain the field of view (FOV) of the EFVS display.

Communications		
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can explain the imaging technology of the EFVS sensor and the related limitations (i.e., light detection, obstacle detection, weather types, and FOV). The AFM(S) may specify any limitations or demonstrated performance applicable to the installed EFVS. An EFVS can display imagery that may significantly improve a pilot's capability to detect approach lights and visual references of the runway environment that may not otherwise be visible using natural vision. Not all EFVS sensors have the same imaging capabilities. Some sensors may image particular materials and some may focus in specific energy spectrums. Some sensor technologies are more affected by certain weather conditions (e.g., obscurations and precipitation). Some systems utilize multiple sensors to combine the benefits from different technologies.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview on interpreting a sensor-generated scene presented by the EFVS. Images may have characteristics and contain artifacts that are unique to the sensor technology, EFVS image processing software, or display characteristics (i.e., monochrome colors). An external scene generated from infrared technology may be different from a scene generated from another technology or combination of technologies.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(iv) can demonstrate an overview of image anomalies of the installed EFVS. Anomalies such as "noise," "blooming," parallax, and other visual effects may be more prevalent in different EFVS installations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of flight planning considerations for sensor performance and limitations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can explain the optimal EFVS settings for different phases of flight and meteorological conditions.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of techniques for identifying visual references with natural vision at 100 feet above the TDZE for EFVS-100 operations. There may be several techniques that crews can use to ensure that visual references are seen with natural vision while continuing to use the EFVS image. It is important that these techniques do not reinforce deactivating the EFVS image more than momentarily during the EFVS operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of considerations for conducting EFVS operations with a limited EFVS FOV. A combination of crosswind correction, approach course offset, and the lateral FOV may result in the inability of the pilot to acquire and maintain visual references.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of considerations for executing a go-around below a DA/DH or MDA. Whether a pilot is using an EFVS or natural vision, obstacle clearance should not be assumed when initiating a go-around below a DA/DH or MDA or after the missed approach point. The missed approach procedure should be thoroughly briefed and accurately flown, and may need additional climb performance beyond the standard 200 feet per nautical mile to ensure adequate obstacle clearance.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for visual segment obstacle clearance. Pilots using an EFVS should be careful not to conclude that the flightpath is free of obstacles because no obstacles are distinctly visible in the EFVS image. The approach procedure should be thoroughly briefed and accurately flown.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) can demonstrate an overview of the considerations for conducting EFVS operations on special instrument approach procedures (IAP). Operators that have a specific approval from the FAA to conduct instrument approaches using special IAPs should evaluate those instrument procedures to determine their compatibility with EFVS operations. These procedures may have nonstandard features or special conditions that may not be compatible with EFVS operations or the performance of an EFVS sensor.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(v) demonstrate an overview of the considerations for conducting taxi operations after conducting an EFVS operation. Once the EFVS operation is complete, the pilot may have to taxi at an airport with Low-Visibility Operations (LVO)/Surface Movement Guidance and Control System (SMGCS) operations in effect. Although an EFVS may provide some increased situation awareness during taxi operations, natural vision is still essential.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) can demonstrate an overview of the effect of obscuration types, precipitation conditions, and low ceilings or cloud layers as contributing factors to the variable and unpredictable characteristics of EFVS sensor performance or EFVS sensor and image quality.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vi) demonstrate an overview of visibility reporting equipment (e.g., Runway Visual Range (RVR), automated surface observing system (ASOS), and Automated Weather Observing System (AWOS)) and their limitations, reporting increments, and relationship to actual flight visibility on the approach.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-TD operations, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the operational concepts and the procedures used in EFVS-100 operations, as applicable.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: a. An integrity check of the sensor window.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: b. System tests and warmup time.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following system preflight and in-flight procedures: c. System control adjustments, to include appropriate setting of EFVS contrast, brightness, and symbology.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following system preflight and in-flight procedures: d. EFVS image alignment procedures with the natural vision image.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: a. Callouts for continuing descent below the DA/DH or MDA using the EFVS.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: b. Callouts for transition from enhanced image to natural vision at 100 feet above the TDZE during an EFVS-100 operation.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: c. Callouts to clearly communicate the decision to land or go around.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following pilot flying (PF) and pilot monitoring (PM) communications: d. Callouts for abnormal EFVS operations.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: a. Expectations of system performance and limitations in reported weather conditions and a minimum visibility for the use of an EFVS (if applicable).

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: b. EFVS callouts.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: c. Other approach considerations that may affect EFVS operations such as final approach offsets and ground infrastructure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the following items to be briefed prior to initiating an approach using the EFVS: d. Missed approach considerations and procedure.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the following items to be briefed prior to initiating an approach using the EFVS: e. The taxi operation considerations in reported weather conditions.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can explain the PM use of the repeater display during EFVS-TD operations. The PM uses the display to assess the safe conduct of the approach, landing, and rollout, and intervene if necessary in visibilities where natural vision may not be sufficient.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) explain the procedure used for determining minimum visibility for use of EFVS for the purpose of releasing the flight or executing an approach, as applicable.
Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(vii) can demonstrate an overview of techniques for identifying EFVS system failures and corresponding procedures. A proper cross-check of the HUD instrumentation presentations against the EFVS sensor image could help recognize malfunctions of the navigation equipment or improper presentation of elements in the visual scene during the approach. In the event any required component fails during an EFVS operation until touchdown, the PF should initiate a go-around. However, this does not preclude a pilot's authority to continue to a landing and rollout if the pilot considers that a safer course of action.

Avionics and Communications	Understand EFVS Operations	Per § 61.66(a)(2)(viii) can integrate the following: it is necessary for the pilot training curriculum to include the interpretation of approach and runway lighting systems and their display characteristics when using an EFVS. This could be accomplished by including an overview of different light sources used in airport and approach lighting systems and the ability of the EFVS to detect them. An EFVS based only on infrared sensor technology may not be capable of imaging light-emitting diode (LED) lighting because energy is not emitted in an infrared spectrum. It is important that pilots are familiar with the potential use of LEDs at their destination and any corresponding limitations of their EFVS. For more information, please refer to Information for Operators (InFO) 11004, Enhanced Flight Vision System (EFVS), Enhanced Vision Systems (EVS), and Night Vision Goggles (NVG) Compatibility with Light-Emitting Diodes (LEDs) at Airports and on Obstacles. You can find InFO 11004 at https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info.
Avionics and Communications	Understand EFVS Operations	Can explain those portions of this chapter that relate to EFVS flight operations and limitations, including the Airplane Flight Manual or Rotorcraft Flight Manual limitations.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS sensor imagery, required aircraft flight information, and flight symbology.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS display, controls, modes, features, symbology, annunciations, and associated systems and components.
Avionics and Communications	Understand EFVS Operations	Can explain EFVS sensor performance, sensor limitations, scene interpretation, visual anomalies, and other visual effects.

Avionics and Communications	Understand EFVS Operations	Can explain preflight planning and operational considerations associated with using EFVS during taxi, takeoff, climb, cruise, descent and landing phases of flight, including the use of EFVS for instrument approaches, operating below DA/DH or MDA, executing missed approaches, landing, rollout, and balked landings.
Avionics and Communications	Understand EFVS Operations	Can explain weather associated with low visibility conditions and its effect on EFVS performance.
Avionics and Communications	Understand EFVS Operations	Can explain normal, abnormal, emergency, and crew coordination procedures when using EFVS.
Avionics and Communications	Understand EFVS Operations	Can interpret approach and runway lighting systems and their display characteristics when using an EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to touchdown and rollout. This includes a displayed EFVS sensor image for the pilot monitoring where the symbology does not obscure the runway environment. See 91.176(a)(1)(i)(A) through (F) and (ii) for details.
Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.
Avionics and Communications	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.
Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (a)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Ensure when a minimum flightcrew of more than one pilot required, the pilot monitoring must use the display specified in paragraph (a)(1)(ii) to monitor and assess the safe conduct of the approach, landing, and rollout.

Avionics and Communications	Understand EFVS Operations	Can appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Appreciate why the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing.
Avionics and Communications	Understand EFVS Operations	Can ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operator, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;
Avionics and Communications	Understand EFVS Operations	Can ensure each person acting as a required pilot flightcrew member for a foreign air carrier subject to part 129, or any person serving as a required pilot flightcrew member of a foreign registered aircraft, must be qualified in accordance with the training requirements of the civil aviation authority of the State of the operator for the EFVS operation to be conducted.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under this part must conduct the operation in accordance with a letter of authorization for the use of EFVS unless the operation is conducted in an aircraft that has been issued an experimental certificate under § 21.191 of this chapter for the purpose of research and development or showing compliance with regulations, or the operation is being conducted by a person otherwise authorized to conduct EFVS operations under paragraphs (a)(2)(ix) through (xii) of this section. A person applying to the FAA for a letter of authorization must submit an application in a form and manner prescribed by the Administrator.

Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless from the authorized DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references - (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the enhanced flight visibility using EFVS must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can explain the Administrator may prescribe additional equipment, operational, and visibility and visual reference requirements to account for specific equipment characteristics, operational procedures, or approach characteristics. These requirements will be specified in an operator's operations specifications, management specifications, or letter of authorization authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can demonstrate an understanding of the applicable EFVS equipment airworthiness requirements for operations to 100 feet above the touchdown zone. See 91.176(a)(1)(i)(A) through (F) for details; however, a flare prompt, flare guidance, or height above ground level need not be present for operations to 100 feet above the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can ensure the pilot conducting the EFVS operation may not use circling minimums.
Avionics and Communications	Understand EFVS Operations	Each required pilot flightcrew member must demonstrate adequate knowledge of, and familiarity with, the aircraft, the EFVS, and the procedures to be used.

