



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Nationally Scheduled FAA-Approved
Industry-Conducted Flight Instructor
Refresher Clinics

Date: 5/29/08

AC No: 61-83F

Initiated by: AFS-810

Change: 1

1. PURPOSE. This advisory circular (AC) has been revised to include appendices 1 and 2.

2. PRINCIPAL CHANGES. This change inserts new Appendix 1, Required Instructional Subjects for FAA-Approved TCO Curricula, and Appendix 2, Recommended FIRC Elective Topics.

PAGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
		Appendices 1 and 2	5/29/08

ORIGINAL SIGNED by

James J. Ballough
Director, Flight Standards Service



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Nationally Scheduled FAA-Approved
Industry-Conducted Flight Instructor Refresher
Clinics

Date: 11/7/07

AC No: 61-83F

Initiated by: AFS-810

Change:

1. PURPOSE. This advisory circular (AC) provides information for the preparation and approval of training course outlines (TCO) for Federal Aviation Administration (FAA)-approved industry-conducted flight instructor refresher clinics (FIRC). It also sets forth guidelines to assist qualified sponsors/organizations in obtaining approval for the use of a designated airman certification representative (ACR) employed solely by the FIRC sponsor. The FIRC helps flight instructors keep informed of the changing world of General Aviation (GA) flight training. It is one of several methods by which a flight instructor may renew his or her flight instructor certificate. Adherence to this AC provides one acceptable method in which a FIRC may be approved. The FAA's approval of FIRC TCOs now in use will not be extended beyond their stated expiration dates unless such TCOs have been subsequently approved under the provisions of this AC. Effective August 4, 1997, the holder of a pilot school certificate issued under Title 14 of the Code of Federal Regulations (14 CFR) part 141 may also obtain approval to provide a FIRC program under the authority of part 141, appendix K, paragraph 11. The holder of a pilot school certificate who desires to offer a FIRC program under part 141 (see § 141.11(b)(2)(ii)) should refer to this AC which may be helpful as guidance in developing the TCO for FAA approval.

2. CANCELLATION. AC 61-83E, Nationally Scheduled Federal Aviation Administration Approved Industry-Conducted Flight Instructor Refresher Clinics, dated November 19, 2001, is canceled.

NOTE: After the FAA-approved FIRC TCOs expire, FIRC sponsors should submit new TCOs in accordance with this AC in order to be authorized to present FAA-approved FIRC programs in the future. New sponsors or organizations who desire to present FAA-approved FIRCs should e-mail their TCOs to the GA and Commercial Division, AFS-800 at 9-AWA-AVS-AFS-FIRC@faa.gov, for review and approval consideration in accordance with paragraph 5 below as applicable.

3. DEFINITIONS.

a. Sponsor. An individual or an organization holding FAA approval under this AC to conduct FIRC programs meeting the requirements of 14 CFR part 61, § 61.197(a)(2)(iii).

b. TCO. An abbreviated list of training subjects offered in any one course of instruction.

c. Curriculum. The overall general content of a course of instruction.

d. Instructor Attendee/Attendee. Both terms will be used throughout this document and each will have a different definition. “Instructor Attendee(s)” are those individuals who are attending the FIRC who are currently certificated flight instructors (CFI) and are doing so to renew their flight instructor’s certification or to meet some other regulatory requirement that will involve some interaction, either directly, or through the FIRC provider, with the FAA. The term “Attendee(s)” includes Instructor Attendees but may also include any individual whether or not they are a CFI who is attending the FIRC for reasons other than those specifically identified for an Instructor Attendee and who will not interact with the FAA as a result of attendance.

e. Student. An individual who will take aeronautical and/or flight instruction from a CFI outside the venue of a FIRC.

f. At-Distance Learning or Out-Study Curriculum. A curriculum in which the study, completion, and testing for all applicable course materials in a training syllabus is satisfactorily accomplished through correspondence.

g. Training Syllabus. A step-by-step (building block) progression of learning with provisions for review, evaluation, and testing at prescribed stages of learning. The syllabus defines the unit of training, states by objective what the instructor attendee is expected to accomplish during the unit of training, shows an organized plan for instruction (building-block concept from the simple to the complex), and dictates the evaluation and/or testing process for either the unit or stages of learning to be presented.

h. Lesson Plan. The instructor’s plan for teaching a unit of learning is a basic method of presenting an orderly flow of information to an attendee based on that attendee’s way of learning.

i. Lesson. A period of instruction which imparts subject matter to the attendee(s).

j. Stage. A portion of the course consisting of a group of lessons, similar subject matter, or a particular day of instruction; i.e., day 1, 2, or 3, versus stage 1, 2, or 3.

k. ACR. An individual representing a specific FIRC sponsor, who is authorized under Title 49 of the United States Code (49 U.S.C.), sections 44702(d) to accept FAA applications for renewal of valid flight instructor certificates from successful graduates of that sponsor’s program and issue temporary flight instructor certificates.

l. Acronyms. The following acronyms are used throughout this document:

- **AC.** Advisory Circular,
- **ADIZ.** Air Defense Identification Zone,
- **ACR.** Airman Certification Representative,
- **14 CFR.** Code of Federal Regulations,
- **FAA.** Federal Aviation Administration,
- **FAASTeam.** FAA Safety Team,

- **FIRC.** Flight Instructor Refresher Clinic,
- **FITS.** FAA/Industry Training Standards,
- **FPM.** FAAS Team Program Managers,
- **FRZ.** Flight Restricted Zones,
- **GA.** General Aviation,
- **IACRA.** Integrated Airmen Certification and/or Rating Application,
- **IFR.** Instrumental Flight Rules,
- **TAA.** Technically Advanced Aircraft,
- **TCO.** Training Course Outline,
- **TSA.** Transportation Security Administrations,
- **TFR.** Temporary Flight Restrictions, and
- **VFR.** Visual Flight Rules.

4. BACKGROUND. The FAA's Flight Instructor Refresher Program was initiated in 1965 to provide standardization in updating CFIs. Instruction was provided by FAA Aeronautical Center instructors until their participation was terminated on October 1, 1977. Since that date, the industry has assumed responsibility for continuation of the FIRC program. Industry-conducted clinics now provide one acceptable means whereby the holders of valid and current flight instructor certificates may, at the discretion of the FAA, renew their flight instructor certificates. Instructor attendees who successfully complete these FAA-approved FIRC training programs may find them helpful in updating their knowledge of applicable regulations, new technologies, and operating procedures. The spirit of a FIRC should parallel that of the attorney or doctor who attends a conference to improve his or her skills. Like the attorney or doctor, flight instructors are assumed to possess basic skills. Thus, the FIRC is not intended to rehash the basics, but rather to expose the instructor to the latest in technology, flight training techniques, and operational procedures. Emphasis in the FIRC should always be on flight instruction. That is, on developing and improving instructor skills necessary to effectively convey information about the latest in technology and operational procedures to pilots-in-training. Attendance at these training programs will also provide qualified instructors an opportunity to meet or maintain their qualifications as chief instructors or assistant chief instructors for pilot schools certificated under part 141.

