FITS Curriculum Acceptance Criteria and Levels of Accepted FITS Training

Training material being submitted for FITS acceptance must meet the specific FITS Criteria for the type of training. There are four levels of FITS acceptance that correspond to the type of training: Flight Syllabus, Non-Flight Syllabus, Self-Learning Programs, and Supporting Material. FITS acceptance must be solicited at the appropriate level for the type of training being provided. The criteria for FITS acceptance follow a description of the four levels.

LEVELS OF ACCEPTED FITS TRAINING

Accepted FITS Flight Syllabus – Will contain all the Criteria as defined below and will include flight in an aircraft or at least an Advance Aviation Training Device. Examples of this type of syllabus include initial, transition, and recurrent training syllabi.

Accepted FITS Syllabus (Non-Flight) – It is not intended to teach the pilot in training (PT) psychomotor pilot skills or full cockpit/aircraft integration in a specific aircraft. It's intended to enhance certain skill sets of the PT. Application of this level of acceptance may be to teach the PT how to use a new glass cockpit display or develop better SRM skills. A FITS Accepted Syllabus will also contain all the Criteria as defined below. A live instructor will lead the training.

Accepted FITS Self-Learning Program – This acceptance level falls between the FITS Accepted Syllabus and FITS Supporting Material. It may be an interactive CD, DVD, or on-line course for a specific application or subject. The purpose of this training is to master a specific piece of equipment and in the process develop judgment and/or critical thinking skills. Scenario based training or another form of problem-based learning and testing is required. Since a live instructor is not required, Learner Centered Grading may not be applicable. Thus, a FITS Self-Learning Program will contain all the Criteria except Learner Centered Grading.

    a. If the program is for a piece of equipment (i.e. Global Positioning System), the equipment should act like the actual piece of equipment during the interaction with the equipment (to a point). After basic training on the equipment, scenarios or problems should be used to practice or demonstrate Pilot in Training (PT) proficiency, knowledge, and judgment. The program should allow errors and demonstrate the consequences of those errors.

    b. For non equipment programs (i.e. Aeronautical Decision Making (ADM) development) scenarios with multi-string testing should be used.

Accepted FITS Supporting Material – These products do not need to meet the Criteria (i.e. may not include learner-centered grading and may not be scenario based but must include one or more problems or tasks as a basis for learning). For these products the subject is integral to FITS and the training must include an additional objective of enhancing or developing judgment skills including; analysis, synthesis, and evaluation. These products may be accepted on their own technical merit, but only as a part of an Accepted FITS Flight Syllabus or FITS Syllabus. For example, a Computer Based Instruction on risk management could be accepted and used as a module in a FITS accepted transition syllabus. Original equipment manufacturers (Cessna, Cirrus, Eclipse, etc.) or developers of training materials (Sporty's, Jeppesen, King Schools, etc.) normally develop Accepted FITS Supporting Material.

FITS ACCEPTANCE CRITERIA

For FITS acceptance the training curriculum and syllabus must include three concepts; (a) *Scenario Based Training (SBT)*, (b) *Single Pilot Resource Management (SRM)*, and (c) *Learner Centered Grading (LCG,)* except as noted above. In general, these concepts provide the PT an enhanced learning environment and the opportunity to practice, drill, and then reflect on the problems and tasks he or she encounters in training. Training that does not provide for learning in context and for judgment training; does not meet the basic FITS acceptance criteria. Additionally, FITS syllabus and curriculum should not be delivered unless the flight instructor has reviewed and understands the "FITS Master Instructor Syllabus" available on the FAA FITS website http://www.faa.gov/education_research/training/fits/. This syllabus is generic in nature and is designed to help the instructor learn how to apply the FITS principles in day-to-day instructional scenarios. A description of the key FITS principles follows.

Scenario Based Training – SBT is a training system that uses a structured script of "real world" scenarios to address flight-training objectives in an operational environment. Such training can include initial training, transition training, upgrade training, recurrent training, and special training. The appropriate subset of training should appear with the term "Scenario Based," e.g., "Scenario Based Transition Training," to reflect the specific application.

SBT should be deployed throughout the syllabus in accordance with the guidance contained in the appropriate Generic Master Syllabus (Transition, Instructor, Recurrent, Private/Instrument, etc.) that can be found on the FAA FITS website. Scenarios should be adapted to the aircraft, its specific flight characteristics, and the likely flight environment. The scenario invoked should always require the pilot to make real-time decisions in a realistic setting. After the first flight or two when the student has developed the required skills, the scenarios should be planned and led by the student.

