2025

2025 Course Catalog

Engineering Designee Training Program

January 2025

Enterprise Operations Division
Training Development Section, AIR-942

Course Catalog for Recurrent Training Electives

Section 508 Compliant

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Use of the information provided in this document is for general reference only. This document can be superseded at any time by the next revision.

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Recurrent Training Electives - 2025

Choose from the list of applicable courses by discipline; or browse directly through the course descriptions in numerical order HERE.

NOTE: Courses listed have been reviewed by Subject Matter Experts and are current for use with the 2025 curriculum. Courses under revision are indicated by [*Availability Month/year]. Courses updated are indicated by [month/year]. New courses are listed as [*NEW]*.

Electrical | Flight Test | Mechanical Systems | Propulsion | Structures | Acoustics

Electrical Library

Prerequisite Course

(27200187) 2025 Engineering Designee Recurrent General Training Overview (1 Hour)

Electives (Select 1)

(25815) NextGen Advanced Navigation (4 Hours)
(27200019) Fundamentals of Risk Analysis (3 Hours)
(27200043) Electrical: Systems Aspects of Certification (2 Hours)
(27200050) Software Job Functions: Legacy System Software (3 Hours)
(27200100) Head Up Displays (HUD) and Vision Systems (1 Hour)
(27200103) Software Job Functions: Model-Based Development (6 Hours)
(27200106) Electrical: Electronic Flight Bag Policy Overview (1.5 Hours)
(27200110) Mechanical: Post Maintenance Functional Tests (1.5 Hours)
(27200116) Electrical: System Safety Analysis (2 Hours)
(27200118) Electrical: ADS-B Installations (1 Hour)
(27200131) Part 23: A Performance-based Approach to Type Certification of Small Airplanes (2.5 Hours)
(27200143) Electrical: Aircraft Systems Information Security Protection (ASISP) (1 Hour)
(27200168) Understanding the US/EU Aviation Safety Agreement (6 Hours)

Flight Test Library

Prerequisite Course

(27200187) 2025 Engineering Designee Recurrent General Training Overview (1 Hour)

Electives (Select 1)

(25815) NextGen Advanced Navigation (4 Hours)
(27200019) Fundamentals of Risk Analysis (3 Hours)
(27200069) Flight Test: Risk Management Update (30 minutes)
(27200070) Flight Test: Considerations for EMC Certification (30 minutes)
(27200100) Head Up Displays (HUD) and Vision Systems (1 Hour)
(27200108) Flight Test: Takeoff and Landing Performance Assessment (TALPA) Advisory Circulars (3 Hours)
(27200110) Mechanical: Post Maintenance Functional Tests (1.5 Hours)
(27200131) Part 23: A Performance-based Approach to Type Certification of Small Airplanes (2.5 Hours)
(27200142) Flight Test: Certification Test Plan Development (1 Hour)
(27200150) Flight Test: Flight Test Vibration and Buffeting Compliance Criteria (1 Hour)
(27200163) Flight Test: Flight Manual Development Overview (1 Hour)
(27200164) Flight Test: Human Factors in Aircraft Certification (1 Hour)
(27200168) Understanding the US/EU Aviation Safety Agreement (6 Hours)

Mechanical Systems Library

Prerequisite Course

(27200187) 2025 Engineering Designee Recurrent General Training Overview (1 Hour)

Electives (Select 1)

(27200019) Fundamentals of Risk Analysis (3 Hours)
(27200048) Aircraft Seat Dynamic Impact Test Procedures-History and Background (8 Hours)
(27200050) Software Job Functions: Legacy System Software (3 Hours)
(27200063) Mechanical: Flight Controls Emerging Concerns (1 Hour)
(27200068) Mechanical: Fire Resistant Hydraulic Fluids in Aviation (1 Hour)
(27200103) Software Job Functions: Model-Based Development (6 Hours)
(27200109) Mechanical/Powerplant: Icing Related Regulatory Changes (1 Hour)
(27200110) Mechanical: Post Maintenance Functional Tests (1.5 Hours)
(27200131) Part 23: A Performance-based Approach to Type Certification of Small Airplanes (2.5 Hours)
(27200139) Mechanical: Cargo Compartment Fire Protection (1 Hour)
(27200144) Mechanical: Testing of Flight Control Surfaces (1 Hour)
(27200165) Mechanical: Airframe Ice Accretions on Transport Category Airplanes (30 minutes)
(27200168) Understanding the US/EU Aviation Safety Agreement (6 Hours)