5. APPLICATION FOR FAA-APPROVED FIRC PROGRAMS.

a. Sponsors or organizations who desire to conduct FIRC programs approved under this AC should, e-mail a copy of the TCO they plan to use, accompanied by a letter expressing that intent, to 9-AWA-AVS-AFS-FIRC@faa.gov. The preferred format is a Microsoft Word® document attached to an e-mail. Preliminary inquiries may be submitted to that same Web site or mailed to: Federal Aviation Administration, GA and Commercial Division, AFS-800, 800 Independence Avenue, SW, Washington, DC 20591. Correspondence should be submitted at least 90 days before any planned training under the course. This is to allow adequate time for FAA's review and approval. In no case should a FIRC be scheduled before the receipt of the approval letter from AFS-800.

b. Applicants submitting FIRC programs are encouraged to be innovative and to explore the use of new techniques and teaching concepts as well as diversity of subject materials. The

underlying theme should emphasize teaching ability and the skills necessary for flight instructors to convey new information to their students. The course should be both challenging and thought provoking. However, construction of the TCO should follow the general guidance in this AC to ensure expeditious approval. The FAA seeks to ensure FIRC program standardization and emphasizes the coverage of program areas believed essential to enhance the knowledge, skills, and instructional capability of attending flight instructors.

c. Distance learning or out-study FIRC curricula will also be considered. However, sponsors who wish to submit distance learning or out-study curricula should first present a clear and logical outline and description of the sequential elements of the training curriculum. Such sponsors should be prepared to provide a 1-800 phone number and or facsimile number to ensure a rapid and effective means of communications between the sponsor and enrollees to aid the enrollees in completing all approved course materials. It may be highly advantageous for a sponsor or organization that intends to submit an out-study or distance learning curriculum to meet with AFS-800 in advance to discuss the proposed curriculum in detail.

d. FIRC curricula to be presented on the Internet will be considered on a case-by-case basis. Sponsors/organizations who wish to submit an Internet-based FIRC program are encouraged to provide graphical outline representations of their proposed training programs for review and consideration by AFS-800. The graphical representation of an Internet-based FIRC should contain a step-by-step description of how participants will enroll and access the support /study material for each lesson in order to effectively navigate through the course to completion. An Internet-based FIRC program should be prepared in accordance with applicable guidelines contained in this AC. Where a stated requirement is not considered applicable to an Internet-based FIRC program, that requirement should be identified and a brief reason for its inapplicability should be stated or an acceptable alternative provided. When approved by the FAA, an Internet-based FIRC program will consist of a master copy of the FIRC program as it appears on the Internet. It may be highly advantageous for a sponsor or an organization intending to present an Internet-based FIRC program to meet with AFS-800 in advance to discuss the planned program outline before committing time and effort to its development. This will assist in ensuring that the program follows a standardized process to the extent possible and might help reduce the time needed for its development, review, and approval by the FAA. The graphical outline presented should contain, as a minimum, the following information considered specifically applicable to an online FIRC curriculum. The source of all study materials used to support the course element that would appear on the Internet, and a description of all drawings, mock-ups, demos, or links to be used in the course including:

(1) A statement of how the sponsor intends to ensure that the minimum requirement of 16 hours of FIRC course subject material (study, completion, and test(s)) is completed;

(2) The methodology proposed to determine the identity of course participants at log-on and during navigation of a lesson, including intentional or non-intentional disruption of the lesson flow. Additionally, methodologies proposed to prevent multiple concurrent log-ons by a course participant for the purpose of viewing or printing material during inappropriate stages of the lesson;

(3) A statement of how the sponsor intends to ensure that flight instructor renewal applicants are not given access to any completion test(s) until the course materials, for which the test is applicable, have been satisfactorily completed;

(4) The methodology proposed to allow the FAA access to course support materials, tests, and test results for the express purpose of reviewing and monitoring as deemed appropriate by the FAA;

(5) The methodology proposed to ensure that FIRC attendees will have attended the requisite 16 hours of instruction;

(6) A statement that the sponsor will provide the FAA a biennial listing of Internet FIRC program participants that contains, at a minimum, the sponsor's name and location, the instructor attendee's name, identification number or code, the date(s) the course was administered, and the completion status of all course participants;

(7) Methodologies proposed to ensure data availability, integrity, confidentiality, and accountability for course materials, participant information, and lesson plans;

(8) The manner in which applications for flight instructor certificate renewal by the Internet are to be processed;

(9) The manner in which revisions deemed necessary (once the online FIRC is approved by the FAA) are to be reviewed by the FAA before being included in the online program; and

(10) Such other information as may be considered necessary or appropriate by the FAA during development of the online program.

e. FIRC TCOs presented for AFS-800's approval must contain a minimum of 16 hours of training which includes the entire core subject areas listed in appendix 1 found on the FAA's FIRC Web site under <http://www.faa.gov/pilots/training/firc/>. Core subjects should be identified clearly by title and content to be considered for approval. Other acceptable subjects may be presented as elective subject areas at the discretion of the sponsor. A list of suggested elective subject topics can be found in appendix 2 found on the FAA's FIRC Web site under <http://www.faa.gov/pilots/training/firc/>. Use of any of these elective topics will be approved. The provider may, at their discretion, change their elective topics at any time, such as for regional or seasonal reasons, without specific FAA approval provided that those topics are found in appendix 2. However, they must inform the FAA of the change(s), where and when those changes will be employed, and provide a copy of a lesson plan for each as described in paragraph 7a. Alternatively, the provider may, upon submission of their original TCO, include lesson plans for each elective listed in appendix 2, in which case they need only inform the FAA of the specific changes in content and when and where they will be employed. This can be in the form of simply listing the elective number (based on the most current appendix), as in, for example:

- Denver, January 23, 24. Electives: 1, 3, 7, 8, 11, 14, 17, 19, 24, and 25 will be covered

- This notification can be submitted electronically via e-mail to 9-AWA-AVS-AFS-FIRC@faa.gov

f. Providers may choose to present topics not listed in Appendix 2, to be approved on a case-by-case basis. However, only subject areas considered applicable to the needs of CFI will be approved by FAA. Providers may submit lesson plans for each new unlisted topic with their initial TCO or at a later date to be added to their existing TCO.

g. It should be understood that 16 hours is the defined minimum for the FIRC program. The FIRC provider may elect to make it longer if they so choose.

h. It is strongly recommended that individuals and/or organizations contemplating developing a new FIRC program first contact AFS-800 through phone at (202) 267-8212 or e-mail at 9-AWA-AVS-AFS-FIRC@faa.gov, to discuss their development plans.

6. TCO STRUCTURE AND CONTENTS. Each page of the TCO should be sequentially numbered or lettered, be dated as appropriate, and should identify the version number. TCOs submitted to AFS-800 for approval should contain at least the following information in the order outlined.

a. A cover page containing the full name and address of the FIRC sponsor/organization and the name, address, and current telephone and facsimile number of a point of contact should be included. The cover page should be followed by a table of contents with a verbatim list of all lesson plans intended to be taught during the clinic. Lesson plans representing the required subject areas of Appendix 1, and additional elective subjects selected by the sponsor should be clearly identified so as to be easily recognizable in specific subject and content by the reader. A revision summary page should follow the table of contents page.

b. A description of classroom facilities which gives attention to adequate climate control (air conditioning/heating), lighting, seating, work areas, distraction avoidance, and noise control necessary to provide an effective training atmosphere should be included.

c. A description of audio-visual aids that will be available for use including, but not limited to, chalk boards, slide and/or overhead projectors, video recorders/players, tape recorders, CD/DVD players, computer data/information presentation, and Internet access.

d. The name and qualifications of the chief instructor (and assistant chief instructor where requested). This individual should meet at least the certificate and experience requirements of a chief instructor required for a part 141 pilot school course of training leading to flight instructor certification or be otherwise qualified by a state-approving agency to teach aviation related academic subject matters at an equivalent instructional level. The chief instructor need not be present during all modules of the FIRC course.

e. The qualifications of other instructors, lecturers, moderators, or panelists who will present the sponsor's program. These persons need not be limited to certificated ground or flight instructors; however, they should be recognized experts in the subjects of their presentations or specialty areas.

f. The enrollment prerequisites for instructors planning to attend a FIRC-approved under this AC should be stated. Only flight instructors whose certificates have not yet expired are eligible to renew their certificates predicated on full attendance and satisfactory completion of the FIRC program. However, this rule does not preclude instructors with expired certificates, or any other interested parties, from attending if they choose to do so for their own information. Such attendees will not receive flight instructor FIRC graduation certificates, although they may receive certificates of attendance/course completion. This will be left to the discretion of the FIRC provider. Once a flight instructor certificate has expired, the flight instructor must successfully accomplish a practical test for the reinstatement of that certificate.

g. A description should be included of the method to be used to accomplish remedial training and/or testing for persons who score less than 70 percent on tests administered to ensure satisfactory makeup and FIRC course completion before a graduation certificate is issued. Sponsors who elect not to provide remedial training and/or testing to such instructor attendees should include a statement in the TCO presented to the effect that remedial training and/or testing will not be provided and graduation certificates will not be issued to instructor attendees who fail to satisfactorily complete the full course requirements, including all tests administered.