Avionics and Communications	Understand EFVS Operations	Can ensure the aircraft must be equipped with, and the pilot flying must use, an operable EFVS that meets the equipment requirements of paragraph (b)(1) of this section.
Avionics and Communications	Understand EFVS Operations	Appreciate why the aircraft must continuously be in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers.
Avionics and Communications	Understand EFVS Operations	Can appreciate why for operations conducted under part 121 or part 135 of this chapter, the descent rate must allow touchdown to occur within the touchdown zone of the runway of intended landing
Avionics and Communications	Understand EFVS Operations	Ensure a person exercising the privileges of a pilot certificate issued under this chapter, any person serving as a required pilot flightcrew member of a U.S.-registered aircraft, or any person serving as a required pilot flightcrew member for a part 121, 125, or 135 operator, must be qualified in accordance with part 61 and, as applicable, the training, testing, and qualification provisions of subpart K of this part, part 121, 125, or 135 of this chapter that apply to the operation;
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting operations under part 121, 129, or 135 of this chapter must conduct the operation in accordance with operations specifications authorizing the use of EFVS.
Avionics and Communications	Understand EFVS Operations	Can ensure a person conducting an EFVS operation during an authorized Category II or Category III operation must conduct the operation in accordance with operations specifications, management specifications, or a letter of authorization authorizing EFVS operations during authorized Category II or Category III operations.
Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless the pilot determines that the enhanced flight visibility observed by use of an EFVS is not less than the visibility prescribed in the instrument approach procedure being used.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless from the authorized MDA or DA/DH to 100 feet above the touchdown zone elevation of the runway of intended landing, any approach light system or both the runway threshold and the touchdown zone are distinctly visible and identifiable to the pilot using an EFVS. (A) The pilot must identify the runway threshold using at least one of the following visual references- (1) The beginning of the runway landing surface; (2) The threshold lights; or (3) The runway end identifier lights. (B) The pilot must identify the touchdown zone using at least one of the following visual references - (1) The runway touchdown zone landing surface; (2) The touchdown zone lights; (3) The touchdown zone markings; or (4) The runway lights.

Avionics and Communications	Understand EFVS Operations	Can ensure no Part 91 or air carrier operation continues an approach below the authorized MDA or DA/DH and land unless at 100 feet above the touchdown zone elevation of the runway of intended landing and below that altitude, the flight visibility must be sufficient for one of the following visual references to be distinctly visible and identifiable to the pilot without reliance on the EFVS - (A) The runway threshold; (B) The lights or markings of the threshold; (C) The runway touchdown zone landing surface; or (D) The lights or markings of the touchdown zone.
Avionics and Communications	Understand EFVS Operations	Can consider the compliance date. Beginning on March 13, 2018, a person conducting an EFVS operation to 100 feet above the touchdown zone elevation must comply with the requirements of paragraph (b) of this section.
Avionics and Communications	Understand EFVS Operations	Can determine the recommended EFVS Operational Credit capability for their make/model and possibly serial number for their aircraft using Appendices 1 and 2.
Avionics and Communications	Understand EFVS Operations	Can appreciate the EFVS Operational Credit Tables in Appendix 3 for risk management under Part 91 operations or compliance for air carrier operations.
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
CRM	Understand Mitigating Risks of an Incorrect Airport Surface Approach and Landing	Can explain the characteristics of effective CRM
CRM	Understand Crew Resource Management (CRM)	Can evaluate the authority of the pilot in command;

CRM	Understand Crew Resource Management (CRM)	Can discuss communication processes, decisions, and coordination, to include communication with Air Traffic Control, personnel performing flight locating and other operational functions, and passengers;
CRM	Understand Crew Resource Management (CRM)	Can manage building and maintenance of a flight team;
CRM	Understand Crew Resource Management (CRM)	Can discuss workload and time management;
CRM	Understand Crew Resource Management (CRM)	Ensure situational awareness;
CRM	Understand Crew Resource Management (CRM)	Can appreciate the effects of fatigue on performance, avoidance strategies and countermeasures;
CRM	Understand Crew Resource Management (CRM)	Can appreciate th effects of stress and stress reduction strategies
CRM	Understand Crew Resource Management (CRM)	Can determine aeronautical decision-making and judgment training tailored to the operator's flight operations and aviation environment.
CRM	Understand Crew Resource Management (CRM)	Can explain the airplane pilot competency framework and associated observable behaviors
CRM	Understand Crew Resource Management (CRM)	Can relate the airplaine pilot competency framework to threat and error management
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can describe the operation of the airplane systems and components using correct terminology

Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain system or component limitations
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - circuit breakers and protection devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - controls	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - controls	Can explain system or component limitations
Electrical System	Understand Electrical System - controls	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - controls	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - controls	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - controls	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain system or component limitations

Electrical System	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - generators	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - generators	Can explain system or component limitations
Electrical System	Understand Electrical System - generators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - generators	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - generators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - generators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Electrical System - indicators	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - indicators	Can explain system or component limitations
Electrical System	Understand Electrical System - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - indicators	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Electrical System	Understand Electrical System - batteries	Can describe the operation of the airplane systems and components using correct terminology
Electrical System	Understand Electrical System - batteries	Can explain system or component limitations
Electrical System	Understand Electrical System - batteries	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Electrical System - batteries	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Electrical System - batteries	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Electrical System	Understand Electrical System - batteries	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain immediate action items or memory items, if appropriate
Electrical System	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

	personal electronic devices)	
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can explain immediate action items or memory items, if appropriate
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices) - Aft Equipment Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	devices) - Aft Floor Hot procedure	
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain system or component limitations
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental - Airplane Interior Fire / Smoke / Fumes procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain system or component limitations
Fire and Smoke Detection,	Understand Fire & smoke detection, protection, and	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Protection and Suppressio n	suppression - lavatory	
Fire and Smoke Detection, Protection and Suppressio n	Understand Fire & smoke detection, protection, and suppression - lavatory	Can explain immediate action items or memory items, if appropriate
Fire and Smoke Detection, Protection and Suppressio n	Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppressio n	Understand Fire & smoke detection, protection, and suppression - lavatory	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fire and Smoke Detection, Protection and Suppressio n	Understand Fire & smoke detection, protection, and suppression - powerplant	Can describe the operation of the airplane systems and components using correct terminology
Fire and Smoke Detection, Protection and Suppressio n	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain system or component limitations
Fire and Smoke Detection, Protection and	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Suppression		
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can explain immediate action items or memory items, if appropriate
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fire and Smoke Detection, Protection and Suppression	Understand Fire & smoke detection, protection, and suppression - powerplant	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Flight Controls	Conduct Clean Configuration Stall prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Landing Configuration Stall Prevention	Can explain the effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Partial Flap Configuration Stall Prevention	Can explain effects of autoflight, flight envelope protection in normal and degraded modes, and unexpected disconnects of the autopilot or autothrottle/autothrust, if applicable to the aircraft
Flight Controls	Conduct Recovery From Unusual Flight Attitudes	Can explain and reference the operating envelope and structural limitations for the airplane

Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain system or component limitations
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Envelope protection—angle of attack warning and protection and speed protection	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - elevator	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - elevator	Can explain system or component limitations
Flight Controls	Understand Flight Controls - elevator	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - elevator	Can explain immediate action items or memory items, if appropriate

Flight Controls	Understand Flight Controls - elevator	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - elevator	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - flaps	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - flaps	Can explain system or component limitations
Flight Controls	Understand Flight Controls - flaps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - flaps	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - flaps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - flaps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - rudder	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - rudder	Can explain system or component limitations
Flight Controls	Understand Flight Controls - rudder	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - rudder	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - rudder	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - rudder	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - speed brakes	Can describe the operation of the airplane systems and components using correct terminology

Flight Controls	Understand Flight Controls - speed brakes	Can explain system or component limitations
Flight Controls	Understand Flight Controls - speed brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - speed brakes	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - speed brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - speed brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - spoilers	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - spoilers	Can explain system or component limitations
Flight Controls	Understand Flight Controls - spoilers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - spoilers	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - spoilers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - spoilers - Ground Spoiler Failure Inflight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain system or component limitations

Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - Ailerons	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - Ailerons	Can explain system or component limitations
Flight Controls	Understand Flight Controls - Ailerons	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - Ailerons	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - Ailerons	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - Ailerons	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Flight Controls - Other Flight Deck Systems	Can describe Other flight deck systems related to AWO operations (e.g., autobrakes or autospoilers), and any associated limitations, characteristics, or constraints (e.g., touchdown pitch up or pitch down tendency of certain autospoiler or autobrake settings or non-normal conditions, time delays, or auto-deactivation features with go-around)

Flight Controls	Understand Flight Controls - trim systems	Can describe the operation of the airplane systems and components using correct terminology
Flight Controls	Understand Flight Controls - trim systems	Can explain system or component limitations
Flight Controls	Understand Flight Controls - trim systems	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Flight Controls	Understand Flight Controls - trim systems	Can explain immediate action items or memory items, if appropriate
Flight Controls	Understand Flight Controls - trim systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Flight Controls	Understand Flight Controls - trim systems - mach trim failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Flight Controls	Understand Ice Protection - anti-ice & de-ice.	Can explain system or component limitations
Flight Controls	Understand Ice Protection - pitot-static system protection	Can explain system or component limitations
Flight Controls	Understand Ice Protection airfoil surfaces	Can explain system or component limitations
Flight Controls	Understand Ice Protection windshield	Can explain system or component limitations
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Flight Planning and Performance	Understand determining landing performance per AFM	Can explain the importance of accurate and timely assesments of landing distance
Flight Planning and	Understand determining landing performance per AFM	Can identify and manage risks associated with runway overruns during the landing

Performance		
Flight Planning and Performance	Understand determining landing performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining landing performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining landing performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Conduct Rejected Takeoff	Can define relevant V-speeds for a rejected takeoff
Flight Planning and Performance	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can explain that ODPs are recommended for obstruction clearance and may be flown without ATC clearance unless an alternate DP (SID or radar vector) has been specifically assigned by ATC.
Flight Planning and Performance	Understand Avionics and communications - RNP operations in the United States, oceanic and remote continental airspace, and in foreign countries which adopt ICAO standards for RNP operations.	Can describe the meaning and proper use of aircraft equipment/navigation capability codes used on the flight plan
Flight Planning and Performance	Understand determing takeoff performance (e.g., balance field	Can explain and demonstrate the use of charts, tables, and data to determine performance

	length, VMCG) per AFM	
Flight Planning and Performance	Understand determing takeoff performance (e.g., balance field length, VMCG) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determing takeoff performance (e.g., balance field length, VMCG) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define Decision Speed
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 as Action Speed
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the difference between Takeoff Distance and Takeoff Run

Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can define V_1 and determine when V_1 is critical
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain why V_1 can be no less than V_{MCG} nor can be no more than V_R
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain when takeoff field length and V_1 are critical and the consequences
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the impact of wet runways on landing distances
Flight Planning and Performance	Understand determining accelerate-stop / accelerate-go distance per AFM	Can explain the importance of a timely V_1 call.
Flight Planning and Performance	Understand determining climb performance per AFM	Can demonstrate familiarization with aircraft performance or weight limit information to ensure safe obstacle clearance for "all engine" or "engine inoperative" missed approaches or rejected landings. Performance information should consider, as appropriate, flap settings, go-around procedures, acceleration segments or transition following an engine failure between the specified "all-engine lateral flightpath" (or radar vectors) and any specified "engine-inoperative lateral flightpath," using flap retraction, and cleanup height procedures. Refer to AC 120-91 for further information.
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain considerations for OEI departure development
Flight Planning	Understand determining climb	Can state the definition of take off segment

and Performance	performance per AFM	
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining climb performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining climb performance per AFM	Can explain why using OEI data to comply with TERPS procedures is an unnecessary burden on operators
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the segments of an instrument departure procedure
Flight Planning and Performance	Understand determining climb performance per AFM	Can describe the drawbacks of using OEI data to comply with TERPS procedures
Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight

Flight Planning and Performance	Understand determining cruise performance (e.g., optimum and maximum operating altitudes) per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining descent performance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining descent performance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining descent performance per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining fuel requirements per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance

Flight Planning and Performance	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Flight Planning and Performance	Understand determining performance with an inoperative powerplant for all phases of flight per AFM	Can describe the effects of meteorological conditions on performance for any phase of flight and apply these factors to a specific chart, table, graph, or other performance data
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define declared runway distance
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define landing distance available
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define actual landing distance
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "adjusted landing distance"
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "unfactored (certified) landing distance"
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can define "factored landing distance"

Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can identify critical condition combinations that increase risk of a runway overrun
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can reference applicable regulations for preflight planning
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can calculate the required effective landing distance for dispatch under part 91 and part 135 operations
Flight Planning and Performance	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can explain that factors affecting landing distance are cumulative, and why mulitple small errors during landing can contribute to a runway overrun
Flight Planning and Performance	Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance
Flight Planning and Performance	Understand Runway assessment and condition reporting and use of the Runway Condition Assessment Matrix (RCAM).	Can explain and demonstrate the use of charts, tables, and data to determine performance
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Flight Profiles and Maneuvers	Understand determining landing performance per AFM	Can explain the parameters and importance of a stabilized approach
Flight Profiles	Understand determining	Can explain the importance of timely decisions in relation V_1

and Maneuvers	accelerate-stop / accelerate-go distance per AFM	
Flight Profiles and Maneuvers	Understand determining climb performance per AFM	Can explain basic purpose and applicability of OEI departure procedures
Flight Profiles and Maneuvers	Understand Mitigating Risks of a Runway Overrun Upon Landing	Can describe the characteristics of a stabilized descent rate
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of impending stall indications and understanding of the need to initiate the stall recovery procedure at an impending stall.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Recognition of full stall indication (see paragraph 1-7) with the realization that most swept-wing transport category aircraft exhibit full stall characteristics different from those typically experienced in General Aviation (GA) aircraft used during certification training.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: For airplanes equipped with a stick pusher, recommended recovery actions in response to stick pusher activation.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Avoiding cyclical or oscillatory control inputs to prevent exceeding the structural limits of the airplane.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Structural considerations, including explanation of limit load, ultimate load, and the dangers of combining accelerative and rolling moments (i.e., the rolling pull) during recovery.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: The necessity for smooth, deliberate, and positive control inputs to avoid unacceptable load factors and secondary stalls.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: AOA must be reduced prior to controlling roll.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: Effectiveness of control surfaces and the order in which the control surfaces lose and regain their effectiveness (e.g., spoilers, ailerons, etc.).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain proper recovery procedures should emphasize that a reduction of the AOA is required to initiate recovery of all stall events. Additional information to incorporate into recovery training includes: If a terrain awareness warning system (TAWS) warning is encountered during recovery from a low altitude stall event, recovery from the stall warning should take precedence. Once the airplane recovers from the stall event, then execute the TAWS escape maneuver.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: AOA versus pitch angle.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Rate of onset including rate of airspeed decay (both low and high).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Airplane configuration and condition including weight, center of gravity (CG), landing gear, flaps/slats, spoilers/speed brakes, etc.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Asymmetric loading including thrust asymmetries, wing loading due to roll or yaw transients or uncoordinated flight.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: G loading.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Bank angle.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust and lift vectors.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Thrust required versus thrust available.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Wind shear.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Altitude.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mach effects.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Situational Awareness.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Mode confusion, including unexpected/unannounced mode changes.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Unexpected transition from automated to manual flight.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain an awareness of the factors that may lead to a stall event during automated and manual flight operations including: Contamination (ice), including the effect of icing on stall speed and stall warnings.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate an understanding of AOA indicators (if installed) or interpretation of other representations of AOA such as pitch-limit indicators or speed display symbology that can assist in stall prevention.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain specific stall and low-speed buffet characteristics unique to the airplane type and any implications for the expected flight operations and airplane-specific stall recovery procedure (e.g., underwing mounted engines, t-tail, propellers, etc.).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can describe thrust settings and its application.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can describe autothrottle/autothrust protection.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate awareness of autoflight mode indications.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain incorrect use of (including input errors) flightpath automated systems.

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the operation and function of stall protection systems in normal, abnormal, and emergency situations, including the hazards of overriding or ignoring stall protection system indications. Awareness of the factors that may lead such systems to fail, as well as degraded modes, indications, or behaviors that may occur with system failures.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain buffet boundary and margins in flight planning and operational flying.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the lower margins for stall onset and recovery (i.e., coffin corner) and possible buffet cueing differences on the high-speed versus the low-speed margin.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the principles of high altitude aerodynamics, performance capabilities, and limitations; including high altitude operations and flight techniques (i.e., the need to avoid secondary stall by extended nose-down recovery, compared to lower altitudes).
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the differences in airplane performance (e.g., thrust available) during high versus low altitude operations, the effects of those differences on stall recovery, and the anticipated altitude loss during a recovery.
Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can explain the differences between transport category airplane certification and GA airplane certification regarding use of flight controls at high AOA. For example, if the roll control system is compromised and the ailerons are unable to produce the required roll recovery, the rudder may be used with care during stall prevention and recovery. To maintain structural integrity, it is important to guard against control reversals—avoid rapid fullscale reversal of control deflectio

Flight Profiles and Maneuvers	Understand Stall Prevention and Recovery	Can demonstrate general awareness of example events. Although significant emphasis should be placed on preventing stall events, it is important for pilots to understand that, although rare, stall events continue to occur. Studying the causes and contributing factors of stall events give pilots more knowledge to help prevent or if necessary, recover from a stall event. A review of stall-related accidents, incidents, ASAP, FOQA, and ASRS data for the specific airplane type or class should be included in ground training.
Flight Profiles and Maneuvers	Conduct Stall Prevention and Recovery	Can explain the STICK PUSHER. For airplanes equipped with a stick pusher, stall recovery training includes ground training and practical training in an FFS. It is important for pilots to experience the sudden forward movement of the control yoke/stick during a stick pusher activation. From observations, most instructors state that, regardless of previous academic training, pilots usually resist the stick pusher on their first encounter. Usually, they immediately pull back on the control yoke/stick rather than releasing pressure as they have been taught. Therefore, pilots must receive practical stick pusher training in an FFS to develop the proper response (allowing the pusher to reduce AOA) when confronted with a stick pusher activation. Stick pusher training should be completed as a demonstration/practice exercise, including repetitions, until the pilot's reaction is to permit the reduction in AOA even at low altitudes. Pilot response to a deliberate activation of the pusher is not a checked maneuver.
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Fuel System	Understand Fuel system - additives	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - additives	Can explain system or component limitations
Fuel System	Understand Fuel system - additives	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - additives	Can explain immediate action items or memory items, if appropriate

Fuel System	Understand Fuel system - additives	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - additives	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - capacity and quantities	Can explain system or component limitations
Fuel System	Understand Fuel system - capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - capacity and quantities	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - capacity and quantities - Fuel Leak In Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - capacity and quantities - low fuel state procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - controls and indicators	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - controls and indicators	Can explain system or component limitations
Fuel System	Understand Fuel system - controls and indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - controls and indicators	Can explain immediate action items or memory items, if appropriate

Fuel System	Understand Fuel system - controls and indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - controls and indicators - Fuel Tank Temperature procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - cross-feeding	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - cross-feeding	Can explain system or component limitations
Fuel System	Understand Fuel system - cross-feeding	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - cross-feeding	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - cross-feeding	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - cross-feeding	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - drains	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - drains	Can explain system or component limitations
Fuel System	Understand Fuel system - drains	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - drains	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - drains	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - drains	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Fuel System	Understand Fuel system - fuel grade	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - fuel grade	Can explain system or component limitations
Fuel System	Understand Fuel system - fuel grade	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - fuel grade	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - fuel grade	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - fuel grade	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - fuel substitutions	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - fuel substitutions	Can explain system or component limitations
Fuel System	Understand Fuel system - fuel substitutions	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - fuel substitutions	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - fuel substitutions	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - fuel substitutions	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - fueling and defueling procedures	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - fueling and defueling procedures	Can explain system or component limitations

Fuel System	Understand Fuel system - fueling and defueling procedures	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - fueling and defueling procedures	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - fueling and defueling procedures	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - pumps	Can explain system or component limitations
Fuel System	Understand Fuel system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - pumps	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - pumps - fuel boost pump failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - pumps - fuel boost pump failure procedure - Fuel Return Fail Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Fuel System	Understand Fuel system - transferring	Can describe the operation of the airplane systems and components using correct terminology
Fuel System	Understand Fuel system - transferring	Can explain system or component limitations

Fuel System	Understand Fuel system - transferring	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Fuel System	Understand Fuel system - transferring	Can explain immediate action items or memory items, if appropriate
Fuel System	Understand Fuel system - transferring	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Fuel System	Understand Fuel system - transferring	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - allowable types of fluid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - capacity	Can describe the operation of the airplane systems and components using correct terminology

Hydraulic System	Understand Hydraulic system - capacity	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - capacity	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - capacity	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - capacity	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - capacity	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - pressure	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - pressure	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - pressure	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - pressure	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - pressure	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - pressure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - pumps	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - pumps	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - pumps	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Hydraulic System	Understand Hydraulic system - pumps	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - pumps	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - pumps	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - regulators/accumulators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Hydraulic System	Understand Hydraulic system - reservoirs	Can describe the operation of the airplane systems and components using correct terminology
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain system or component limitations
Hydraulic System	Understand Hydraulic system - reservoirs	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Hydraulic System	Understand Hydraulic system - reservoirs	Can explain immediate action items or memory items, if appropriate
Hydraulic System	Understand Hydraulic system - reservoirs	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Hydraulic System	Understand Hydraulic system - reservoirs	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Ice Protection	Understand ground operations in icing conditions	Can explain that for aircraft type specific procedures, pilots should refer to the aircraft flight manuals or other manufacturer documents developed for that particular type aircraft
Ice Protection	Understand ground operations in icing conditions	Can explain that it is essential that the PIC have a thorough understanding of the deicing and anti-icing process and the approved procedures necessary to ensure that the aircraft is clean for takeoff.
Ice Protection	Understand Ice Protection - anti-ice & de-ice - Ice Shedding Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection - anti-ice & de-ice.	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection - pitot-static system protection	Can describe the operation of the airplane systems and components using correct terminology