Propulsion Library

Prerequisite Course

(27200187) 2025 Engineering Designee Recurrent General Training Overview (1 Hour)

Electives (Select 1)

(27200019) Fundamentals of Risk Analysis (3 Hours)
(27200050) Software Job Functions: Legacy System Software (3 hours)
(27200057) Powerplant: Understanding a Propeller Type Certificate Data Sheet (1 Hour)
(27200058) Powerplant: Diesel Engine Certification (1 Hour)
(27200060) Powerplant: CAAM Overview (1 Hour)
(27200062) Powerplant: Transport Airplane Propulsion Certification Issues (1 Hour)
(27200103) Software Job Functions: Model-Based Development (6 Hours)
(27200109) Mechanical/Powerplant: Icing Related Regulatory Changes (1 Hour)
(27200110) Mechanical: Post Maintenance Functional Tests (1.5 Hours)
(27200111) Powerplant: Fire Protection of Engine Cowling and Other Components (1 Hour)
(27200112) Powerplant: Valve Controls located in Flight Deck (1 Hour)
(27200113) Powerplant: Turbine Engine Endurance Test (1.5 Hours)
(27200114) Powerplant: Guidance for 14 CFR 33.4 Instructions for Continued Airworthiness (1 Hour)
(27200115) Powerplant: Guidance for 14 CFR 33.28 Engine Control Systems (1.5 Hours)
(27200131) Part 23: A Performance-based Approach to Type Certification of Small Airplanes (2.5 Hours)
(27200147) Powerplant: Fuel Tank Flammability Analysis Overview (1Hour)
(27200149) Powerplant: Engine Aircraft Interface Issues (1 Hour)
(27200166) Powerplant: Time Limited Dispatch (2.5 Hours)
(27200168) Understanding the US/EU Aviation Safety Agreement (6 Hours)
(27200179) Powerplant: Engine Rotor Burst Requirements for Turbine Engine Powered Airplanes (1 Hour)
(27200180) Powerplant: Engine Life-limited Parts – Influencing Parts (30 minutes)

Structures Library

Prerequisite Course

(27200187) 2025 Engineering Designee Recurrent General Training Overview (1 Hour)

Electives (Select 1)

(27200019) Fundamentals of Risk Analysis (3 Hours)
(27200048) Aircraft Seat Dynamic Impact Test Procedures-History and Background (8 Hours)
(27200095) Structures: Finite Element Modeling and Analysis Validation - Part I (1 Hour)
(27200096) Structures: Finite Element Modeling and Analysis Validation - Part II (1 Hour)

(27200098) Structures: Certification Compliance for Bird Strike Requirements (1 Hour)
(27200110) Mechanical: Post Maintenance Functional Tests (1.5 Hours)
(27200130) Structures: Composite Guidance - Present and In-Development (1.5 Hours)
(27200131) Part 23: A Performance-based Approach to Type Certification of Small Airplanes (2.5 Hours)
(27200137) Structures: Cargo – Certification of Cargo Related Projects (2 Hours)
(27200140) Structures: Aeroelastic Stability (1 hour)
(27200141) Structures: Radome Certification (1.5 Hours)
(27200168) Understanding the US/EU Aviation Safety Agreement (6 Hours)
(27200170) Structures: FAA Composite Updates Part 1 (1 Hour)
(27200171) Structures: Additive Manufacturing (1 Hour)
(27200172) Structures: Introduction to Fatigue and Fatigue Management (1 Hour)

Acoustics Library

Prerequisite Course

(27200187) 2025 Engineering Designee Recurrent General Training Overview (1 Hour)

Electives (Select 1)