h. A training program outline and record should be included to ensure that each instructor, lecturer, moderator, and/or panelist to be used is familiar with and understands the contents of the TCO with respect to the course, stage, lesson objectives, completion standards, timeframes involved, and any changes made to the TCO. This training is the responsibility of the chief instructor and must be satisfactorily accomplished before the participation of each instructor, lecturer, moderator, and/or panelist, and at least once each 12 months thereafter, or following any significant change made to the TCO.

i. A comprehensive written test with answer key, including all source references, should be included. Test questions must be appropriate to the lesson plans and subject areas to be taught. The written test(s)/question pool should be updated and/or revised at least once during each biennial approval period. At least one test consisting of a minimum of 15 questions should be administered daily and should be administered as a closed book exam. A participant's successful completion of the FIRC is dependent upon a minimum score of 70 percent on each written or oral test administered.

j. A daily schedule, including the start and stop times for each lesson and the lesson title should be included. The sponsor is encouraged to submit more than one program schedule to provide flexibility in the order of lesson presentation. Daily schedules that are excessively long should be avoided because they lead to fatigue or inattention by the attendees. A program consisting of 8 hours of instruction with frequent breaks may provide for more attentiveness and better information retention than a program presented during a 12-hour day.

k. A submitted training syllabus should contain at least:

(1) A description of each lesson, both ground and/or flight, including its objectives, completion standards, and the measurable unit of accomplishment or learning to be derived from the lesson.

(2) The testing procedure, either oral or written, used to measure the attendee's proficiency, whether after each lesson, stage, day's end, or other unit of instruction.

(3) The time allotted for each lesson. (A lesson may be presented in any time increment deemed appropriate for that lesson, however, in general, a minimum of 50 minutes of instruction time must be presented for each clock-hour. That instruction time may be composed of one or more topics or lessons.)

(4) A lesson plan for each lesson in the TCO, including the objectives, content, desirable or alternative instructional techniques, and completion standards.

(5) The testing or proficiency evaluation means used to measure the expected learning outcomes at the completion of each lesson.

1. A copy of the graduation certificate to be issued and a copy of a completion certificate, if one is to be used, should be included.

7. TCO DEVELOPMENT.

a. Subject Matter. The curriculum should contain a broad outline of the subject matters that will be taught during the course; these subject matters may be found in appendices 1 and 2 at the following web address at <http://www.faa.gov/pilots/training/firc/>. A minimum of 16 hours of complete core and elective subject matter lesson plans is required. Core subjects are those directed by the Administrator and must be included in the program. A list of suggested elective topics may be found in Appendix 2. Use of any of those electives will be approved. The provider may, at their discretion, elect to offer topics other than those on the elective list. They may or may not be approved on a case-by-case basis. Each individual lesson plan should be constructed containing the following elements:

(1) Objectives.

(2) Lesson Content.

(3) Instructional Techniques/Alternatives (as applicable).

(4) Completion Standards.

b. Objectives. Course, stage, and lesson objectives should describe in behavioral terms what attendees are expected to know or be able to do at the end of a particular course, stage, or lesson.

NOTE: The examples provided are to be used for reference only and should not be copied verbatim.

(1) Course objectives should state in broad terms, the knowledge and skill goals to be reached by the attendee at the end of the course.

Example: At the completion of this course, the attendee will be able to clearly communicate the course content and instruct pilot trainees at all certificate levels authorized.

(2) Stage objectives should be more limited and state the desired attendee goals in specific areas of knowledge and skill.

Example: The attendee will be able to pass a stage test with a score of at least 70 percent on the material covered during the preceding stage of instruction.

(3) Lesson objectives should clearly specify desired attendee learning outcomes and should be consistent with objectives of the course and stage.

Example: At the completion of this lesson, the attendee will be able to describe basic tenets of cockpit resource management (CRM), including its applicability to training in technically advanced aircraft. The instructor attendee will be able to communicate this information to trainees in a clear and concise manner.

c. Lesson Content. The content should identify the specific subject matter to be taught in developing the attendee's knowledge and/or skills necessary to meet the course, stage, lesson objectives, and completion standards. The content of each lesson should be presented in a manner that the instructor attendees will find useful in teaching pilots and should support the objectives, be arranged in a logical learning sequence, and be attainable within estimated stage and course times for the program. At nearly all times the emphasis should be on teaching the instructor how to teach the topic to their students rather than simply teaching the instructor. Reasonable variances in the timeframe to accommodate individual learning differences and other situations that may arise from time to time should be considered when determining the adequacy of the estimated timeframes of the course, stages, and lessons. There are no required minimum times to teach each topic. However, the sponsor's TCO should specify the amount of time to be spent on each topic. It should specify the expected start and stop times of each lesson. The overall FIRC program must consist of the specified 16 hours of ground and/or flight instruction and comply with acceptable teaching standards and techniques appropriate to the TCO used. For the purposes of the FIRC, a program hour consists of 60 clock minutes. Each hour may include a 10-minute break after each 50-minute learning session. A 50-minute learning session may include one or more individual topics or lessons. Pre-course registration, lunch periods, or graduation activities other than the distribution of graduation certificates may not be included as part of the hours of instruction creditable to part 61, § 61.197 (a)(2)(iii). The chief (or assistant chief instructor where designated) is responsible for ensuring the full attention of the attendees and that all lessons are completed, the lesson objectives are achieved, and the break privileges permitted are not abused.

d. Instructional Techniques/Alternatives. The sponsor should list the most desirable and/or alternative instructional techniques available that a certificated instructor may find effective in instructing students at various certificate levels authorized in the content of this lesson.

e. Completion Standards. The completion standards should state the observable or measurable level of knowledge and skills required of each attendee at the end of the course, stage, or lesson. For example, the following statement, “The instructor attendee must score a minimum of 70 percent on each written examination given,” would combine both the observable and measurable levels of knowledge and skill.

f. Curriculum Requirements.

(1) Curricula presented for FAA approval consideration should consist of not less than 16 hours of ground and/or flight instruction presented in programs scheduled for not less than 2 or more than 5 consecutive days. However, in view of recent advances in instructional technology and training techniques which may offer substantial benefits to flight instructor attendees, AFS-800 will consider for approval on a case-by-case basis TCOs to be presented outside of the above timeframes.

(2) Additional exceptions for academic institutions and vocations schools are provided in paragraph 16d. All core subject areas listed in appendix 1 must be included in the minimum 16 hours of coursework. The balance may be made up from the list of electives found in Appendix 2. There are no specific time requirements for individual topics or lessons. The FIRC sponsor may submit subject areas other than those listed in the appendix and may be approved by AFS-800 on a case-by-case basis. The curriculum may also contain workshops and/or discussion forums structured to reflect the high standards of excellence expected of FIRC program sponsors authorized to issue graduation certificates for flight instructor certificate renewals. However, any open forums/workshops, while encouraged, should be limited to one hour of the 16 hours of course material.

8. TESTING PROCEDURES.

a. Conventional FIRC. Depending on the number of attendees, the sponsor of a conventional FIRC program may, when considered practical, (such as with a small group of attendees) elect to administer oral quizzes during the daily clinic sessions to gauge understanding and retention of the subject matter taught. Such quizzes should reflect the knowledge acquired and subject matter covered during the clinic presentations. When written tests are utilized, at least one test consisting of a minimum of 15 multiple-choice questions relating to the material covered should be administered daily as a closed book written exam. Sponsors may, alternatively, utilize a single, 30 multiple-choice question exam at the conclusion of the FIRC program. These exams should be designed to test the retention of information provided during the FIRC program. Therefore, instructor attendees should not be given the written tests and allowed to complete them when class subject sessions are being presented. The instructor attendees should not be permitted to compare responses while the tests are being administered or to grade their own tests. A minimum score of 70 percent is required for satisfactory completion of each test administered. The chief instructor or assistant chief instructor is responsible for ensuring that acceptable compliance with the above is achieved and that test integrity is not compromised.

b. Distance Learning, Out-Study, or Internet FIRC. Where a distance, out-study, or Internet FIRC is presented lesson-by-lesson rather than by stages as in a conventional FIRC

program, a written test consisting of at least 10 multiple-choice questions relating to the material covered in each lesson should be administered following that lesson. A minimum score of 70 percent is required for satisfactory completion of each test administered. A minimum score of less than 70 percent will require that the material for that lesson be restudied and the test for that lesson be retaken. A second score of less than 70 percent on that lesson will require contact with the course provider for instructions on how to proceed as an enrollee in distance learning, out-study, or Internet FIRC. No two Internet-based tests can be identical. Tests must be randomized between attendees, and with individual attendees taking a repeat FIRC at a later time.