Ice Protection	Understand Ice Protection - pitot-static system protection	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection - pitot-static system protection	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection - pitot-static system protection	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection airfoil surfaces	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection airfoil surfaces	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection airfoil surfaces	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection airfoil surfaces	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Ice Protection	Understand Ice Protection windshield	Can describe the operation of the airplane systems and components using correct terminology
Ice Protection	Understand Ice Protection windshield	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Ice Protection	Understand Ice Protection windshield	Can explain immediate action items or memory items, if appropriate
Ice Protection	Understand Ice Protection windshield	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Ice Protection	Understand Ice Protection windshield -	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	Windshield Cracked procedure	
Ice Protection	Understand Ice Protection windshield - Windshield Heat Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Landing Gear and Brakes	Conduct nosewheel steering - Nosewheel Steering failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - antiskid	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - brakes	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Landing Gear and Brakes	Understand Landing Gear - brakes	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - brakes	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - brakes	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - extension/retraction system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - indicators	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

Landing Gear and Brakes	Understand Landing Gear - indicators	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - indicators	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - indicators	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - nosewheel steering	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Landing Gear and Brakes	Understand Landing Gear - shock absorbers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Landing Gear and Brakes	Understand Landing Gear - tires	Can describe the operation of the airplane systems and components using correct terminology
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain system or component limitations
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Landing Gear and Brakes	Understand Landing Gear - tires	Can explain immediate action items or memory items, if appropriate
Landing Gear and Brakes	Understand Landing Gear - tires	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Landing Gear and Brakes	Understand Landing Gear - tires	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Lighting	Understand Lighting	Can describe the operation of the airplane systems and components using correct terminology
Lighting	Understand Lighting	Can explain system or component limitations
Lighting	Understand Lighting	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Lighting	Understand Lighting	Can explain immediate action items or memory items, if appropriate
Lighting	Understand Lighting	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Lighting	Understand Lighting	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**

MEL and CDL	Understand Auxiliary Power Unit (APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Automatic Dependent Surveillance – Broadcast (ADS-B) In and Out	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - autopilot	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - communication systems (e.g., data link, UHF/VHF/HF, satellite)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Electronic Flight Instrument Systems (EFIS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - emergency locator transmitter.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Avionics and communications - Flight Management System (FMS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Global Navigation Satellite System (GNSS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - ground-based navigation systems and components	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - indicating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Inertial Navigation Systems (INS)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - Radar	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - terrain awareness/warning/ alert systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Avionics and communications - traffic awareness/warning/ avoidance systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Avionics and communications - transponder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Emergency Equipment - emergency exits	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - passenger oxygen system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - circuit breakers and protection devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - controls	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - external and auxiliary power sources. (ground power and APU)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Electrical System - generators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Electrical System - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Envelope protection—angle of attack warning and protection and speed protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - cargo and passenger compartments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - electrical/avionics, and batteries (on-aircraft and personal electronic devices)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - lavatory	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fire & smoke detection, protection, and suppression - powerplant	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - elevator	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Flight Controls - flaps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - rudder	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - speed brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - spoilers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - stability augmentation system (e.g., yaw damper)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - Ailerons	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Flight Controls - trim systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - additives	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - controls and indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - cross-feeding	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Fuel system - drains	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fuel grade	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fuel substitutions	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - fueling and defueling procedures	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Fuel system - transferring	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - allowable types of fluid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - capacity	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - pressure	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - pumps	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Hydraulic system - regulators/accumulators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Hydraulic system - reservoirs	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection - anti-ice & de-ice.	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection - pitot-static system protection	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection airfoil surfaces	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Ice Protection windshield	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - antiskid	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - brakes	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - extension/retraction system	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - indicators	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - nosewheel steering	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Landing Gear - shock absorbers	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Landing Gear - tires	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Lighting	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pitot Static System - Operation and power sources for other flight instruments	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - pressurization	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Pneumatic and environmental system - supply for ice protection systems	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

MEL and CDL	Understand Powerplant - turbine wheels	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - allowable types of oil	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - compressors	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - controls and indications	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - deicing, anti-icing	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - oil system capacity and quantities	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
MEL and CDL	Understand Powerplant - thrust reverse	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Oil System	Understand Powerplant - allowable types of oil	Can describe the operation of the airplane systems and components using correct terminology
Oil System	Understand Powerplant - allowable types of oil	Can explain system or component limitations
Oil System	Understand Powerplant - allowable types of oil	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Oil System	Understand Powerplant - oil system capacity and quantities	Can describe the operation of the airplane systems and components using correct terminology
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain system or component limitations
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oil System	Understand Powerplant - oil system capacity and quantities	Can explain immediate action items or memory items, if appropriate
Oil System	Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oil System	Understand Powerplant - oil system capacity and quantities	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can explain immediate action items or memory items, if appropriate

Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - oxygen system	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can explain immediate action items or memory items, if appropriate
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system - Inadvertent Oxygen Mask Activation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand Crew and Passenger Equipment - passenger oxygen system -	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	Overweight Landing procedure	
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can describe the operation of the airplane systems and components using correct terminology
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain system or component limitations
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can explain immediate action items or memory items, if appropriate
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Oxygen	Understand Crew and Passenger Equipment - quick donning oxygen mask for crewmembers	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Oxygen	Understand determining performance with an inoperative powerplant for all	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

	phases of flight per AFM - Engine Failure Considerations procedure	
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain system or component limitations
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can explain immediate action items or memory items, if appropriate
Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Pitot-static System	Understand Pitot Static System - associated instruments and the power source for those flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can describe the operation of the airplane systems and components using correct terminology
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain system or component limitations
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can explain immediate action items or memory items, if appropriate
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pitot-static System	Understand Pitot Static System - Operation and power sources for other flight instruments	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Fire & smoke detection, protection, and suppression - pneumatic and environmental	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can explain immediate action items or memory items, if appropriate

Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - controls, indicators, and regulating devices	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - heating, cooling, ventilation	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environme	Understand Pneumatic and environmental	Can describe the operation of the airplane systems and components using correct terminology

ntal Systems	system - pressurization	
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain system or component limitations
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - pressurization - Unpressurized Flight procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can describe the operation of the airplane systems and components using correct terminology
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain system or component limitations
Pneumatic and Environme	Understand Pneumatic and environmental	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

ntal Systems	system - supply for ice protection systems	
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can explain immediate action items or memory items, if appropriate
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Pneumatic and Environmental Systems	Understand Pneumatic and environmental system - supply for ice protection systems	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Powerplant	Conduct Powerplant Start	Can describe abnormal powerplant start procedures and limitations without APU
Powerplant	Understand Powerplant - turbine wheels	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - turbine wheels	Can explain system or component limitations
Powerplant	Understand Powerplant - turbine wheels	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - turbine wheels	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - turbine wheels	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device

Powerplant	Understand Powerplant - turbine wheels	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - allowable types of oil	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - allowable types of oil	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - allowable types of oil	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - compressors	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - compressors	Can explain system or component limitations
Powerplant	Understand Powerplant - compressors	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - compressors	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - compressors	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - compressors	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - controls and indications	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - controls and indications	Can explain system or component limitations
Powerplant	Understand Powerplant -	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals

	controls and indications	
Powerplant	Understand Powerplant - controls and indications	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - controls and indications	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - controls and indications - Engine Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - controls and indications - Pylon Hot procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Powerplant	Understand Powerplant - deicing, anti-icing	Can describe the operation of the airplane systems and components using correct terminology
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain system or component limitations
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Powerplant	Understand Powerplant - deicing, anti-icing	Can explain immediate action items or memory items, if appropriate
Powerplant	Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Powerplant	Understand Powerplant - deicing, anti-icing	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**

Preflight	Conduct Interior and exterior preflight	Can explain which items must be inspected per the OEM Manuals using pictorial preflight
Preflight	Conduct Interior and exterior preflight	Can explain the reasons for checking each item during preflight
Preflight	Conduct Interior and exterior preflight	Can describe how to detect possible defects
Preflight	Conduct Interior and exterior preflight	Can explain how to coordinate checklist with crew, if appropriate
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Thrust Reverse	Understand Powerplant - thrust reverse	Can describe the operation of the airplane systems and components using correct terminology
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain system or component limitations
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Thrust Reverse	Understand Powerplant - thrust reverse	Can explain immediate action items or memory items, if appropriate
Thrust Reverse	Understand Powerplant - thrust reverse	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Thrust Reverse	Understand Powerplant - thrust reverse - Dispatch With Inoperative Thrust Reverser(s) On Wet Runways procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Thrust Reverse	Understand Powerplant - thrust reverse - Thrust Reverser Failure procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device

Thrust Reverse	Understand Powerplant - thrust reverse - Thrust Reverser Manual Stow Procedure	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Weight and Balance	Understand Avionics and communications - Electronic Flight Bag (EFB)	Can reference air carrier weight and balance procedures if applicable
Weight and Balance	Understand determining weight and balance per AFM	Can explain and demonstrate the use of charts, tables, and data to determine performance
Weight and Balance	Understand determining weight and balance per AFM	Can demonstrate proficient use of appropriate performance charts, tables, graphs, or other data to determine airplane performance and limitations for all phases of flight
Course 3	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear recognition
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear pilot technique
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff after liftoff
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway

Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter during takeoff while on the runway
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss windshear encounter on the approach
Windshear	Understand recognizing and escaping severe weather situations (windshear)	Can discuss general windshear recovery technique

Simulator Training Learning Objectives

SIM 1 Learning Objectives

SIM 1 Briefing Items

SIM 1 Tasks and Expectations

Simulator Session 1 (Initial Observation)	Brief	Crew	Single
Checking: Preflight Inspection	2.0	4.0	2.0
Checking: Start Procedures			
Checking: Taxiing/Runway Operations			
Checking: Pretakeoff Checks			
Checking: Normal Takeoff			
Checking: Area Departure			
Checking: Steep Turns			
Checking: Stall Prevention (Approaches to Stalls)			
Checking: Area Arrival			
Checking: Holding			
Checking: Normal ILS Approach			
Checking: Coupled Approach			
Checking: Nonprecision Approach			
Checking: Missed Approach from an ILS			
Checking: EFVS Approach			
Checking: Normal Landing			
Checking: Maneuver by Partial Panel			
Checking: Unusual Attitude Recovery			