(27200019) Fundamentals of Risk Analysis (3 Hours)
(27200057) Powerplant: Understanding a Propeller Type Certificate Data Sheet (1 Hour)
(27200058) Powerplant: Diesel Engine Certification (1 Hour)
(27200060) Powerplant: CAAM Overview (1 Hour)
(27200062) Powerplant: Transport Airplane Propulsion Certification Issues (1 Hour)
(27200069) Flight Test: Risk Management Update (30 minutes)
(27200131) Part 23: A Performance-based Approach to Type Certification of Small Airplanes (2.5 Hours)
(27200141) Structures: Radome Certification (1.5 Hours)
(27200142) Flight Test: Certification Test Plan Development (1 Hour)
(27200143) Electrical: Aircraft Systems Information Security Protection (ASISP) (1 Hour)
(27200144) Mechanical: Testing of Flight Control Surfaces (1 Hour)
(27200147) Powerplant: Fuel Tank Flammability Analysis Overview (1Hour)
(27200149) Powerplant: Engine Aircraft Interface Issues (1 Hour)
(27200150) Flight Test: Flight Test Vibration and Buffeting Compliance Criteria (1 Hour)
(27200163) Flight Test: Flight Manual Development Overview (1 Hour)
(27200168) Understanding the US/EU Aviation Safety Agreement (6 Hours)

Course Descriptions

25815 NextGen Advanced Navigation

The course covers: GPS and GPS augmentation systems along with the TSOs & policies that implement the equipment; differences between RNAV & RNP; enhanced vision/synthetic vision systems; LPV implementation lessons learned; NextGen advanced navigation concepts. Participants will learn about: The capabilities inherent within the GPS TSOs & the TSO classes; Why RNAV isn't RNP, but RNP is RNAV; Lessons learned from applicant attempts to implement LPV capability in transport category aircraft with FMSs. Course Length: 8 hours. (Rev 4)

Target Audience: Electrical DERs, ODA Engineering UMs, FAA DER advisors and engineering and flight test OMT members.

27200019 Fundamentals of Risk Analysis

This course describes the importance of quantitative risk analysis and identifies the types of risk used in the MSAD process. The participant will learn how to calculate risk values for MSAD and will learn where to collect data for risk analyses. The Topics covered: the value of Quantitative vs. Qualitative Risk; risk measures used in MSAD; the difference between fleet risk and individual risk; the difference between infant mortality, constant rate (random) and wear-out life distributions; the process for calculating risk of random failure; the process for calculating risk of wear-out failures; and how to calculate a control program. Course Length: 3 hours.

Target Audience: Electrical, Flight Test, Mechanical, Propulsion, and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200043 Electrical: Systems Aspects of Certification

The System Aspects of Certification intended for Designees or Unit Members who are involved in the certification of highly integrated systems, or sometimes called system of systems, that use electronic hardware, software and electromechanical designs to implement aircraft functions. This course provides an overview of these systems aspects of certification and how a development assurance process and can be applied to a highly integrated and complex system of systems and its associated guidance. Course Length: 2 hours.

Target Audience: Electrical DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200048 Aircraft Seat Dynamic Impact Test Procedures-History and Background

This course provides the historical background and information necessary to understand the basis of the regulations and where to seek additional details for the dynamic qualification of aircraft seats. There are multiple documents detailing these requirements. These requirements were developed from extensive research plans and coordination with industry and various agencies. Course Length: 3 Hours.

Target Audience: Mechanical and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200050 Software Job Functions: Legacy System Software

This on-line training provides Aviation Safety Engineers with information for assessing an applicant's use of Legacy System Software and associated tools, in accordance with AC 20-115C. PREREQUISITE: Must have working experience with DO-178B or DO-178-C and with FAA policy and guidance related to software approval. Materials: Participants must furnish copies of DO-178C and DO-330 (or Eurocae equivalents). DO-178B, 331, 332, and 333 are beneficial (www.rtca.org). Course Length: 3 hours.

Target Audience: Electrical, Mechanical, and Powerplant DERs, ODA Engineering UMs, FAA DER advisors and engineering and flight test OMT members.