9. TCO REVISION, AMENDMENT, OR DELETION.

a. Sponsors or organizations approved to present FIRC programs will be required to revise the subject matters presented periodically to reflect the changing emphasis in subject matters currently listed in Appendices 1 and 2, and other subject matters selected for periodic emphasis by FAA. Additionally, exams should be changed at least once every two-year renewal period. All proposed substantive changes to the TCO should be e-mailed to AFS-800 at 9-AWA-AVS-AFS-FIRC@faa.gov, at least 21 days before their planned use. A single digital (i.e., Microsoft Word© or .pdf) copy of the change(s), accompanied by a separate electronic letter requesting approval of the change(s) should be submitted for approval. The revised material may not be included in the FAA-approved TCO until actual receipt of the letter of approval from AFS-800. Changes to the selection of pre-approved electives (provided that lesson plans for each are on file with the FAA) do not need approval, only notification to the FAA of what the elective changes are and where and when they will be employed as described in paragraph 5e. A change of chief instructor or assistant chief instructor will require notification to AFS-800 in accordance with the instructions contained in paragraph 13.

b. The method for revising, amending, or deleting materials in the TCO should

- (1) Ensure approval chronology.
- (2) Include the effective date of change or revision.
- (3) Ensure ease in identifying changed or revised material.
- (4) Include entry of change on a revision summary page.
- (5) Include written guidance describing the revision procedure to be used by the sponsor.

10. TRAINING AIDS AUTHORIZED FOR USE. An FIRC-approved under this AC may include the use of a variety of visual, aural, and static training aids to enhance communications and understanding between instructors and participants. Good instructional aids assist instructors in achieving desired goals in the teaching/learning processes by supporting or supplementing lesson material when used logically and intermittently. The aids used should be easily understood and compatible with the learning outcomes expected in the completion standards for the lesson. Visual aids that do not appeal to the visual senses of the viewer have little value in the learning process and should not be used. Recordings of sounds should be tested in advance for correct volume and quality in the actual environment in which they are to be used and speakers

should be placed so as to ensure that all attendees seated in the class can clearly hear the information given.

a. Visual aids used should be clearly visible to the entire class. Lettering, illustrations, and diagrams should be large enough to be seen clearly by attendees farthest from the aids. Colors, when used, should be clearly contrasted, easily visible, and arranged in accordance with color spectrum sequence recommended for visual presentations. Eye pleasing colors should be used and harsh contrasts avoided. The most common error in constructing visual presentations is to attempt to include too much information on each visual, making it difficult to read and comprehend while listening to the instructor or moderator. The best results are attained by using visuals that are simple and contain a single thought or message. For example, the reproduction of an entire sectional chart projected on a screen to emphasize the airport information block would contain too much clutter to be effective. A follow-up visual which highlights the airport data block only would be much more effective in presenting the message to the clinic attendees and should be visible from any place in the room.

b. The effectiveness of instructional aids will be judged by organization, sequencing, logic, and overall effectiveness in achieving the objectives and standards prescribed in the training syllabus.

c. In recent years, an abundance of excellent new materials and instructional techniques in the field of training aids has been developed. These aids present many advantages for the FIRC programs. Each chief instructor should keep in mind the teaching goals to be achieved. For example, presentations to flight instructor attendees should always be customer focused. For an instructor to be most effective, the instructor must thoroughly know the subject matter being taught. These presentations should be couched in terms of techniques that will help the attendees be more effective as instructors rather than solely as a review of the required subject matter. The chief instructor or assistant chief instructor should continuously monitor the instruction given and the participants' progress to ensure that a quality product is effectively delivered, and that the goals and objectives of the training syllabus continue to be met.

d. A review must be conducted to ensure that the participants meet the completion standards and fully understand the material presented. Such evaluation will determine whether the participant(s) should progress to the next lesson or review the subjects or procedures previously covered. Either the chief instructor or other authorized FIRC representative must:

(1) Determine through a review of the program or program element presented, that the standards for each lesson presented have been attained; or

(2) In the case of a TCO presented under an extended program, determine and document by suitable record that the standards for each TCO program element have been attained.

11. GRADUATION CERTIFICATE ISSUANCE, COMPLETION CERTIFICATE ISSUANCE, RECORDS/APPLICATION TO FAA.

a. A graduation certificate is issued to an applicant who holds a valid and current flight instructor certificate and who successfully completes a FIRC program in accordance with this

AC. The organization or sponsor holding approval will ensure that, at the conclusion of each clinic, each successful graduate is issued a sequentially numbered graduation certificate containing at least the information listed in subparagraphs a(1) through (5). An issued graduation certificate that does not contain the information listed herein in a legible form is invalid and may not be honored by the FAA.

(1) The full name and address of the organization (or sponsor) holding FAA approval to conduct the clinic.

(2) The full name and address of the graduate.

(3) The date of issuance.

(4) A statement that the graduation certificate expires 3 calendar-months from the date of issuance. (§ 61.197(a)(2)(iii).)

(5) The signature of the chief instructor (or assistant chief instructor where designated).

b. A completion certificate may be issued to an attendee who is not a certificated instructor or to an instructor whose certificate has expired, provided the TCO permits his/her attendance at the FIRC. However, the completion certificate should make reference only to satisfactory completion of a course of training with no reference to attendance at an FAA-approved FIRC, and may not be used as a basis for CFI renewal or reinstatement.

c. The FIRC sponsor must maintain a record of the complete name and address of all instructor attendees and whether a graduation certificate was issued or denied. If a certificate was denied the reason for the denial must be recorded. This record must be maintained for a period of at least 24 months.

d. Acceptance of a graduation certificate issued within the preceding 3 calendar-months as the sole basis for flight instructor renewal under § 61.197(a)(2)(iii) remains the option of the FAA. Questions concerning the acceptance of a graduation certificate should be referred to AFS-800.

e. The capability of a Flight Standards District Office (FSDO) to administratively process flight instructor certificate renewals is based upon that office's work priorities and available staff. Therefore, to avoid placing an undue workload on a particular FAA FSDO, sponsors who do not have an ACR on their staff are encouraged to contact the FSDO having jurisdiction over the area where the FIRC is presented well in advance to determine the capability of that office to handle the anticipated number of applicants for renewal. It may be advantageous to advise the FIRC graduates that they should present their certificates to the local FSDO or to the FSDO having jurisdiction over their residential area for renewal, and that they should do so at intervals rather than in large numbers at any one office on a given day. These certificates should normally be presented to a FSDO before either the holder's flight instructor certificate or the graduation certificate issued has expired. However, where a FIRC sponsor's program is presented on the last Saturday or Sunday of the month, certification files of attending flight instructors whose certificate expired on the last Saturday or Sunday of that month may be submitted to a FSDO by the sponsor for renewal, provided that they are either hand carried to the FSDO by the sponsor

within 5 working days, or if mailed, show a postmark no later than 5 working days after expiration.

f. Applications for flight instructor certificate renewals showing acceptable identification verification may be submitted by mail by the FIRC sponsor. If submitted by mail, the mailed applications should contain complete documentation of all items necessary for renewal. In addition, the application must be accompanied by the unexpired flight instructor certificate and FIRC graduation certificate. Except as noted in subparagraph e, the applications should be mailed in time to reach the selected FAA FSDO before the expiration dates of either certificate. Otherwise, each applicant must present his/her certificate in person for identification compliance before the expiration of his/her flight instructor certificate or the expiration of his/her graduation certificate, whichever comes first. After processing, and provided the application is approved, the FAA will return the graduation certificate and a temporary flight instructor certificate to the applicant.

g. Applications for flight instructor renewals from instructors residing overseas who are unable to appear in person before a representative of the Administrator to establish their identity may establish their identity before either a notary public, the airman's U.S. Armed Forces commanding officer, a Consular official of the U.S. State Department, or an equivalent official of the foreign government. The procedure described in the following paragraphs is not meant to preclude the FAA from exercising its prerogative to require an instructor applicant for renewal to demonstrate his or her qualifications to hold a flight instructor certificate, if deemed appropriate.