Single Pilot Resource Management (SRM) – The art and science of managing all resources (both on-board the aircraft and from outside sources) available to a single pilot (prior and during flight) to ensure the successful outcome of the flight is never in doubt. The primary emphasis will be on developing, through the <u>enhancement</u> of the mental process, the underlying thinking skills, needed by the pilot, to consistently determine the best course of action, in response to a given set of circumstances. SRM integrates all of the following concepts:

- Aeronautical Decision Making
- Risk Management
- Task Management
- Information Management
- Automation Management
- Flight Management
- Situational Awareness
- Controlled Flight into Terrain (CFIT) Awareness

SRM should be a part of every phase of every scenario. While a manufacturer's curriculum may only utilize a pre-flight risk management form or system, SRM will be a graded item during pre-flight, pre-takeoff, takeoff, climb, cruise, descent, approach, and landing. SRM is clearly defined as Aeronautical Decision Making, Risk Management, Task Management, Information Management, Automation Management, Flight Management, Situational Awareness, and CFIT Awareness. Those parts of SRM appropriate to each phase of flight will be graded during each segment. The specific desired outcomes must be included in the FITS Master Learning Outcomes List contained towards the end of all FITS generic syllabi.

<u>*Learner (Student) Centered Grading*</u> – Desired Pilot in Training (PT) Scenario Outcomes

(1) The objective of scenario-based training is a change in thought processes, habits, and behaviors of students during the planning and execution of the scenario. Since the training is learner centered, the success of the training is measured by the following desired student outcomes.

  (a) Maneuver Grades (Tasks)

  - Describe – at the completion of the scenario, the PT will be able to describe the physical characteristics and cognitive elements of the scenario activities. *Instructor assistance is required to successfully execute the maneuver.*
  - Explain – at the completion of the scenario the learner will be able to describe the scenario activity and understand the underlying concepts, principles, and procedures that comprise the activity. *Instructor assistance is required to successfully execute the maneuver.*
  - Practice – at the completion of the scenario the student will be able to plan and execute the scenario. *Coaching, instruction, and/or assistance from the Certified Flight Instructor (CFI) will correct deviations and errors identified by the CFI.*
  - Perform - at the completion of the scenario, the PT will be able to perform the activity *without assistance from the CFI.* Errors and deviations will be identified and corrected by the PT in an expeditious manner. At no time will the successful completion of the activity be in doubt. ("Perform" will be used to signify that the PT is satisfactorily demonstrating proficiency in traditional piloting and systems operation skills)
  - Not Observed – Any event not accomplished or required.

  (b) Single Pilot Resource Management (SRM) Grades

  - Explain – the student can verbally identify, describe, and understand the risks inherent in the flight scenario. *The student will need to be prompted to identify risks and make decisions.*
  - Practice –the student is able to identify, understand, and apply SRM principles to the actual flight situation. *Coaching, instruction, and/or assistance from the CFI will quickly correct minor deviations and errors identified by the CFI.* The student will be an active decision maker.
  - Manage/Decide - the student can correctly gather the most important data available both within and outside the cockpit, identify possible courses of action, evaluate the risk inherent in each course of action, and make the appropriate decision. *Instructor intervention is not required for the safe completion of the flight.*

(2) Grading will be conducted independently by the student and the instructor, and then compared during the post flight critique.

(3) Learner centered grading (outcomes assessment) is a vital part of the FITS concept. Previous syllabi and curriculum have depended on a grading scale designed to maximize student management and ease of instructor use. Thus the traditional: "excellent, good, fair, poor" or "exceeds standards, meets standards, needs more training" often meet the instructor's needs but not the student's. The learner centered grading described above is a way for the instructor and student to determine the student's level of knowledge and understanding. "Perform" is used to describe proficiency in a skill item such as an approach or landing. "Manage-Decide" is used to describe proficiency in the SRM area such as ADM. Explain and practice are used to describe student learning levels below proficiency in both.

(4) Grading should be progressive. During each flight, the student should achieve a new level of learning (e.g. flight one, the automation management area, might be an "explain" item by flight three a "practice" item, and by flight five a "manage-decide" item).

Generic FITS syllabi, instructor and course developer's guides can be found on the FAA FITS website at http://www.faa.gov/education_research/training/fits/. If these guides and syllabi are followed, training providers should have no trouble gaining FITS acceptance. Most flight training providers (14 CFR parts 61, 141 and 142) should submit requests for FITS acceptance to their local Flight Standards District Office. Original equipment manufacturers (Cessna, Cirrus, Eclipse, etc.) or developers of training materials (Sporty's, Jeppesen, King Schools, etc.) submits their curriculum/syllabus for FITS acceptance to:

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FITS Program Manager,
800 Independence Avenue, SW, Washington DC, 20591
202 -267-8212

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Use of the FITS Logo

Once recognized, manufacturers and training providers are free to use the FITS Logo on "FITS recognized" curriculums and in advertising about that particular curriculum. The FITS logo will not be used in relationship to non-FITS products.