SIM 2 Learning Objectives

SIM 2 Briefing Items

SIM 2 Tasks and Expectations

Simulator Session 2 (Second Checking Event)	Brief	Crew	Single
Checking: Crosswind Takeoff	2.0	4.0	2.0

Checking: Instrument Takeoff			
Checking: Takeoff with Powerplant Failure			
Checking: Rejected Takeoff			
Checking: Powerplant Failure			
Checking: Engine-out ILS			
Checking: Second Nonprecision Approach			
Checking: Second Missed Approach			
Checking: Circling Approach			
Checking: Crosswind Landing			
Checking: Landing from an ILS			
Checking: Landing with an Engine Out			
Checking: Circling Approach to Landing			
Checking: Rejected Landing			
Checking: No-flap Approach to Landing			
Checking: EFVS Landing			
Checking: System Malfunction			

SIM 3 Learning Objectives

SIM 3 Briefing Items

SIM 3 Tasks and Expectations

Simulator Session 3 (Scenario 1 or Train-to-Proficiency & Recheck)	**Brief**	**Crew**	**Single**
Scenario 1 to be developed by the training provider IAW TSWG annual guidance OR remaining checking events to be trained-to-proficiency.	2.0	4.0	2.0

SIM 4 Learning Objectives

SIM 4 Briefing Items

SIM 4 Tasks and Expectations

Simulator Session 4 (Scenario 1 or 2)	**Brief**	**Crew**	**Single**
	2.0	4.0	2.0

Scenario 2 to be developed by the training provider IAW TSWG annual guidance.			

Appendix D – Specialty Curriculum Learning Objectives

In accordance with Recommendation 6.1(c)(4), the standardized curriculum will include core curriculum elements and specialty curriculum elements. Specialty curriculum elements may not apply to all operators. Specialty curricula will be used to address training requirements associated with OpSpecs. While all operators of a particular aircraft type may not need a certain OpSpec, those who do need the OpSpec will need a pathway for training. Appendix D contains the recommended curricula for CPDLC. See section 4.2.3.3 Special Authorizations for more details. The TSWG will recommend additional specialty curricula in future recommendation reports.

G-V Standardized Curriculum
Controller Pilot Data Link Communications
Specialty Curriculum Learning Objectives

Table of Contents

CPDLC Course Overview

CPDLC Initial			
Day 1	**Planned Hours**	**Ground**	**Systems Integration**
Use of CPDLC	**4.0**	**2.0**	**2.0**
Aircraft Manuals			
Avionics and Communications			
MEL and CDL			

Data Link Communications Training

Part 135 operators should have a training program addressing the operational practices, procedures, and training items related to data link communication operations (e.g., initial, upgrade, or recurrent training for pilots, operational control personnel, and maintenance personnel). If criteria for training or checking are other than as specified in AC 90-117, the criteria may be found in Flight Standardization Board (FSB) reports applicable to a particular aircraft type.

Note: A separate training program is not required if data link communication training is integrated in the current training program. However, the applicant must identify the training elements from AC 90-117 within the existing training program.

Part 135 operators should ensure their process contains training for pilots on equipment requirements, normal and non-normal operations and procedures, and limits of their data link communication capability. Pilots must receive data communications training specific to the avionics suite they will be operating. A common type rating does not guarantee the pilot has received training on the data communications equipment installed on a particular aircraft. Operators should include the following objectives to ensure appropriate pilot data link communications qualification: (1) Provide necessary pilot knowledge of data link performance-based communication and surveillance concepts, systems, procedures, and skills to properly respond to data link communication clearances and advisories; and (2) Identify human factor issues specific to pilot operation and interaction with the communication software, hardware, and operating environment (e.g., head-down time, situational awareness, or loss of pilot response time in the Required Communication Performance (RCP) specification).

Ground School Learning Objectives

Day 1 Ground School Learning Objectives

Initial CPDLC	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Aircraft Manuals	Understand Avionics and communications - ADS – Contract (ADS-C)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components
Initial CPDLC	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Avionics and Communications	Understand Avionics and communications - ADS – Contract (ADS-C)	Can describe the operation of the airplane systems and components using correct terminology
Avionics and Communications	Understand Avionics and communications - ADS – Contract (ADS-C)	Can explain system or component limitations
Avionics and Communications	Understand Avionics and communications - ADS – Contract (ADS-C)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals
Avionics and Communications	Understand Avionics and communications - ADS – Contract (ADS-C)	Can explain immediate action items or memory items, if appropriate
Avionics and Communications	Understand Avionics and communications - ADS – Contract (ADS-C)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device
Avionics and Communications	Understand Avionics and communications - ADS – Contract (ADS-C)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device
Avionics and Communications	Understand Avionics and communications - CPDLC	Can explain AFM and AFM Supplement limitations

Initial CPDLC	**Tasks**	**Knowledge & Cognitive Learning Objectives**
MEL and CDL	Understand Avionics and communications - ADS – Contract (ADS-C)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures

Systems Integration Training Learning Objectives

SIT 1 Learning Objectives

Tasks	Knowledge & Cognitive Learning Objectives	Motor Skill Learning Objectives	Attitude Learning Objectives	Task Expectation Rating
Understand Avionics and communications - ADS – Contract (ADS-C)	Can demonstrate familiarization with the contents of OEM manuals with regard to the systems and components			High
Conduct use of CPDLC		Can execute proper use of data link communication controls, procedures, and limitations.		High
Conduct use of CPDLC		Can perform accepting, receiving, rejecting, or canceling messages		High
Conduct use of CPDLC		Can perform storing and retrieving messages		High
Conduct use of CPDLC		Can perform loading messages into appropriate controls/displays for use (e.g., flight management system (FMS)) formulating and sending messages		High

Conduct use of CPDLC			Can appreciate that departures and departure transitions are not included in the loadable route uplink and must be manually entered by the pilot into the FMS when provided in the Departure Clearance (DCL) Refer to the NAS Data Communications Guide	High
Conduct use of CPDLC		Can perform loading message requests from the FMS (e.g., flight plan waypoints into data link communication for transmission, if applicable)		High
Conduct use of CPDLC		Can perform managing the communications systems		High
Conduct use of CPDLC		Can perform establishing and terminating system operation		High
Conduct use of CPDLC		Can perform switching use of Radio Frequency (RF) media (if this is a pilot-controllable feature).		High
Conduct use of CPDLC			Can appreciate items particular to an air carrier's implementation or the uniqueness of its aircraft capability and/or procedures	High
Conduct use of CPDLC		Can identify applicable message sets, expected transmission times, failure annunciations, constraints, and limitations		High

Conduct use of CPDLC		Can perform logon/notification procedures and reestablishing system operation after loss of network logon/notification		High
Conduct use of CPDLC			Can apply CRM in responding to data link communication exchanges	High
Conduct use of CPDLC		Can identify data link communication modes of operation		High
Conduct use of CPDLC		Can perform normal and non-normal pilot operating procedures		High
Conduct use of CPDLC		Can execute conditional clearances and the adherence to certain conditions or restrictions such as changing a flight level based on a time or place		High
Conduct use of CPDLC		Can interpret display features		High
Conduct use of CPDLC		Can execute weather deviations, offsets, and waypoint sequencing		High
Conduct use of CPDLC		Can interpret advisories and annunciation.		High
Conduct use of CPDLC		Can perform timely and correct responses to data link communication failures		High
Conduct use of CPDLC		Can recognize data link communications system failures and data link communication issues		High

		unique to the air carrier or operator.		
Conduct use of CPDLC			Can appreciate appropriate interaction with the Air Traffic Service Unit (ATSU) following data link communication messages that are not acceptable	High
Conduct use of CPDLC			Can apply Crew Resource Management (CRM) of independent message verification, discussion, and action	High
Understand Avionics and communications - ADS – Contract (ADS-C)	Can describe the operation of the airplane systems and components using correct terminology			High
Understand Avionics and communications - ADS – Contract (ADS-C)	Can explain system or component limitations			High
Understand Avionics and communications - ADS – Contract (ADS-C)	Can explain all notes cautions or warnings listed in the OEM manuals & OEM manuals			High
Understand Avionics and communications - ADS –	Can explain immediate action items or memory			High

Contract (ADS-C)	items, if appropriate			
Understand Avionics and communications - ADS – Contract (ADS-C)	Can use the appropriate checklists and ABNORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem, or device			High
Understand Avionics and communications - ADS – Contract (ADS-C)	Can use the appropriate checklists and NORMAL procedures to demonstrate or describe the proper use of the airplane system, subsystem or device			High
Understand Avionics and communications - ADS – Contract (ADS-C)			Can identify, assess, and manage risks encompassing failure to detect system malfunctions or failures.	High
Understand Avionics and communications - ADS –			Can identify, assess, and manage risks encompassing failure to	High

Contract (ADS-C)			follow appropriate checklists or procedures	
Understand Avionics and communications - ADS – Contract (ADS-C)			Can identify, assess, and manage risks encompassing improper management of a system failure	High
Understand Avionics and communications - ADS – Contract (ADS-C)			Can identify, assess, and manage risks encompassing failure to monitor and manage automated systems.	High
Understand Avionics and communications - CPDLC	Can explain AFM and AFM Supplement limitations			High
Understand Avionics and communications - ADS – Contract (ADS-C)	Can apply the use of a Minimum Equipment List (MEL) and a Configuration Deviation List (CDL) to document inoperative components of this system and explain related procedures			High

Appendix E – Differences Courses Learning Objectives

G-V Standardized Curriculum Differences Training Learning Objectives

Table of Contents

Differences Course Overviews

Differences GIV-X to GV-SP					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	1.5	0.5	0.5	0.5
Differences: Avionics and Communications					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Landing Gear and Brakes					
Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Thrust Reverse					
Differences: Flight Profiles and Maneuvers					

Differences GV-SP to GIV-X					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	2.0	1.0	0.0	0.0
Differences: Avionics and Communications					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Landing Gear and Brakes					
Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Thrust Reverse					

Differences GIV-X to GV					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent

Differences: Aircraft General	All systems will be covered.	2.0	1.0	2.0	1.0
Differences: Pneumatic and Environmental Systems					
Differences: Avionics and Communications					
Differences: Electrical System					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Landing Gear and Brakes					
Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Thrust Reverse					

Differences GV to GIV-X					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	3.0	1.5	3.0	1.5
Differences: Pneumatic and Environmental Systems					
Differences: Avionics and Communications					
Differences: Electrical System					
Differences: Flight Controls					
Differences: Fuel System					
Differences: Hydraulic System					
Differences: Ice Protection					
Differences: Auxiliary Power Unit					
Differences: Powerplant					

Differences GV to GV-SP					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	3.0	1.5	3.0	1.5
Differences: Pneumatic and Environmental Systems					
Differences: Avionics and Communications					
Differences: Electrical System					
Differences: Flight Controls					

Differences: Auxiliary Power Unit					
Differences: Powerplant					
Differences: Flight Profiles and Maneuvers					

Differences GV-SP to GV					
Day 1	**Planned Hours**	**Ground**		**Systems Integration**	
		Initial	Recurrent	Initial	Recurrent
Differences: Aircraft General	All systems will be covered.	2.0	1.0	2.0	1.0
Differences: Avionics and Communications					
Differences: Electrical System					
Differences: Flight Controls					
Differences: Auxiliary Power Unit					
Differences: Powerplant					

Differences Training

Due to differences in instrumentation and installed equipment, the skills and knowledge required to operate a variation(s) of an aircraft type can differ. The range of differences between variations of an aircraft type can be significant due to technological advancements. Flightcrew members trained on one variation of an aircraft type may require additional training to safely and efficiently operate another variation(s) of that aircraft type.