(1) The flight instructor renewal applicant must submit a copy of his or her identification that contains a picture of the applicant (driver's license, military ID card, etc.). That copy of the applicant's identification document must be notarized by a notary public. The above procedure is also acceptable as a means of identification by an overseas applicant who enrolls in an at-distance, out-study, or Internet FIRC course and must be identified by the course sponsor.

(2) The applicant may send FAA Form 8710-1, the identification form, a valid copy of a FIRC graduation certificate, and a valid and current flight instructor certificate to a FSDO that has oversight of the FIRC. When these documents are sent to a FSDO, they must arrive within 5 working days, or show a postmark no later than 5 working days after expiration.

(3) The receiving FSDO will process the application for renewal in the normal fashion. FAA Form 8710-1, the identification form, superseded flight instructor certificate, and a Temporary Airman Certificate will be forwarded to the Airman Certification Branch, AFS-760. Provided that the application file is complete and the FAA has no reason to require a demonstration of proficiency by the airman, a temporary flight instructor certificate will be issued and mailed to the applicant at the overseas address. The FSDO will return the graduation certificate to the applicant.

h. Providers should utilize the Integrated Airman Certification and/or Rating Application (IACRA) Internet-based program for processing applicants. Questions concerning how to utilize this program for FIRCs should be directed to the local FSDOs.

12. SCHEDULING OF CLINICS. The approved sponsor or organization shall notify AFS-800 of its intent to conduct FIRC programs not less than 45 days before the scheduled date of any clinic to permit FAA to make arrangements to monitor the clinic, as necessary. An annual listing of clinic locations and dates is highly desirable. Submission of a schedule should be in electronic form (i.e., Word or .pdf).

13. CHANGE OF CHIEF INSTRUCTOR OR ASSISTANT CHIEF INSTRUCTOR. The approved sponsor or organization shall notify AFS-800 when a change in the sponsor's chief instructor (or assistant chief instructor where designated) is to be made. This notification should be made at least 45 days before the change, but in no case later than 10 days after the change. Notification should be in electronic form (i.e., Word or .pdf).

14. CHANGE OF SPONSOR. Should a change in sponsor occur due to sale or other reason and no change in personnel occurs, the sponsors (both old and new) must notify AFS-800 within 10 days. If, however, the change in sponsor involves any change in personnel of the FIRC TCO, authorization to conduct FIRCS is canceled until the new sponsor has obtained FAA approval as outlined in paragraph 5. Only initial approval will be considered until the provisions of paragraph 17c have been met.

15. FAILURE TO COMPLY WITH AN APPROVED TCO. The failure of an organization or its representatives to comply with an approved course of training, or to effect such corrective action on a timely basis as deemed appropriate, is basis for denial or withdrawal of the FAA's approval and associated delegation of authority. When revision to a previously approved TCO or related corrective action is determined to be necessary, the sponsor will be given no more than 60 days to make the necessary revision or corrective action, as appropriate. Should the sponsor not make the necessary revision or corrective action within 60 days, FAA approval and authorization to conduct FIRC programs will be withdrawn automatically.

16. GENERAL PROCEDURES REGARDING FIRCS. Sponsors or organizations authorized to conduct FIRCS approved in accordance with this AC, must maintain with AFS-800 a current mailing address, e-mail address, telephone and facsimile number, and a reliable point of contact. Sponsors are expected to comply with the following general procedures.

a. Each attendee and/or FAA observer/monitor will be provided an opportunity to review a copy of the FAA-approved TCO upon enrollment or during the registration of attendees on site. However, the test questions used by the FIRC for its lessons, stage, or course completion evaluations must be given to the FAA observer/monitor only upon request.

b. FAA participation by forum or by presentation may not exceed 2 hours maximum and is authorized only by prior agreement between the FAA representative(s) and the FIRC sponsor.

c. A FIRC program must be completed within the time periods specified in the approved TCO with all lesson and time requirements fulfilled during those periods. A graduation certificate may not be issued to a flight instructor attendee who has not successfully completed all curriculum requirements.

d. Academic institutions or vocational schools having state board of education approval and/or national accreditation for a curriculum leading to an associate or bachelor's degree, or to a

certificate of completion in aviation science or similar course of study, may be approved on a case-by-case basis by AFS-800 to conduct a FIRC over a period of time in excess of the 2 to 5 consecutive days; i.e., semester or quarter.

e. The TCO may not contain material, nor may any materials be presented during the FIRC, that is prejudicial or contrary to the FAA's federal regulations or prescribed procedures. A FIRC program is not a forum for disagreement with FAA policy or procedures. Rather, it should engender appropriate respect for the role of the FAA and a proper compliance disposition toward federal regulations. Failure to meet this criterion may constitute grounds for withdrawal of FAA approval.

f. No sponsor may teach a part of his/her own FAA-approved TCO and a part of another sponsor's TCO. An approval to conduct a FIRC is limited solely to the TCO for which an FAA approval is held. Inclusion of any materials not approved in the TCO, regardless of their source, is prohibited.

g. Sponsors may use video and/or aural presentations to conduct part of the FIRC program. However, except for a distance or out-study curriculum submitted in paragraph 5c, or an online Internet FIRC presented in paragraph 5d, the sponsor must limit video and aural presentation use to not more than 50 percent of the entire course hours. The information provided by video and/or aural presentations in at-distance or out-study curricula must be germane to the materials presented and each subject matter presentation must be moderated by an introduction and closure given by an instructor who is well versed in the subject matter and materials presented.

h. An applicant for renewal of a valid and current flight instructor certificate who, because of extenuating circumstances, fails to satisfactorily complete all of a FIRC sponsor's program approved under this AC may, at the discretion of the sponsor, attend a later scheduled FIRC program presented by that same sponsor. Upon full and satisfactory completion of that sponsor's FIRC at a later date, the instructor attendee may be issued a graduation certificate. This procedure is not intended to permit an instructor attendee's intentional absence from any part of a FIRC sponsor's program for other than unforeseen (emergency) circumstances.

i. A provider may utilize a representative from the industry to present a module in the FIRC program. However, that representative may not use the FIRC venue to promote a particular product. The representative may discuss his or her product only in a generic sense and, if done, must present other, comparable products as well. If at any time the FAA determines that an industry representative is using a FIRC presentation as an opportunity to sell a product, the FAA may withdraw its authorization for the provider to present any additional FIRCs.

17. FIRC APPROVAL PROCESS. TCOs should be submitted for consideration by AFS-800, as described in paragraph 5. The FAA will conduct a thorough review of the TCO and, if all the guidelines of this AC have been met, an initial or final approval, as appropriate, will be issued. Final approval may not be issued until a satisfactory evaluation of the FIRC has been completed by the FAA.

a. When the FAA finds that a conventional FIRC TCO is in compliance with this AC, a letter indicating approval of the submitted TCO will be forwarded to the sponsor electronically.

The approval letter constitutes authority to conduct FIRC's at locations either within or outside the United States. The initial FAA approval may be withdrawn at any time for sufficient cause, but, in any case, will become invalid on the last day of the 24th month after the month in which approval is given, unless continuation of approval has been granted. One of the first FIRC's presented by a new sponsor will be monitored on-site by FAA personnel. The approval of an Internet FIRC will be on a case-by-case basis and the FAA's approval will be signified by a cover letter appropriately identifying the TCO.

b. Continuation of initial approval may be granted or extended beyond the scheduled expiration date for an additional 24 months if the sponsor has notified AFS-800 by letter of its desire to continue to provide FIRC programs at least 90 days in advance of the scheduled expiration date. In no case will a second extension of 24 months be granted unless the TCO has been updated to reflect current policy, procedures and regulations, and the FAA believes that final approval will be warranted. In any event, the test questions should be updated at least once in each 24 month approval period.

c. FSDOs having geographic jurisdiction over the locations where FIRC's are presented are expected to monitor these programs to the extent possible. FIRC presentations may be monitored at any time on a random basis by the local FSDO having jurisdiction over the locations where the FIRC's are presented. A FIRC sponsor may offer a FIRC upon initial approval even if FAA personnel are not available to monitor the program. However, approval will remain provisional until such monitoring has taken place and the FAA may rescind the provisional authorization at any time. Final approval will be awarded upon successful monitoring of at least one FIRC program. This final approval may be rescinded or withdrawn for sufficient cause, but will otherwise remain in effect until the last day of the month, 24 months after the month in which final approval is given.