27200057 Powerplant: Understanding a Propeller Type Certificate Data Sheet

This course describes the information displayed on the Propeller Type Certificate Data Sheet (TCDS). Course Length: 1 hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200058 Powerplant: Diesel Engine Certification

This course describes the information regarding Powerplant: Diesel Engine Certification. Course Length: 1 hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200060 Powerplant: CAAM Overview

This course provides information regarding Powerplant: Continued Airworthiness Assessment Methodologies Overview. Course Length: 1 hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200062 Powerplant: Transport Airplane Propulsion Certification Issues

This course provides information concerning several key propulsion certification issues for transport category airplanes. Course Length: 1 hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200063 Mechanical: Flight Controls Emerging Concerns

This course provides information regarding the FAA's concerns in the area of flight controls. Topics covered include FAA emphasis on rudder control and Fly-by-Wire incidents and accidents. Course Length: 1 hour.

Target Audience: Electrical DERs, Mechanical DERs, Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200068 Mechanical: Fire Resistant Hydraulic Fluids in Aviation

This course provides information regarding fire resistant hydraulic fluids in aviation. Topics covered include History of Hydraulic Fluid Fires, Hydraulic Fluid Basics, Fluid Change Projects and Means of Compliance. Course Length: 1 hour.

Target Audience: Mechanical DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200069 Flight Test: Risk Management Update

This course describes the Flight Test Risk Management Process. Topics covered include FAA Order 4040.26B, the steps in the Flight Test Risk Management Process, the Safety Review Board, the Risk Assessment Chart and its Alternatives, Risk Alleviation, and Safety Reporting, Qualification Testing, Ground and Flight Testing, and EMC Flight Test Risk Management. Course Length: 30 minutes.

Target Audience: Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200070 Flight Test: Considerations for EMC Certification

This course covers the various issues that should be addressed for Electromagnetic Compatibility (EMC) certification. The course will address factors involved with controlling EMC, various

mechanisms of interference, examples of interference, the applicable Regulations and Guidance. Course Length: 1 hour.

Target Audience: Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200095 Structures: Finite Element Modeling and Analysis Validation Part I

This course describes the FAA requirements and acceptable methods for Finite Element Modeling (FEM) and Analysis (FEA) Validation. Course Length: 1 hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200096 Structures: Finite Element Modeling and Analysis Validation Part II

This course describes the different means of Finite Element Analysis (FEA) validation and the validation considerations for FEA versus test and FEA versus classical solution methods. This course also provides several Case Studies as examples. Course Length: 1 hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200098 Structures: Certification Compliance for Bird Strike Requirements

This course addresses several issues associated with demonstrating compliance with the bird strike requirements of § 25.571(e)(1) and 25.631 based on experience gathered over numerous certification programs. Certification compliance falls into one of four categories: test, validated analysis, similarity, and shielding (installation is shielded by other structure that cannot be penetrated by a bird). Discussion of each certification approach will include a review of certification compliance data requirements, FAA designee responsibilities, and FAA involvement.
Course Length: 1 hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200100 Head Up Displays (HUD) and Vision Systems

The purpose of this training is to provide an in-depth understanding of Head-Up Displays (HUD) and vision systems that can be displayed on the HUD. These vision systems include: Synthetic Vision System (SVS); Enhanced Vision System (EVS); Enhanced Flight Vision System (EFVS); Combined Vision System (CVS). You will learn how HUD and these vision systems are relevant to your role and

responsibilities as an Aircraft Certification Service (AIR) Aviation Safety Engineer (ASE).
Course Length: 1 hour.

Target Audience: Electrical and Flight Test DERs, ODA Engineering UMs, FAA DER advisors and engineering and flight test OMT members.

27200103 Software Job Functions: Model-Based Development

This course assists ASEs in assessing applicant data for satisfaction of Model Based Development assurance criteria. Topics: MBD Guidance; Planning Data Evaluation; Development Data Evaluation; and Interaction between Systems and Software Development. Participants must furnish RTCA DO-178C and DO-331 (or EUROCAE equivalents). DO-178B, 330, 332, 333, and ARP4754A are beneficial. PREREQUISITE: Must have working experience with DO-178B or DO-178-C and FAA policy/guidance.
Course Length: 6 hours.