In accordance with 14 CFR part 135 subpart H, differences training is required if a flightcrew member will serve on a variation(s) of a particular aircraft type that has pertinent differences from the base aircraft type. The base aircraft type and the variation(s) must have the same type certificate (TC). Related aircraft differences training applies to aircraft with different TCs that have been designated as related by the Administrator.

The differences training programs outlined below are based on the Flight Standardization Board's Master Differences Requirements (MDR) and Differences Tables. These tables address Levels A, B, and C differences.

Level A differences are those differences of which the flightcrew member needs to be aware, but which have little effect on systems operations. For example, an engine starter on one variation has different time limits but does not have differences in controls, indicators, function, or procedures. Self-instruction methods, such as highlighted pages of operating manuals or training bulletins, are acceptable for these differences. For Level A differences, checking is not required.

Level B differences are those differences in systems, controls, and indicators that have only minor procedural differences. Level B differences are of great enough degree to require formal training in general operational subjects, aircraft systems, or both, but are not of great enough degree to require systems integration training. An example of a Level B difference is a fuel system with additional fuel tanks, pumps, and gauges. Procedural differences are limited to the operation of transfer valves and pumps while an aircraft is in cruise flight. Appropriate instructional methods for Level B differences include, but are not limited to, audiovisual presentations, lectures, and tutorial computer-based instruction (TCBI). A task or systems check for Level B differences must be conducted after training. Appropriate methods include an oral or written exam or TCBI self-test.

Level C differences are part task differences of flightcrew member knowledge, skills, and/or abilities. Level C differences are those differences of great enough degree to require a systems integration training module but that are not of great enough degree to require actual flight training (see Volume 3, Chapter 19, Section 5 for a definition and description of systems integration training). An example of a Level C difference is the installation of a flight management system (FMS) computer. Appropriate training methods in the systems integration module are dedicated part task trainers, interactive computer-based instruction (ICBI), or Level 4 or higher flight simulation training devices (FSTD). Level C differences require a check following training. Appropriate devices are the same as for Level C training. Checking methods appropriate to Level C differences are demonstrations of skill in the procedures affected by the difference. In the case of the installation of an FMS computer, checking might consist of preflight programming of the computer and a demonstration of its use in navigation, climbs, and descents.

Differences GIV-X to GV-SP

Ground School Learning Objectives

Differences GIV-X to GV-SP	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Aircraft General	Understand Differences GIV-X to GV-SP - Limitations	Can explain the maximum takeoff weight (MTOW) increased to 91,000 lb from 73,900 lb. MLW increased to 75,300 lb from 66,000 lb. Fuel quantity 41,300 lb vs. 29,500 lb. APU and Engine limitations differences.
Differences: Aircraft General	Understand Differences GIV-X to GV-SP - Aircraft General	Can explain MTOW 91,000 lb. Increase of 17,100 lb.
Differences: Auxiliary Power Unit	Understand Differences GIV-X to GV-SP - Airborne Auxiliary Power	Can explain the different APU installed, RE220 vs. 36-150, both supplied by Honeywell.
Differences: Auxiliary Power Unit	Understand Differences GIV-X to GV-SP - Airborne Auxiliary Power	Can explain bleeds off takeoff capability added.
Differences: Auxiliary Power Unit	Understand Differences GIV-X to GV-SP - Airborne Auxiliary Power	Can explain the starter-assisted airstart capability for main engines.
Differences: Auxiliary Power Unit	Understand Differences GIV-X to GV-SP - Airborne Auxiliary Power	Can explain the bleeds off takeoff capability added.
Differences: Avionics and Communications	Understand Differences GIV-X to GV-SP - Communications	Can explain the Selective Call (SELCAL) Test and

		CVR Test switches relocated.
Differences: Avionics and Communications	Understand Differences GIV-X to GV-SP - Communications	Can explain the SELCAL and CVR test switches different test methodology.
Differences: Flight Controls	Understand Differences GIV-X to GV-SP - Flight Controls	Can explain the split flight controls added.
Differences: Flight Controls	Understand Differences GIV-X to GV-SP - Flight Controls	Can explain trailing edge contours added to inboard trailing edge of flaps.
Differences: Flight Controls	Understand Differences GIV-X to GV-SP - Flight Controls	Can explain no Alternate Flap Switch.
Differences: Flight Controls	Understand Differences GIV-X to GV-SP - Flight Controls	Can explain standby rudder and nosewheel steering on auxiliary (AUX) pump capability.
Differences: Flight Controls	Understand Differences GIV-X to GV-SP - Flight Controls	Can explain the Spoiler Control switch added. Can explain the Lateral Control Switch deleted.
Differences: Flight Controls	Understand Differences GIV-X to GV-SP - Flight Controls	Can explain the vortex generators added to lower horizontal stabilizer surfaces and upper elevator surfaces.
Differences: Flight Profiles and Maneuvers	Understand Differences GIV-X to GV-SP - Normal Takeoff	Can explain a Bleeds Off normal takeoff.
Differences: Fuel System	Understand Differences GIV-X to GV-SP - Fuel	Can explain Heated Fuel Return System.

Differences: Hydraulic System	Understand Differences GIV-X to GV-SP - Hydraulic Power	Can explain AUX Hydraulic Boost Pump added.
Differences: Ice Protection	Understand Differences GIV-X to GV-SP - Ice and Rain Protection	Can explain Pitot Probe Heat System changed.
Differences: Landing Gear and Brakes	Understand Differences GIV-X to GV-SP - Landing Gear	Can explain four brake wear indicator pins vs. two and weight on wheels (WOW) switches.
Differences: Powerplant	Understand Differences GIV-X to GV-SP - Powerplant	Can explain thrust increased by 1,535 lb to 15,385 lb.
Differences: Powerplant	Understand Differences GIV-X to GV-SP - Powerplant	Can explain the BR710 installed vs. the Tay 611-8C.
Differences: Thrust Reverse	Differences: Thrust Reverse	Can explain the thrust Reverser Manual Stow switches (two) installed.

Systems Integration Training Learning Objectives

Differences GIV-X to GV-SP	**Tasks**	**Knowledge & Cognitive Learning Objectives**	**Differences GIV-X to GV-SP SIT**
Differences: Flight Controls	Understand Differences GIV-X to GV-SP - Flight Controls	Can explain the split flight controls added.	High

Qualification Segment

Differences GIV-X to GV-SP	**135.293(a)(2) Differences GIV-X to GV-SP**	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Flight Controls	Differences Level B	Understand Differences GIV-X to	Can explain the Spoiler Control

		GV-SP - Flight Controls	switch added. Can explain the Lateral Control Switch deleted.

Differences GV-SP to GIV-X

Ground School Learning Objectives

Differences GV-SP to GIV-X	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Aircraft General	Understand Differences GV-SP to GIV-X - Limitations	Can explain the MTOW decreased by 17,100 lb to 73,900 lb. MLW decreased to 66,000 lb. Fuel quantity 29,500 lb vs. 41,300 lb. APU and engine limitations differences.
Differences: Aircraft General	Understand Differences GV-SP to GIV-X - Aircraft General Performance	Can explain the MTOW 17,100 lb decrease to 73,900 lb.
Differences: Auxiliary Power Unit	Understand Differences GV-SP to GIV-X - Airborne Auxiliary Power	Can explain the different APU installed, RE220 vs. 36-150, both supplied by Honeywell.
Differences: Auxiliary Power Unit	Understand Differences GV-SP to GIV-X - Airborne Auxiliary Power	Can explain no Bleeds Off takeoff capability.
Differences: Avionics and Communications	Understand Differences GV-SP to GIV-X - Communications	Can explain the SELCAL Test and CVR Test switches relocated.
Differences: Avionics and Communications	Understand Differences GV-SP to GIV-X - Communications	Can explain the SELCAL and CVR test switches different test methodology.
Differences: Flight Controls	Understand Differences GV-SP to GIV-X - Flight Controls	Can explain the Lateral Control switch added. Can explain the Spoiler Control Switch deleted.
Differences: Flight Controls	Understand Differences GV-SP to GIV-X - Flight Controls	Can explain the Alternate Flap Control switch added.

Differences: Flight Controls	Understand Differences GV-SP to GIV-X - Flight Controls	Can explain no split flight controls.
Differences: Flight Controls	Understand Differences GV-SP to GIV-X - Flight Controls	Can explain trailing edge contours not installed.
Differences: Flight Controls	Understand Differences GV-SP to GIV-X - Flight Controls	Can explain no standby rudder and no nosewheel steering on AUX pump capability.
Differences: Flight Controls	Understand Differences GV-SP to GIV-X - Flight Controls	Can explain the vortex generators deleted from lower horizontal stabilizer surfaces and upper elevator surfaces.
Differences: Fuel System	Understand Differences GV-SP to GIV-X - Fuel	Can explain no Heated Fuel Return System installed.
Differences: Hydraulic System	Understand Differences GV-SP to GIV-X - Hydraulic Power	Can explain the AUX Hydraulic Boost Pump deleted.
Differences: Ice Protection	Understand Differences GV-SP to GIV-X - Ice and Rain Protection	Can explain the Pitot Probe Heat System changed.
Differences: Landing Gear and Brakes	Understand Differences GV-SP to GIV-X - Landing Gear	Can explain two brake wear indicator pins vs. Four.
Differences: Powerplant	Understand Differences GV-SP to GIV-X - Powerplant	Can explain the thrust decreased 1,535 lb to 13,850 lb.
Differences: Powerplant	Understand Differences GV-SP to GIV-X - Powerplant	Can explain the Tay 611-8C installed vs. the BR710.
Differences: Thrust Reverse	Understand Differences GV-SP to GIV-X - Engine Exhaust	Can explain no Manual Thrust Reverser Stow switches installed.