18. FIRC RENEWAL, WITHDRAWAL, OR CANCELLATION.

a. FIRC sponsors holding final approval who desire to renew their authorization to conduct FIRC programs beyond the date of original expiration must state their request to AFS-800 at least 90 days before the original expiration date. The preferred method is via electronic mail in the form of a Microsoft Word© or .pdf attachment; however, conventional mail is acceptable. It is the sponsor's responsibility to ensure that its FIRC approval has not expired. Should the FAA's approval of a FIRC expire, a graduation certificate issued by the sponsor is invalid and may not be honored. Additionally, an ACR designation, if held, is no longer valid and may not be used.

b. Upon a finding by AFS-800 that the TCO reflects current AC requirements and that the FIRC's program is acceptable and in compliance with the AC and the FAA-approved TCO, AFS-800 will renew the approval and establish a new expiration date. Failure to comply with the FAA-approved TCO or this AC, or the failure to incorporate necessary changes to the existing TCO when so directed by AFS-800 in writing, may be sufficient cause for withdrawal of the approval.

c. If AFS-800 has not received a letter from the FIRC sponsor requesting renewal as described above or, if the sponsor requests to surrender its authorization, the FAA will return all

materials originally presented by the applicant if specifically requested; otherwise those materials will be destroyed. From that point on no further clinics may be presented. To re-establish approval, the applicant must then comply with the original application procedures as outlined in this AC.

19. APPLICATION AND APPROVAL OF AN ACR EMPLOYED SOLELY BY AN FIRC SPONSOR.

NOTE: Only FIRCs that have been given final approval may apply for an ACR.

a. Except for FIRC sponsors who were previously authorized with an ACR designee on their staff, only sponsors or organizations presenting FIRCs that have received final FAA approval and have presented three or more FIRC programs during each 12 month period since approved, or that have a designated pilot examiner on staff, are eligible to apply for an ACR under this AC. Exceptions to the above will be evaluated on a case-by-case basis and will require that acceptable justification be provided in accordance with the current edition of FAA Order 8710.3, Pilot Examiner's Handbook, chapter 17. Application for the designation of an ACR authorized to issue flight instructor certificate renewals to eligible course graduates of specific FAA-approved FIRCs should be submitted by letter to the FSDO having jurisdiction over the area in which the applicant's principal business office is located. The FSDO receiving the application will either approve or disapprove the request. Notification of approval and designation will be forwarded to AFS-800 via e-mail at 9-AWA-AVS-AFS-FIRC@faa.gov. When approved, an ACR designation should be forwarded to AFS-800 for inclusion in the FIRC sponsor's file.

b. The sponsor or organization presenting an FAA-approved FIRC that is eligible for designation of an ACR may request such designation for one or more responsible members or employees of the organization represented by submitting a letter of request containing at least the following information:

- (1)** The original date of FAA approval of the sponsor to conduct the FIRC.
- (2)** The number of programs given in the 12-month period immediately preceding the request for an ACR designation.
- (3)** The number of instructor attendees issued graduation certificates, the number of graduation certificates denied, and the reasons for the denials.
- (4)** The number and location of programs scheduled and the expected number of instructor attendees for the 12-month period immediately following the date of request for designation.

c. General Eligibility and Experience Requirements. A candidate employed solely by an FIRC sponsor applying for designation as an ACR must:

- (1)** Be at least 21 years of age.

- (2) Hold at least a commercial pilot certificate.
- (3) Hold a flight instructor certificate with at least one aircraft category rating, or hold a ground instructor certificate with an advanced rating.
- (4) Have a safe record as a pilot in regard to accidents, incidents, and violations.
- (5) Have a reputation for integrity and dependability in the industry and the community.
- (6) Have been employed as either a chief instructor, assistant chief instructor, or ground instructor of an FAA-approved pilot school, or have held a management or administrative position in a pilot school that is superior to the chief instructor designated for each course of training conducted by the school under examining authority, for at least 12 months immediately preceding application for designation as an ACR.
- (7) Have a written recommendation from the FIRC sponsor when the candidate is a person other than the sponsor.

d. ACR Privileges and Limitations. An ACR is authorized to accept applications for the renewal of a valid and unexpired flight instructor certificate from FAA-approved FIRC graduates. The ACR may accept applications only from eligible course graduates of the FIRC named on the examiner's Certificate of Authority and Certificate of Designation.

(1) After reviewing the applicant's attendance/training record and eligibility, an ACR is authorized to renew the valid flight instructor certificate of a FIRC graduate who meets the requirements of part 65, § 61.197(a)(2)(iii).

(2) An ACR is not authorized to conduct any knowledge or practical tests in connection with ACR duties.

20. ACR DURATION, RENEWAL, WITHDRAWAL, OR CANCELLATION.

a. An ACR designation expires the last day of the 12th month following the month in which designation is made and may be renewed for a period not to exceed another 12 months on a recurring basis.

b. Application for renewal of an ACR should be submitted to the FDSO of jurisdiction at least 60 days before the date of expiration. A copy should then be sent to AFS-800 when renewed.

c. FAA approval of an ACR may be withdrawn when the FIRC receives an unsatisfactory rating as the result of an FAA inspection or monitoring, when discrepancies are noted in the FIRC sponsor's program, or when the associated ACR's certification files are not corrected in a satisfactory or timely manner. Except in the case of an at-distance learning or out-study, or Internet FIRC program, the issuance of a flight instructor certificate renewal based upon successful completion of a FIRC when the applicant did not complete all renewal requirements within the 2 to 5 consecutive-day period will constitute cause for withdrawal of the ACR

designation unless the issuance is based on satisfactory completion in accordance with paragraph 16c or 16g.

d. The designation of an ACR who fails to apply for renewal as described in paragraph 19, will be canceled. Failure of a FIRC sponsor to obtain ACR renewal, or cancellation of the FIRC's authority will also cancel the designation of any ACRs in its employment. The reappointment process for an ACR will be the same as for original designation. Notification of cancellation of the ACR designation will be issued in accordance with appropriate FAA guidelines and procedures. The appropriate file(s) will be returned to the sponsor holding the ACR designation.

21. DISPOSITION OF CERTIFICATION FILE.

a. An ACR, unless authorized otherwise, forwards each certificate renewal file, complete with a signed FAA Form 8710-1, Airman Certificate and/or Rating Application, and the original of FAA Form 8060-4, Temporary Airman Certificate, within 5 days of the FIRC completion to the FSDO having jurisdiction over the area where the FIRC program was conducted. A copy of the ACR's letter of designation should be included with the submitted files when sent to other than the designating FSDO or to AFS-760.

b. The FAA strongly encourages providers to utilize the IACRA to create a FIRC instructor attendee airman's certification file, in which case the file will be electronically forwarded directly to the Airman Certification Branch, AFS-760.

APPENDIX 1. REQUIRED INSTRUCTIONAL SUBJECTS FOR FAA-APPROVED TCO CURRICULA

Appendixes and subject matter listed herein may be revised periodically by the Federal Aviation Administration (FAA) to reflect the changing emphasis determined by FAA for the renewal of flight instructor certificates under Title 14 of the Code of Federal Regulations (14 CFR) section (§) 61.197(a)(2)(iii). It is incumbent upon the FIRC sponsor to periodically check the flight instructor refresher clinic (FIRC) informational Web site (e.g., once a month) for any updates or changes in FIRC policy, guidelines, or resources. That Web Site is located at: <http://www.faa.gov/pilots/training/firc>.

The subject areas described below are those in which instruction is required to be given by holders of authorization to present FAA-approved FIRC curricula. These subject areas may be taught individually or they may be combined when the subjects are such that teaching them in combination is appropriate. However, these subjects should be taught in logical succession and in cohesive units consistent with the knowledge requirements of the attendees, their ability to understand the subjects, and their application to the instructional process.