Target Audience: Electrical, Mechanical and Propulsion DERS, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200106 Electrical: Electronic Flight Bag Policy Overview

This course provides the fundamentals of Electronic Flight Bag (EFB) function. Course Length: 1 hour.

Target Audience: Electrical, Flight Test, Mechanical, Propulsion, and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200108 Flight Test: Takeoff and Landing Performance Assessment (TALPA) Advisory Circulars

This course provides information about the formation of the TALPA ARC and the result of the TALPA ARC. It also includes an overview of Part 25 and Part 25 AC guidelines. It covers TALPA ARC activity and the aviation industry, and the final FAA TALPA implementation plan. Course Length: 3 hours.

Target Audience: Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200109 Mechanical/Powerplant: Icing Related Regulatory Changes

This course explains the expanded icing environments to be considered for new transport category airplanes certified for flight in icing. It also describes the airframe aspects of the rulemaking and is intended for individuals showing compliance to Part 25 for icing related regulations.
Course Length: 1 hour.

Target Audience: Mechanical and Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200110 Mechanical: Post Maintenance Functional Tests

This course explains FAA Policy Statement PS-ANM-25-18, Post-Maintenance Checks and Tests. It also describes the purpose of post maintenance functional tests and/or checks relative to the transport airplane certification process. The meaning of maintenance tasks and criteria by which post maintenance functional checks and tests should be called out; and, the principles by which manufacturers should develop a process that can be presented to the Aircraft Certification Office/Organization Designation Authorization as part of the data needed to show compliance to specific regulations. Course Length: 1.5 hours.

Target Audience: Electrical, Flight Test, Mechanical, Propulsion, and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200111 Powerplant: Fire protection of Engine Cowling and Other Components

This course provides information about considerations for compliance to the fireproof requirements for engine cowling in 14 CFR § 25.1193 and the relationship to the fire protection requirements for other components per § 25.867. Course Length: 1 hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and OMT members.

27200112 Powerplant: Valve Controls Located in Flight Deck

This course provides information about the requirements for powerplant valve controls located in the flight deck on transport category airplanes. More specifically, Title 14 Code of Federal Regulations (CFR) § 25.1141(f) will be discussed and recurring compliance issues associated with powerplant valve controls will be highlighted. Course Length: 1 hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200113 Powerplant: Turbine Engine Endurance Test

This course provides an overview of the requirements, common challenges in running the endurance test, and addresses specific topics related to the endurance test of the § 33.87 regulation. Course Length: 1.5 hours.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200114 Powerplant: Guidance for 14 CFR 33.4 Instructions for Continued Airworthiness

This course provides some guidance on the regulatory requirements for developing engine Instructions for Continued Airworthiness (ICA). Course Length: 1 hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200115 Powerplant: Guidance for 14 CFR 33.28 Engine Control Systems

This course explains the requirements and related standards found in § 33.28. It also describes the evolution and structure of AC 33.28-3, the methods of compliance as defined by AC 33.28-3 in Chapters 2-16, and the areas of concern regarding AC 33.28-3. Course Length: 1.5 hours.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200116 Electrical: System Safety Analysis

This course describes how to develop a system safety analysis in accordance with Aerospace Recommended Practice [ARP] 4754A and ARP 4761 as well as FAA recommendations allowed by the safety continuum. Course Length: 1.5 hours

Target Audience: Electrical DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200118 Electrical: ADS-B Installations

This course describes the Automatic Dependent Surveillance – Broadcast (ADS-B) installation approval process. Course Length: 1 hour.

Target Audience: Electrical DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200130 Structures: Composite Guidance – Present and In Development

This course provides information about recent and future composite guidance deliverables.

First, it explains the history of the Composite Safety and Certification Initiative (CS&CI), composite guidance, the AVS Composite Plan, and composite training. Next, it describes the background of the BRSL issue, the BRSL policy content, and the other bonding activities.