Systems Integration Training Learning Objectives

None.

Qualification Segment

None.

Differences GIV-X to GV

Ground School Learning Objectives

Differences GIV-X to GV	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Aircraft General	Understand Differences GIV-X to GV - Limitations	Can explain the MTOW increased to 90,500 lb from 73,900 lb.
Differences: Aircraft General	Understand Differences GIV-X to GV - Aircraft General	Can explain the MTOW 90,500 lb. Increase of 16,600 lb.
Differences: Aircraft General	Understand Differences GIV-X to GV - Aircraft General	Can explain the observer seat and location changed.
Differences: Aircraft General	Understand Differences GIV-X to GV -Doors	Can explain the Main Door moved aft 24 in.
Differences: Aircraft General	Understand Differences GIV-X to GV -Doors	Can explain the Aft Lavatory Dump Door relocated.
Differences: Auxiliary Power Unit	Understand Differences GIV-X to GV - Airborne Auxiliary Power	Can explain the different APU installed with capability for APU-assisted main engine airstart and different electrical load capabilities.
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Autoflight	Can explain the TOGA Flight Director Command Bars initiate at 12° vs. 8° on GIV-X.
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Communications	Can explain the New Audio System.
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Communications	Can explain the Radio Tuning Through Radio Frequency Management Unit (RFMU).
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Indicating/Recording Systems	Can explain the Standby Engine Instrument on RFMU.
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Indicating/Recording Systems	Can explain the Data Acquisition Unit (DAU) and Fault Warning Computer (FWC) replaces Modular Avionics Unit (MAU).

Differences: Avionics and Communications	Understand Differences GIV-X to GV - Indicating/Recording Systems	Can explain DC.
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Indicating/Recording Systems	Can explain the Electronic Checklist Auto Pop-up Feature enabled.
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain the Inertial Reference System (IRS) ON/OFF switches removed and replaced with Mode Select Unit switches.
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain the EICAS FMS Joystick Panel.
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain the Six DUs vs. four DUs.
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain no CCDs Used in Conjunction with Displays.
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain the Horizontal Situation Indicator (HSI) on RFMU.
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain LaserTrack.
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain the Standby Flight instruments have different design and location.
Differences: Electrical System	Understand Differences GIV-X to GV - Electrical Power	Can explain the revised location of Power Distribution Box (PDB) circuit breaker panels.
Differences: Flight Controls	Understand Differences GIV-X to GV - Flight Controls	Can explain the split flight controls added.
Differences: Flight Controls	Understand Differences GIV-X to GV - Flight Controls	Can explain no Alternate Flap Switch.
Differences: Flight Controls	Understand Differences GIV-X to GV - Flight Controls	Can explain no Standby Rudder installed with nosewheel steering on the AUX pump capability (including AUX PUMP ground spoiler pressure).
Differences: Flight Controls	Understand Differences GIV-X to GV - Flight Controls	Can explain Spoiler Control Switch added. Can explain Lateral Control Switch deleted.

Differences: Flight Controls	Understand Differences GIV-X to GV - Flight Controls	Can explain the vortex generators added to lower horizontal stabilizer surfaces and upper elevator surfaces.
Differences: Fuel System	Understand Differences GIV-X to GV - Fuel	Can explain the Heated Fuel Return System added.
Differences: Hydraulic System	Understand Differences GIV-X to GV - Hydraulic Power	Can explain the AUX Hydraulic Boost Pump added.
Differences: Ice Protection	Understand Differences GIV-X to GV - Ice and Rain Protection	Can explain the Pitot Probe Heat System changed.
Differences: Landing Gear and Brakes	Understand Differences GIV-X to GV - Landing Gear	Can explain the four brake wear indicator pins vs. two and WOW switches.
Differences: Pneumatic and Environmental Systems	Understand Differences GIV-X to GV - Air Conditioning	Can explain the Environmental Control System Outflow valve changed to butterfly valve.
Differences: Powerplant	Understand Differences GIV-X to GV - Powerplant	Can explain the thrust increased by 900 lb to 14,750 lb.
Differences: Powerplant	Understand Differences GIV-X to GV - Powerplant	Can explain the BR710 vs. the Tay 611-8C Installed.
Differences: Thrust Reverse	Understand Differences GIV-X to GV - Engine Exhaust	Can explain the two Thrust Reverser Manual Stow Switches installed.

Systems Integration Training Learning Objectives

Differences GIV-X to GV	**Tasks**	**Knowledge & Cognitive Learning Objectives**	**Differences GIV-X to GV SIT**
Differences: Auxiliary Power Unit	Understand Differences GIV-X to GV - Airborne Auxiliary Power	Can explain the different APU installed with capability for APU-assisted main engine airstart and different electrical load capabilities.	High
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Autoflight	Can explain the TOGA Flight Director Command	High

		Bars initiate at 12° vs. 8° on GIV-X.	
Differences: Avionics and Communications	Understand Differences GIV-X to GV - Communications	Can explain the Radio Tuning Through Radio Frequency Management Unit (RFMU).	High
Differences: Avionics and Communications	Understand Differences GIV-X to GV- Navigation	Can explain LaserTrack.	High
Differences: Flight Controls	Understand Differences GIV-X to GV - Flight Controls	Can explain no Standby Rudder installed with nosewheel steering on the AUX pump capability (including AUX PUMP ground spoiler pressure).	High
Differences: Flight Controls	Understand Differences GIV-X to GV - Flight Controls	Can explain Spoiler Control Switch added. Can explain Lateral Control Switch deleted.	High
Differences: Fuel System	Understand Differences GIV-X to GV - Fuel	Can explain the Heated Fuel Return System added.	High

Qualification Segment

None.

Differences GV to GIV-X

Ground School Learning Objectives

Differences GV to GIV-X	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Aircraft General	Understand Differences GV to GIV-X - Limitations	Can explain the MTOW decreased to 73,900 lb from 90,500 lb. Fuel Quantity 29,500 lb vs. 41,300 lb. APU and engine limitations differences.

Differences: Aircraft General	Understand Differences GV to GIV-X - Aircraft General	Can explain the MTOW 73,900 lb. Decrease of 16,600 lb.
Differences: Aircraft General	Understand Differences GV to GIV-X - Aircraft General	Can explain the observer seat and location changed.
Differences: Aircraft General	Understand Differences GV to GIV-X - Doors	Can explain the Main Door moved forward 24 in.
Differences: Aircraft General	Understand Differences GV to GIV-X - Doors	Can explain the Aft Lavatory Dump Door relocated.
Differences: Auxiliary Power Unit	Understand Differences GV to GIV-X - Airborne Auxiliary Power	Can explain the different APU installed with no capability for APU-assisted main engine airstart and different electrical load capabilities.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Autoflight	Can explain the TOGA Flight Director Command Bars initiate at 8° vs. 12° on GV.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Communications	Can explain the New Audio System.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Communications	Can explain the Radio Tuning Through MCDU and graphically.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Communications	Can explain the SELCAL test and CVR test switches relocated.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Indicating/Recording Systems	Can explain the Electronic Checklist Auto Pop-up Feature deleted.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Indicating/Recording Systems	Can explain the Standby Engine Instruments on MCDU.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Indicating/Recording Systems	Can explain the DAU and FWC replaced by MAU.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Indicating/Recording Systems	Can explain the DC.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Navigation	Can explain the IRS Mode Select Unit switches removed and replaced with ON/OFF switches.

Differences: Avionics and Communications	Understand Differences GV to GIV-X - Navigation	Can explain the four DUs vs. six DUs.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Navigation	Can explain the added Dual CCDs used in Conjunction with Displays.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Navigation	Can explain the LaserTrack removed.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Navigation	Can explain the Standby Flight instruments have different design and location.
Differences: Avionics and Communications	Understand Differences GV to GIV-X - Navigation	Can explain the MCDU on Emergency Power.
Differences: Electrical System	Understand Differences GV to GIV-X - Electrical Power	Can explain the revised location of PDB circuit breaker panels.
Differences: Flight Controls	Understand Differences GV to GIV-X - Flight Controls	Can explain the Lateral Control switch added. Can explain the Spoiler Control Switch deleted.
Differences: Flight Controls	Understand Differences GV to GIV-X - Flight Controls	Can explain no Standby Rudder installed or nosewheel steering on the AUX pump capability.
Differences: Flight Controls	Understand Differences GV to GIV-X - Flight Controls	Can explain no split flight controls.
Differences: Flight Controls	Understand Differences GV to GIV-X - Flight Controls	Can explain the vortex generators deleted from lower horizontal stabilizer surfaces and upper elevator surfaces.
Differences: Flight Controls	Understand Differences GV to GIV-X - Flight Controls	Can explain the Alternate Flap Switch added.
Differences: Fuel System	Understand Differences GV to GIV-X - Fuel	Can explain no Heated Fuel Return System.
Differences: Hydraulic System	Understand Differences GV to GIV-X- Hydraulic Power	Can explain no AUX Hydraulic Boost Pump.
Differences: Ice Protection	Understand Differences GV to GIV-X - Ice and Rain Protection	Can explain the Pitot Probe Heat System changed.
Differences: Pneumatic and Environmental Systems	Understand Differences GV to GIV-X - Air Conditioning	Can explain the Environmental Control System Outflow valve changed to thrust recovery outflow valve.

Differences: Powerplant	Understand Differences GV to GIV-X - Powerplant	Can explain the thrust decreased by 900 lb to 13,850 lb.