The instruction presented should be clearly identifiable as relating to the required subjects listed herein. Not less than 16 hours of instruction must be given in each FIRC program. All 15 of the following “Core Topics” must be incorporated within the minimum 16 hours of instruction. There are no minimum time requirements for the individual core topics. It is expected that each of the individual core topics instruction be comprehensive enough to relay all necessary and pertinent information to the audience. The time expected to be spent on a given topic, both Core and Elective, should be identified in the training course outline (TCO) as well as each topic’s expected start and stop times. The balance of the 16-hour program can be filled with topics from Appendix 2, Recommended Elective FIRC Topics. Selection of any of those Elective topics from Appendix 2 will be approved. At the discretion of the sponsor, additional subject matters germane to flight instruction may be presented as other elective subjects in meeting the total 16-hour requirement; however they must be reviewed by AFS-800 and will be approved on a case-by-case basis. Submission of additional subject matter topics can be made via email through the above-mentioned Web site and approval will typically take place within a few days via return email.

CORE TOPICS

1) Technically Advanced Aircraft (TAA).

Technically Advanced Aircraft (TAA) are becoming more prevalent and represent virtually all new light General Aviation (GA) aircraft manufactured today. Many manufacturers have stopped producing conventional electro-mechanical gauge equipped aircraft altogether. By definition, a TAA is a GA aircraft that contains a global positioning system (GPS) navigator with a moving map display, plus any additional systems. Traditional systems such as autopilots when combined with GPS navigators are included. It includes aircraft used in both visual flight rules (VFR) and instrument flight rules (IFR) operations with systems certified to either VFR or IFR standards. Many new TAA aircraft employ full “glass panel” displays with multi-axis autopilots. More and more flight schools are employing these aircraft both for primary and advanced flight training

and many individuals are purchasing these aircraft for personal use. It is imperative that flight instructors be made aware of this new technology, as they will encounter it with increasing frequency. While it is not realistic to teach the instructor the intricacies of one system or another during a FIRC, certain issues are universal to all TAA aircraft and should be considered when training in any aircraft so equipped. These would include, at a minimum, concepts of information management (including situational awareness), automation management (including appropriate use of automation), and risk management (including single pilot resource management).

2) FAA/Industry Training Standards (FITS).

Flight instructors today should be familiar with the basic tenets and concepts of the FAA/Industry Training Standards (FITS) program, which is a partnership between FAA, Industry, and Academia designed to enhance GA safety and reduce GA fatal accidents. The FITS training model is becoming widespread in GA. It was originally developed for training in Technically Advanced Aircraft but its tenets can apply to all aircraft. FITS programs create scenario-based, learner-focused training that encourages practical application of knowledge and skills. This is accomplished by developing flight training programs that are more convenient, more accessible, less expensive, and more relevant to today's users of the National Airspace System. FITS products are non-regulatory and incentive driven. The program focuses on expertly managed real-world challenges. Scenario-based training is used to enhance the GA pilots' overall aeronautical skill by building aeronautical decision making, risk management, and single pilot resource management skills into training on basic stick and rudder skills. While FITS itself was not intended for training on non-TAA aircraft, the FAA is consulting closely with industry on ways to address the need to adapt these concepts to other areas of flight training.

3) Sport Pilot.

Many consider the advent of the sport pilot certification to be one of the most significant changes to the airman certification structure to have occurred in over 50 years. Because of the growing cost to acquire the Private Pilot certification, more and more aviation enthusiasts are considering the sport pilot as a satisfactory and economical alternative. Many aircraft already meet the light-sport aircraft criteria, and many manufacturers are now producing modern Light Sport aircraft. It is likely that flight instructors will be asked to provide information and possibly training for this new certificate. The instructor should be made aware of the requirements for, and privileges and limitations of, the sport pilot certification. Of particular interest are the reductions in medical requirements. Instructors must be made aware of the new endorsement requirements for the sport pilot. Since light-sport aircraft must meet certain criteria, a well informed flight instructor would be expected to be aware of the basic requirements.

4) Security-Related Special Use Airspace.

Several significant airspace changes have resulted from the events of 9/11. Pilots-in-training depend on their instructors to guide them through the intricacies of the new and changing airspace regulations, and to make them aware of the consequences of violating those airspaces. "Floating" temporary flight restrictions (TFR), particularly common during election years, are a significant challenge for pilots. New regulations regarding power plants and stadiums are now in

place. Instructors must have thorough knowledge about concepts entirely new to many GA pilots, such as the Washington, D.C. Flight Restricted Zone (FRZ) and Air Defense Identification Zone (ADIZ). In addition, all pilots must be made fully aware of intercept procedures. The consequences of violating airspaces have become much more severe and often allow little flexibility with respect to enforcement.

5) Transportation Security Administration (TSA).

The Transportation Security Administration (TSA) now has a role in flight-training. Consequently, flight instructors should know which airman certificates TSA is interested in. Instructors must also be aware of the requirements for citizenship documentation, record keeping, foreign student processing, flight instructor and flight school security awareness training, and more. Not following the TSA guidelines properly can have serious consequences both for the student and for the flight instructor.

6) GPS Navigation.

GPS is quickly becoming the principal means of navigation for many pilots. Even in minimally equipped aircraft, pilots can be found using the most sophisticated hand-held GPS receivers available as a principal means of navigation. These advances in navigation accuracy are highly beneficial. However, dependency on GPS can also lead to weaknesses in other forms of navigation (e.g., pilotage and dead-reckoning), and incorrect use of GPS can be dangerous. Flight instructors should be able to teach, at a minimum, proper use of GPS systems, their limitations, database update requirements, and regulatory requirements.

7) Integrated Airman Certification and/or Rating Application (IACRA).

The Integrated Airman Certification and/or Rating Application system (IACRA) is an Internet-based (paperless) method of processing an airman's 8710 application. The system allows the applicant to submit his or her application online, and the instructor can log on and electronically sign the document. The certifying officer (usually a Designated Pilot Examiner, (DPE) can then, at the beginning of the practical test, call up the applicant's instructor-signed application, verify the information and, when the practical test is complete, simultaneously print the applicant's temporary airman certificate (or letter of continuance or unsatisfactory notice) and submit the form to the Airman Certification Branch in Oklahoma City. IACRA is gaining wide acceptance and some flight training facilities use it exclusively. Since it is expected that use of IACRA will expand significantly in the near future, it is important that the flight instructor become familiar with the system as soon as possible.

8) Aircraft Operational Limitations.

Variations of factors relating to operating environment have a direct correlation to an aircraft's operating limitations. Density altitude, runway composition or length, fuel loads, etc. directly impact the operating limitations of all aircraft. Not intimately knowing their aircraft's operational limitations has caused more than a few pilots their lives. And yet, through conscious or unconscious decisions, pilots continue to ignore the limitations of their aircraft. Many do not

even remember how to perform basic weight-and-balance calculations. Many more have never carefully read through their Approved Flight Manual. Regardless of whether the pilot deliberately chooses to ignore the operating limitations, or there is simply a lack of awareness of them, it is the flight instructor's responsibility to continually and repeatedly emphasize their importance. Although most instructors are well aware of the necessity to strictly adhere to, and operate within, the operating limitations; it is essential to convey this information continually to their students

9) Effective Teaching.

Flight instructors are highly trained individuals. They hold vast amounts of knowledge gleaned during their own training and through their own experiences. Having a well-founded basis of knowledge is critical to being an effective instructor. However, if that highly trained and knowledgeable instructor is unable to convey their knowledge to a student, then he or she is ineffective as a flight instructor, regardless of knowledge and expertise. Teaching is an art. It requires not just an understanding of the topic, but an understanding of how people think and learn. It requires a certain amount of psychological understanding. Virtually all instructors took coursework in the Fundamentals of Instruction, which offers a basic theoretical framework for the teaching and learning processes. In addition, it is helpful to remind FIRC participants that flight instructing is fundamentally a "people skill." Flight instructors should present themselves in a professional manner. Simple personal appearance can have a significant effect on their ability to effectively communicate with their students. Their mannerisms should be friendly, not bossy, should treat their students as equals not as subordinates, be able to recognize the signs of boredom and frustration and know how to deal with them. Instructors should be able to quickly recognize when they themselves become frustrated with students who may not be progressing as they think they should and know how to deal with it.

10) Safety Trends in GA.

