

FLIGHT INSTRUCTOR RATING - GENERAL

FIR4 Conduct aeronautical knowledge training and flight training

1 Unit description

This unit describes the skills and knowledge required to competently plan, conduct and review aeronautical knowledge training and effectively conduct flight training in an aircraft or flight simulation training device for Part 61 authorisations.

Note: The skills and knowledge described in this unit are to be integrated into the training syllabus for the particular training endorsement(s) sought.

2 Elements and performance criteria

2.1 FIR4.1 Plan training

- (a) confirm trainee readiness for proposed training through review of training records to confirm their competency status;
- (b) identify training objectives based on performance criteria in the manual of standards and operator's training plans;
- (c) identify underpinning knowledge for the units and elements relevant to the lesson and confirm trainee understanding;
- (d) select appropriate training methods to facilitate training objectives and knowledge transfer;
- (e) apply threat and error management into each ground lesson;
- (f) identify potential threats and errors in a flight lesson, including those associated with simulation of abnormal or emergency procedures or aircraft mishandling by trainee, and consider suitable mitigators;
- (g) select appropriate training resources and confirm availability and serviceability of required facilities, equipment, training aids, reference material and the airworthiness of the training aircraft or device.

2.2 FIR4.2 – Conduct aeronautical knowledge training

- (a) establish a learning environment and motivation that suits the trainee's needs;
- (b) clearly state training objectives that are relevant, practical and measurable;
- (c) conduct the lesson following or modifying the lesson plan to achieve training objectives and transfer of knowledge;
- (d) present and link new knowledge to previous knowledge;
- (e) use selected training aids to illustrate and enhance explanations;
- (f) apply appropriate instructional techniques; with instruction to the point using clear and deliberate speech;
- (g) deliver technical knowledge accurately and clearly to the required standard;
- (h) provide opportunities for trainee participation and practice;
- (i) discuss threat and error management issues and ensure application is understood by the trainee;
- (j) confirm training objectives have been achieved by questioning, review and other suitable methods;
- (k) provide feedback on trainee performance;
- (l) develop trainee self-assessment skills;
- (m) complete training objectives in the time available;

- (n) ensure all training is conducted effectively.

2.3 **FIR4.3 – Conduct pre-flight briefing**

- (a) confirm the trainee is mentally and physically prepared for flight training;
- (b) brief the trainee on the training outcomes, the associated performance criteria and the actions required of the trainee during the flight;
- (c) link previous training to the current exercise;
- (d) brief the trainee on how the flight will be conducted to meet the training outcomes;
- (e) confirm the trainee's ability to recall the training outcomes, underpinning knowledge, handling technique and planned flight scenario;
- (f) discuss the environmental conditions and their suitability for the training exercise;
- (g) discuss threat and error management issues applicable to the proposed flight and confirm the trainee understands her or his responsibility for managing those issues (airmanship).

2.4 **FIR4.4 – Conduct airborne training**

- (a) manage responsibilities as pilot in command for the safe operation of the aircraft;
- (b) apply flying techniques and procedures to the competency standards specified for the qualification being trained for whilst occupying the instructor seat;
- (c) demonstrate the task:
 - (i) introduce tasks in manageable portions without trainee overload;
 - (ii) make clear, concise and systematic explanations;
 - (iii) coordinate demonstration with explanation of manoeuvre;
 - (iv) make coordinated control inputs without abrupt manoeuvring, using accepted techniques;
 - (v) demonstrate the manoeuvre to the competency standards specified in this manual for a commercial pilot.
- (d) direct the task :
 - (i) implement handover and takeover procedures for control of the aircraft;
 - (ii) provide direction appropriate to the trainee's progress;
 - (iii) provide instructions in a clear, concise and timely manner;
 - (iv) provide sufficient practice for the trainee to achieve the task;
 - (v) intervene only to the extent necessary to assist the trainee's progress or to maintain safety.
- (e) monitor the task (unassisted practice):
 - (i) identify the trainee's deficiencies and provide feedback to assist the trainee in achieving the standard;
 - (ii) provide and vary additional instruction and demonstration as necessary to assist trainee;
 - (iii) ensure remedial training is effective such that errors are corrected;
 - (iv) encourage the trainee to develop self-assessment skills;
 - (v) note training events for debriefing and assessment.
- (f) intervene to recover the aircraft if the trainee does not manage an undesired aircraft state;
- (g) develop the trainee's responsibility through the application of human factors principles for threat and error management.