Systems Integration Training Learning Objectives

Differences GV to GIV-X	**Tasks**	**Knowledge & Cognitive Learning Objectives**	**Differences GV to GIV-X SIT**
Differences: Auxiliary Power Unit	Understand Differences GV to GIV-X - Airborne Auxiliary Power	Can explain the different APU installed with no capability for APU-assisted main engine airstart and different electrical load capabilities.	High
Differences: Electrical System	Understand Differences GV to GIV-X - Electrical Power	Can explain the revised location of PDB circuit breaker panels.	High
Differences: Flight Controls	Understand Differences GV to GIV-X - Flight Controls	Can explain no Standby Rudder installed or nosewheel steering on the AUX pump capability.	High
Differences: Flight Controls	Understand Differences GV to GIV-X - Flight Controls	Can explain no split flight controls.	High

Qualification Segment

Differences GV to GIV-X	**135.293(a)(2) Differences GV to GIV-X**	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Avionics and Communications	Differences Level B	Understand Differences GV to GIV-X - Communications	Can explain the SELCAL test and CVR test switches relocated.

Differences: Flight Controls	Differences Level B	Understand Differences GV to GIV-X - Flight Controls	Can explain no Standby Rudder installed or nosewheel steering on the AUX pump capability.
Differences: Flight Controls	Differences Level B	Understand Differences GV to GIV-X - Flight Controls	Can explain no split flight controls.
Differences: Fuel System	Differences Level B	Understand Differences GV to GIV-X - Fuel	Can explain no Heated Fuel Return System.

Differences GV to GV-SP

Ground School Learning Objectives

Differences GV to GV-SP	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Aircraft General	Understand Differences GV to GV-SP - Limitations Systems	Can explain the MTOW increased to 91,000 lb from 90,500 lb.
Differences: Aircraft General	Understand Differences GV to GV-SP - Aircraft General Systems	Can explain the MTOW 91,000 lb. Increase of 500 lb.
Differences: Aircraft General	Understand Differences GV to GV-SP - Equipment/Furnishings	Can explain the redesign and relocation of cockpit observer's seat to behind Co-Pilot's seat.
Differences: Aircraft General	Understand Differences GV to GV-SP -Water/Waste	Can explain the fuselage conformal fresh water tank.
Differences: Aircraft General	Understand Differences GV to GV-SP -Water/Waste	Can explain the relocation of vacuum lavatory waste tank from baggage compartment to above APU.
Differences: Aircraft General	Understand Differences GV to GV-SP - Doors	Can explain the Main Door moved forward 24 in.
Differences: Aircraft General	Understand Differences GV to GV-SP - Doors	Can explain Aft Lavatory Dump Door relocated.

Differences: Aircraft General	Understand Differences GV to GV-SP - Fuselage	Can explain the 27 Boundary Layer Energizers added above the canopy.
Differences: Aircraft General	Understand Differences GV to GV-SP - Windows	Can explain the addition of 7th cabin window.
Differences: Aircraft General	Understand Differences GV to GV-SP - Wings	Can explain the seven Vortex Generators relocated outboard on each wing.
Differences: Auxiliary Power Unit	Understand Differences GV to GV-SP - Airborne Auxiliary Power	Can explain the bleeds off takeoff capability added.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Autoflight Systems	Can explain the TOGA Flight Director Command Bars initiate at 8° vs. 12° on GV.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Communications	Can explain the New Audio System.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Communications	Can explain the Radio Tuning Through MCDU and graphically.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the Electronic Checklist Auto Pop-up Feature deleted.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the DAU and FWC replaced by MAU.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the Standby Engine Parameters available on No. 1 MCDU only.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the different formatting on some synoptic displays.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the IRS Mode Select Unit switches removed and replaced with ON/OFF switches.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the four DUs vs. Six DUs with different formatting.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the added Dual CCDs Used in Conjunction with Displays.

Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the DCs have different menus.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the Standby Flight instruments have different design and location.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the DU Controller has four overhead switches instead of three.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the RNP and Estimated Position Uncertainty (EPU) is displayed on PFD.
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Navigation	Can explain the MCDU on Emergency Power.
Differences: Electrical System	Understand Differences GV to GV-SP - Electrical Power	Can explain the revised location of PDB circuit breaker panels.
Differences: Flight Controls	Understand Differences GV to GV-SP - Flight Controls	Can explain the trailing edge contours added to inboard trailing edge of flaps.
Differences: Flight Profiles and Maneuvers	Understand Differences GV to GV-SP - Normal Takeoff	Can explain the Bleeds Off normal takeoff.
Differences: Pneumatic and Environmental Systems	Understand Differences GV to GV-SP - Air Conditioning Systems	Can explain the Environmental Control System Outflow valve changed to thrust recovery outflow valve.
Differences: Powerplant	Understand Differences GV to GV-SP - Powerplant	Can explain the thrust increased by 635 lb to 15,385 lb.

Systems Integration Training Learning Objectives

Differences GV to GV-SP	**Tasks**	**Knowledge & Cognitive Learning Objectives**	**Differences GV to GV-SP SIT**
Differences: Aircraft General	Understand Differences GV to GV-SP - Water/Waste	Can explain the relocation of vacuum lavatory waste tank from baggage	High

		compartment to above APU.	
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the Electronic Checklist Auto Pop-up Feature deleted.	High
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the DAU and FWC replaced by MAU.	High
Differences: Avionics and Communications	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the Standby Engine Parameters available on No. 1 MCDU only.	High

Qualification Segment

Differences GV to GV-SP	**135.293(a)(2) Differences GV to GV-SP**	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Avionics and Communications	Differences Level B	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the Electronic Checklist Auto Pop-up Feature deleted.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the DAU and FWC replaced by MAU.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV to GV-SP - Indicating/Recording Systems	Can explain the different formatting on some synoptic displays.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV to GV-SP - Navigation	Can explain the IRS Mode Select Unit switches removed and replaced with ON/OFF switches.

Differences: Avionics and Communications	Differences Level B	Understand Differences GV to GV-SP - Navigation	Can explain the added Dual CCDs Used in Conjunction with Displays.

Differences GV-SP to GV

Ground School Learning Objectives

Differences GV-SP to GV	Tasks	Knowledge & Cognitive Learning Objectives
Differences: Aircraft General	Understand Differences GV-SP to GV - Limitations	Can explain the MTOW decreased by 500 lb to 90,500 lb.
Differences: Aircraft General	Understand Differences GV-SP to GV - Aircraft General	Can explain the MTOW 500 lb decrease to 90,500 lb.
Differences: Aircraft General	Understand Differences GV-SP to GV - Aircraft General	Can explain the Environmental Control System Outflow valve changed to butterfly style.
Differences: Aircraft General	Understand Differences GV-SP to GV - Equipment/Furnishings	Can explain the redesign and relocation of cockpit observer's seat to behind Captain's seat.
Differences: Aircraft General	Understand Differences GV-SP to GV - Water/Waste	Can explain the non-fuselage conformal fresh water tank.
Differences: Aircraft General	Understand Differences GV-SP to GV - Water/Waste	Can explain the relocation of vacuum lavatory waste tank from above APU to baggage compartment.
Differences: Aircraft General	Understand Differences GV-SP to GV - Doors	Can explain the Main Door moved aft 24 in.
Differences: Aircraft General	Understand Differences GV-SP to GV - Doors	Can explain the Aft Lavatory Dump Door relocated.
Differences: Aircraft General	Understand Differences GV-SP to GV - Fuselage	Can explain the 27 Boundary Layer Energizers removed from the canopy.
Differences: Aircraft General	Understand Differences GV-SP to GV - Windows	Can explain the removal of 7th cabin window.

Differences: Aircraft General	Understand Differences GV-SP to GV - Wings	Can explain seven vortex generators relocated inboard on each wing.
Differences: Auxiliary Power Unit	Understand Differences GV-SP to GV - Airborne Auxiliary Power	Can explain no Bleeds Off takeoff capability.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Autoflight	Can explain the TOGA Flight Director Command Bars initiate at 12° vs. 8° on GV-SP.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Communications	Can explain the New audio system.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Communications	Can explain the Radio tuning accomplished through RFMUs.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the Electronic Checklist has Auto pop-up Feature vs. passive checklist on GV-SP.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the MAU replaced by DAU and FWC.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the Engine Parameters available on either RFMU.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the different formatting on some synoptic displays.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the EICAS FMS Joystick Panel.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the LaserTrack.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the IRS ON/OFF switches replaced with IRS Mode Select Unit switches.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the six DUs vs. four DUs with different formatting.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain no CCDs installed.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the DCs have different menus.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the Standby Flight instruments have

		different design and location.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the DU Controller has three overhead switches instead of four.
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the RNP and EPU are not displayed on PFD.
Differences: Electrical System	Understand Differences GV-SP to GV - Electrical Power	Can explain the revised location of PDBs and associated circuit breakers.
Differences: Flight Controls	Understand Differences GV-SP to GV - Flight Controls	Can explain the trailing edge contours not installed.
Differences: Powerplant	Understand Differences GV-SP to GV - Powerplant	Can explain the thrust reduced 635 lb to 14,750 lb.

Systems Integration Training Learning Objectives

Differences GV-SP to GV	**Tasks**	**Knowledge & Cognitive Learning Objectives**	**Differences GV-SP to GV SIT**
Differences: Aircraft General	Understand Differences GV-SP to GV - Water/Waste	Can explain the non-fuselage conformal fresh water tank.	High
Differences: Aircraft General	Understand Differences GV-SP to GV - Water/Waste	Can explain the relocation of vacuum lavatory waste tank from above APU to baggage compartment.	High
Differences: Aircraft General	Understand Differences GV-SP to GV - Wings	Can explain seven vortex generators relocated inboard on each wing.	High
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Communications	Can explain the Radio tuning accomplished through RFMUs.	High
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the MAU replaced by DAU and FWC.	High

Differences: Avionics and Communications	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the Engine Parameters available on either RFMU.	High
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the different formatting on some synoptic displays.	High
Differences: Avionics and Communications	Understand Differences GV-SP to GV - Navigation	Can explain the LaserTrack.	High

Qualification Segment

Differences GV-SP to GV	**135.293(a)(2) Differences GV-SP to GV**	**Tasks**	**Knowledge & Cognitive Learning Objectives**
Differences: Aircraft General	Differences Level B	Understand Differences GV-SP to GV - Wings	Can explain seven vortex generators relocated inboard on each wing.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV-SP to GV - Communications	Can explain the Radio tuning accomplished through RFMUs.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the MAU replaced by DAU and FWC.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the Engine Parameters available on either RFMU.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV-SP to GV - Indicating/Recording Systems	Can explain the different formatting on some synoptic displays.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV-SP to GV - Navigation	Can explain the LaserTrack.
Differences: Avionics and Communications	Differences Level B	Understand Differences GV-SP to GV - Navigation	Can explain the IRS ON/OFF switches replaced with IRS Mode

			Select Unit switches.

Appendix F – ACT ARC Recommendation 16-1