Over the last 10 years, accident rates have been continuing a downward trend, but there is still plenty of room for improvement. What are some common causes of accidents? Which types of accidents are in decline, which have increased and why? Are there things that flight instructors in particular can do to influence those trends? While we may not be completely sure of all of the factors that might be directing those trends, the one thing we can all be sure of is that they all involved pilots. And all pilots receive training. Those pilots receive their training from flight instructors. Since flight instructors are on the front lines, it is important for them to know what is leading to accidents and incidents. The FIRC provides a good opportunity for the flight instructor to get the latest information on accident/incident trends, factors, and causes.

11) Risk Management / Risk Intervention Strategies.

Risk management/risk intervention is much more than the simple definitions of the terms might suggest. Risk management and risk intervention are decision making processes designed to systematically identify hazards, assess the degree of risk, and determine the best course of action. These processes involve the identification of hazards, followed by assessments of the risks, analysis of the controls, making control decisions, using the controls, and monitoring the results.

Flight training activities take place in a “time-critical” framework for risk management. One way to put these concepts to work is for instructors to teach the “3P” model of risk management:: **P**erceive, **P**rocess, **P**erform. We can help PERCEIVE hazards by using the **PAVE** checklist of: **P**ilot **A**ircraft, **e**n**V**ironment, and **E**xternal pressures. We can PROCESS hazards by using the **CARE** checklist of: **C**onsequences, **A**lternatives, **R**eality, **E**xternal factors. Finally, we can PERFORM risk management by using the TEAM choice list of: **T**ransfer, **E**liminate, **A**ccept, or **M**itigate. Another risk management tool is the “5 P Check” consisting of “the **P**lan, the **P**lane, the **P**ilot, the **P**assengers, and the **P**rogramming.” Each of these areas consists of a set of challenges and opportunities that face a single pilot. And each can substantially increase or decrease the risk of successfully completing the flight based on the pilot’s ability to make informed and timely decisions. These concepts are relatively new in the GA training world but have been shown to be extraordinarily useful in lowering accident rates in the world of air carriers. Instructors should be well versed on these concepts.

12) Takeoffs/Landings/Low Altitude Maneuvering.

There’s an old saying: “takeoffs are optional, landings are mandatory.” One might go a step farther to say that, if one is to fly at all, both are mandatory. Approximately 65 percent of all GA accidents occur during takeoffs, landings, or low altitude maneuvering and virtually all are pilot-related. We can’t eliminate the need to maneuver near the ground or to take off or land, but we can address the skill issues with the pilots performing those maneuvers. Teaching proper takeoff and landing technique can be as much an art as a skill, and the instructor needs as much information as he or she can get so that they can better understand the types of difficulties that pilots are having during those phases of flight and what the latest thinking is regarding how to best deal with them. There are multiple approaches to teaching takeoffs and landings and instructors may need to vary their training technique from one client to another. The FIRC venue provides the instructor the opportunity to learn new techniques and to share techniques among other instructors so that they can become better equipped to contribute to increasing the safety of those necessary phases of flight through the training of other pilots.

13) Runway Incursions.

One of the FAA’s top priorities is to reduce the frequency of runway incursions and the risk of a runway collision. The FAA aims to reduce the severity, number and rate of runway incursions by implementing a combination of technology, infrastructure, procedural and training interventions to decrease the prevalence of human errors and increase the error tolerance of airport surface movement operations. One of the most critical areas is that of pilot training. That is where the flight instructor comes in. It is critically important that the flight instructor be well versed in the “mechanics” of what leads to a runway incursion, the various types of incursions that can and do take place, and the techniques that can prevent these occurrences. The instructor should be made aware of those areas of operation where pilots are failing to properly place their aircraft and to teach them to be aware of and vigilant for the “traps” that can make a pilot unaware of a pending unsafe condition it happens. A well-trained instructor can then transfer that awareness to their flying students each time they get into an airplane with them.

14) Pilot Proficiency Wings Program.

Every pilot is required to have some kind of recurrency training at least once every 24 calendar months. Most common is the Flight Review, in which the pilot receives a minimum of one hour of flight instruction and one hour of ground instruction once within that 24 month period. There is an alternative that benefits both the pilot and the instructor: the Pilot Proficiency Wings Program (“Wings”). The Wings program is currently in transition, moving toward a new model that will offer three levels of achievement: Basic, Advanced and Master. Wings topics will be designed to target specific emphasis areas derived from accident data. The levels will be attained and maintained on a rolling basis based on the accrual of educational credits of ground knowledge and flight training. Standards of achievement will be based on the Practical Test Standards. Recordkeeping and verification will be online. Like the old Wings program, achievement of a level will substitute for a flight review. This program is a major FAA Safety Team initiative and flight instructors need to be aware of how the program works and how it can benefit both their clients and themselves.

15) FAASTeam.

The old Safety Program has been reengineered and renamed the FAA Safety Team, or FAASTeam. Each of the FAA’s eight regions now has a Regional FAASTeam Office dedicated to this new safety program. The FAASTeam is joining forces with individuals and the aviation industry to create a unified effort against accidents and “tip” the safety culture in the right direction. These include FAASTeam members, those individuals who make a conscious effort to promote aviation safety and become part of the shift in safety culture; FAASTeam Representatives, aviation safety volunteers who wish to work closely with FAASTeam Program Managers (FPM) to actively promote safety; and, FAASTeam Industry Members, who include companies or associations of people that have a vested interest in aviation safety. The various FAASTeam affiliates will receive training and support from the FPMs and representatives so that they can help the FAASTeam objective of enhancing safety throughout GA. Flight instructors have many resources available to them through the FAASTeam offices and the FAASafety.gov Web Site, and should be aware of how to acquire and use those resources and how to participate, and encourage their clients to participate, in the program.

APPENDIX 2. RECOMMENDED ELECTIVE FIRC TOPICS

The following are recommended elective topics that may be used in conjunction with the required 15 core topics identified in Appendix 1. FIRC providers may submit lesson plans for each of the topics below. Each topic's lesson plan should include, at a minimum, objectives, lesson content, instructional techniques, and completion standards. Lesson plans for any of these listed elective topics will automatically be approved. Providers may submit lesson plans for topics not listed here and they will be reviewed on a case-by-case basis. Once approved, providers may switch elective topics at any time and as frequently as they wish throughout their TCO approval period provided that they notify AFS-800 of the change prior to classroom presentation. This Appendix should be checked periodically since suggested topics may be added or deleted. However, if a topic is ever deleted and a provider has already had that topic approved, then they will retain approval for that topic for the duration of their overall TCO approval period. For most of the topics listed below, strong emphasis should be placed on **how** flight instructors should effectively teach the subject matter to their students/clients, rather than simply teaching the flight instructors.

- 1 Teaching Aerodynamics
- 2 Practical Test Standards
- 3 Federal Regulations
- 4 Flight Information Publications
- 5 National Airspace System (May be incorporated into the Post-9/11 Airspace Core module)
- 6 Weather Analysis (Scenario-based training should be emphasized)
- 7 Human Factors/CRM/SRM
- 8 Fundamentals of Instruction (May be incorporated in the Effective Teaching Core module)
- 9 Flight Maneuvers and Procedures
- 10 Flight Safety
- 11 Recurrency/Transition Training
- 12 Collision Avoidance Procedures
- 13 Instructor Professionalism
- 14 Airport Operations
- 15 Controlled Flight Into Terrain
- 16 Stall/Spin awareness
- 17 Logging Flight Time and PIC Considerations
- 18 Practical Test Preparation
- 19 Teaching Fuel Management
- 20 Teaching IFR Approach and Departure Procedures
- 21 Aeromedical Factors
- 22 How to Apply for Waivers/Exemptions
- 23 Business Aspects of Flight Instruction
- 24 Ethics for Flight Instructors
- 25 Effective Use of Aviation Training Devices in flight training
- 26 How to develop effective training scenarios
- 27 How to teach formalized risk evaluation/mitigation techniques

Appendix 2

- 28 Weather in the cockpit (i.e., datalink, etc.)
- 29 Winter Flying/icing
- 30 Mountain Flying
- 31 CFI Legal Issues
- 32 Learner-Centered Grading
- 33 Open Forum (no more than one hour of the 16 hour program)