Then, it describes the background of the HEWABI issue, the HEWABI policy content, and the other service damage activities. Course Length: 1.5 hours.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200131 Part 23: A Performance-based Approach to Type Certification of Small Airplanes

This course informs FAA Aviation Safety Engineers (ASEs) about the unique aspects of certifying 14 CFR part 23 aircraft using performance-based rules that became effective in 2017. Lesson topics include: 1) Introduction to the Rule; 2) Consensus Standards; 3) Conceptual Design, Requirements Definition, and Compliance Planning; 4) Means of Compliance; and 5) Implementation. Course Length: 2.5 hours.

Target Audience: Electrical, Flight Test, Mechanical, Propulsion, and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200137 Structures: Cargo – Certification of Cargo Related Projects

This course provides information regarding the unique challenges in mitigating cyber security vulnerabilities and threats to aircraft safety. Course length: 2 hours.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200139 Mechanical: Cargo Compartment Fire Protection

This course describes regulations that govern cargo compartment fire/smoke detection and fire suppression/ extinguishing systems, acceptable methods of demonstrating compliance to regulations that govern cargo compartment fire/smoke detection, and fire suppression/extinguishing systems and challenges to compliance. Course Length: 1 Hour.

Target Audience: Mechanical DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200140 Structures: Aeroelastic Stability

The purpose of this course is to enable participants to navigate the regulations, industry standards, policies, and other guidance to assure compliance with aeroelastic stability requirements for Part 23 and Part 25. Course Length: 1 Hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200141 Structures: Radome Certification

This course explains the regulations, policy, and guidance used in Part 23 and Part 25 radome certification. Course Length: 1 Hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200142 Flight Test: Certification Test Plan Development

This course outlines the requirements and elements necessary to develop an effective Certification Test Plan. It describes the information contained in FAA Order 8110.4C, Type Certification, and FAA Order 4040.26, Aircraft Certification Service Flight Test Risk Management Program. It includes information about the Test Plan Scope and Objectives, Documenting Requirements and Method(s) of Compliance (MOC), Defining Success Criteria, Conformity Requirements, and Risk Management (RM).

Course Length: 1 hour.

Target Audience: Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200143 Electrical: Aircraft Systems Information Security Protection (ASISP)

This course is intended to familiarize ACO engineers and certification delegation authority with design considerations for connected aircraft information network security technology and the Federal Aviation Agency (FAA) Aircraft Systems Information Security Protection (ASISP) regulations, policies and guidance that are used to perform and evaluate security risk assessment for aircraft systems. Course Length: 1 Hour.

Target Audience: Electrical, Flight Test, Mechanical, Propulsion, and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200144 Mechanical: Testing of Flight Control Surfaces

This course describes the policy on 14 CFR §25.651(a) concerning testing of flight control surfaces and the FAA policy for application of §25.683 concerning testing to flight fly-by-wire control inceptors for transport airplanes. Course Length: 1 Hour.

Target Audience: Mechanical DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200147 Powerplant: Fuel Tank Flammability Analysis Overview

This course is intended to provide participants the ability to assess the flammability exposure of a fuel tank using the Monte Carlo statistical method to determine the flammability of the fuel tank design under a variety of circumstances. Participants also will be able to apply the modifications to the method that are necessary when a Flammability Reduction Means (FRM) is installed. Course Length: 1 Hour.

Target Audience: Mechanical DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200149 Powerplant: Engine Aircraft Interface Issues

This course outlines Federal Aviation Administration (FAA) regulations and guidance that can affect both engines and aircraft and emphasizes the importance of frequent and timely coordination and communication between engine and aircraft manufacturers during design, development and certification. Course Length: 1 Hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200150 Flight Test: Flight Test Vibration and Buffeting Compliance Criteria

In this course, you will learn the current regulation, 14 CFR 25.251(b), and the applicants' concerns in meeting the regulation. You will learn about the current FAA policy, which uses a multi-tiered process to determine whether an external modification is still within the original §25.251(b) compliance finding. You will learn the steps that are used to aid the FAA in making this determination, as documented in an Equivalent Levels of Safety (ELOS) Issue Paper (IP). Course Length: 1 Hour.