2.5 **FIR4.5 – Conduct post-flight briefing**

- (a) encourage the trainee to self-assess performance against the performance criteria;
- (b) describe clearly and accurately, significant details of the trainee's performance and assess the trainee's achievement against the training outcomes for the lesson and associated performance criteria;
- (c) identify any deficiencies in performance and suggest remedial actions and training;
- (d) discuss threat and error management issues encountered during the flight;
- (e) brief the trainee on the details of the next training exercise;

2.6 **FIR4.6 – Complete post-training administration**

- (a) record achievement, or otherwise, of competency, any remedial training required and identify content of the next training exercise;
- (b) complete administration procedures required for issue of an endorsement or military equivalent where applicable.
- (c) inform relevant staff of the trainee's performance and results where required;
- (d) review effectiveness of training and identify any adjustments to delivery, presentation and content for improvement, and discuss with appropriate stakeholders.

3 **Range of variables**

- (a) activities are performed in accordance with published procedures;
- (b) flight training includes training for the issue of a flight crew licence, rating or endorsement using a suitable training aircraft or approved flight simulation training device;
- (c) flight training includes the units and elements authorised by the flight training endorsement(s) held by the instructor;
- (d) aeronautical knowledge training, including pre- and post-flight briefings, is provided to support the flight training units and elements;
- (e) flight training and aircraft operation is conducted in accordance with regulatory requirements and safe operational practices and includes administrative procedures associated with authorising and recording flight training and maintaining training records;
- (f) flight training for licences and ratings is conducted under a Part 141 or Part 142 operator certificate with the relevant training specification in accordance with holder's operations manual.
- (g) the training is delivered in accordance with appropriate and documented lesson plans;
- (h) suitable learning resources may be used to assist the presentation, including audio visual aids, aircraft models, synthetic training devices, regulatory publications and aircraft and operations manuals;

4 **Underpinning knowledge of the following:**

- (a) relevant sections of Civil Aviation Safety Regulations;
- (b) principles and methods of instruction as prescribed in unit FIRC in schedule 3 of the MOS
- (c) the process of making an objective assessment against a standard;
- (d) provision of evidence of competency in performing as a flight crew member
- (e) terms used in respect of the evidence used to determine an individual's competency against a standard
- (f) the different forms of assessment and application in flight training
- (g) the requirements for assessing consistency of performance of flight crew standards;

- (h) the differences in standards for consistency of performance at different licence levels;
- (i) the application of the range of variables in making an assessment.
- (j) performing and learning complex skills, including cognitive and developmental issues and observational learning;
- (k) the levels of situational awareness and methods of developing and monitoring trainees situation awareness skills
- (l) rate of learning, enforced automaticity and the foundations of expertise;
- (m) instructor professionalism, including interpersonal skills, implications of being a role-model, self-reflection and self-managed professional development;
- (n) effective use of a course of training, curricula and syllabus and lesson plans;
- (o) training and assessment standards;
- (p) debriefing and feedback techniques;
- (q) transfer of control (handover and takeover or follow-through) drills and procedures;
- (r) principles of flight;
- (s) crew resource management (CRM) principles;
- (t) techniques for introducing tasks in manageable segments to avoid overloading a trainee and principles for integrating task segments;
- (u) appropriate use of scenario-based training in flight instruction;
- (v) application of risk management principles to emergency procedure simulations in flight;
- (w) checklists for single-pilot or multi-crew operations as applicable;
- (x) common student errors and suggested suitable remedial instruction;
- (y) obstacles to learning associated with flight training
- (z) operational concept of threat and error management in relation to flight training
- (aa) procedures and strategies for developing trainee threat and error management skills;
- (bb) task prioritisation system to assist the development of trainee task management skills
- (cc) suitable procedures for making decisions in-flight and for developing trainee decision-making skills;
- (dd) goal fixation effects on good decision making;
- (ee) three types of stress likely to affect trainee performance and methods of assisting trainees to cope with stress:
- (ff) requirements for completing relevant documentation;