Target Audience: Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200163 Flight Test: Flight Manual Development Overview

This course outlines learn how to develop flight manuals, including supplements. The information contained in this course is designed to supplement and clarify existing guidance material. Topics include: FAA Regulations and Guidance that govern a Flight Manual; Specific information on writing content for the FM Limitations Section; Cover Page and Revision requirements; Approval authorizations for Designated Engineering Representatives (DERs); Tips to help applicants and DERs provide a high quality product for FAA approval; Good practices related to FM development. Course Length: 1 Hour.

Target Audience: Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.

27200164 Flight Test: Human Factors in Aircraft Certification

This course outlines the Human Factors issues, regulations, policies, and guidance as they pertain to aircraft certification, and Human Factors information and resource locations. Course Length: 30 Minutes.

Target Audience: Flight Test DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members

27200165 Mechanical: Airframe Ice Accretions on Transport Category Airplanes

This course outlines issues surrounding consideration of environmental icing conditions on transport category airplanes as they relate to their effect on air data instruments and potential engine ingestion from shedding; airframe ice accretions on transport category airplanes and the potential effect on air data instruments; transport category airframe ice accretions and the potential for engine ingestion. Course Length: 30 Minutes.

Target Audience: Mechanical DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200166 Powerplant: Time Limited Dispatch

This course provides propulsion engineers an overview of Time-Limited Dispatch (TLD) incorporating the main concepts, assumptions, policies, and compliance procedures. Course Length: 2.5 hours.

Target Audience: Electrical DERs, ODA Engineering UMs, FAA DER advisors and engineering and flight test OMT members.

27200168 Understanding the US/EU Aviation Safety Agreement

The purpose of this training is to provide the FAA/AVS workforce and industry representatives with the knowledge and tools to accomplish tasks related to aircraft certification, manufacturing, maintenance, and continued airworthiness in accordance with the new safety agreement between the U.S. and the European Union.
Course Length: 6 hours.

Target Audience: Acoustic, Electrical, Mechanical, Powerplant and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members. Flight Test DERs, ODA Engineering UMs, FAA DER Advisors and Engineering and Flight Test OMT members.

27200170 Structures: FAA Composite Updates Part 1

The purpose of this course is to describe the FAA priorities for composite activities in order to ensure safe design, certification, manufacturing, and maintenance, and will describe planned guidelines in the area of composite modifications.
Course Length: 1 hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200171 Structures: Additive Manufacturing

The purpose of this course is to explain the FAA's expectations and unique considerations when certifying additively manufactured parts and articles.

Course Length: 1 hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200172 Structures: Introduction to Fatigue and Fatigue Management

The purpose of this course is to define fatigue and explain the fatigue process, as well as, the fatigue requirement objectives for metallic structures. Participants will be able to identify normal and anomalous metal fatigue and the characteristics associated with each type of fatigue.
Course Length: 1 hour.

Target Audience: Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200179 Powerplant: Engine Rotor Burst Requirements for Turbine Engine Powered Airplanes

This course is intended to familiarize Aircraft Certification Office (ACO) engineers, Engine Certification Office (ECO), and certification delegation authorities with the regulations, standards, policy, and guidance for meeting the engine rotor integrity compliance and minimize the effects of uncontained engine rotor failure to aircraft as specified by 14 CFR § 33. [New Feb 2025]

Course Length: 1 Hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200180 Powerplant: Engine Life-limited Parts-Influencing Parts

This course explains what Engine Life-limited Parts (LLP) are and what tools are available to ensure influencing parts do not adversely affect LLP life-limits. [New Apr. 2025]

Course Length: 0.5 Hour.

Target Audience: Propulsion DERs, ODA Engineering UMs, FAA DER advisors and Engineering OMT members.

27200187 2025 Engineering Designee Recurrent General Training Overview

This course provides information about the changes in the Engineering Designee Training Program.
Course Length: 1 Hour.

Target Audience: Electrical, Flight Test, Mechanical, Propulsion, and Structures DERs, ODA Engineering UMs, FAA DER advisors and Engineering and Flight Test OMT members.