



Australian Government

AVIM0003 Conduct aeronautical knowledge training and flight training

Release: 1

AVIM0003 Conduct aeronautical knowledge training and flight training

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit involves the skills and knowledge required to conduct aeronautical knowledge training and flight training in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes planning training, conducting aeronautical knowledge training and conducting pre-flight briefings. It also includes conducting airborne training, conducting post-flight briefings and completing post-training administration.

This unit addresses aviation non-technical skill requirements (mental, social, and personal-management abilities) for flight instructor personnel that complement the technical skills of the individual and contributes to safe and effective performance in flight training environments.

Flight instruction operations are conducted as part of recreational, commercial and/or military activities across a variety of operational contexts within the Australian aviation industry.

Work may be performed independently or under limited supervision as a single instructor or within a multi-crew environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

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.

Pre-requisite Unit

Not applicable.

Competency Field

M – Training and Assessment

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Plan training

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 1.1** Confirm trainee readiness for proposed training through review of training records to establish their competency status
- 1.2** Training objectives based on performance criteria are identified
- 1.3** Required knowledge is identified relevant to the instructional period to confirm trainee understanding
- 1.4** Appropriate training methods to facilitate training objectives and knowledge transfer are selected
- 1.5** Threat and error management (TEM) principles are applied within ground-based instructional periods
- 1.6** Potential threats and errors are identified within airborne instructional periods, including those associated with the simulation of abnormal or emergency procedures, aircraft mishandling by trainee, and identifying suitable mitigators
- 1.7** Appropriate ground, simulation or airborne training resources are selected
- 1.8** Availability and serviceability of required facilities, equipment, training aids, reference material and training aircraft or devices is confirmed

2 Conduct aeronautical knowledge training

- 2.1** Learning environment and motivation suitable to trainee characteristics is established
- 2.2** Materials are presented
- 2.3** Training objectives are stated

- 2.4** Lesson plan is followed and modified as required to achieve training objectives and to transfer of knowledge
- 2.5** New knowledge is linked to previous knowledge and is presented in a meaningful and logical framework
- 2.6** Training aids are used to illustrate and enhance explanations
- 2.7** Accurate technical knowledge is presented clearly and to the required standard
- 2.8** Opportunities for trainee participation and practise are provided
- 2.9** Applicable TEM issues are discussed
- 2.10** Trainee ability to apply TEM principles to the material presented is confirmed
- 2.11** Achievement of training objectives is confirmed by questioning, review and other suitable methods
- 2.12** Feedback on trainee performance is provided
- 2.13** Trainee self-assessment skills are developed

- 2.14** Training objectives are completed in time available
 - 2.15** Training is conducted effectively and safely
- 3 Conduct pre-flight briefing**
 - 3.1** Trainee mental and physical preparation for flight training is confirmed
 - 3.2** Trainee knowledge required for flight exercise is checked
 - 3.3** Trainee is briefed on training objectives, performance criteria and assessment requirements, and actions required during a flight
 - 3.4** Trainee is briefed on how flight will be conducted to meet training objectives
 - 3.5** TEM issues applicable to proposed flight are discussed with trainee and trainee responsibility for managing relevant TEM issues (airmanship) is confirmed
 - 3.6** Trainee understanding of training outcomes, knowledge evidence relevant to outcomes, aircraft handling techniques and planned flight sequences is confirmed
- 4 Conduct airborne training**
 - 4.1** Aircraft control handover/takeover procedures are explained and implemented
 - 4.2** Instructions and explanations are provided in a clear, concise, systematic and timely manner

- 4.3** Tasks are introduced in manageable portions while being aware of trainee overload
 - 4.4** Tasks are demonstrated to trainee and performed to specified standards through coordinated control inputs, without abrupt manoeuvring, using accepted handling techniques and appropriate instructional techniques
 - 4.5** Trainee is directed through task performance using appropriate levels of information, explanation and feedback consistent with trainee progress
 - 4.6** Trainee is monitored through task performance using appropriate levels of information, explanation and feedback consistent with trainee progress
 - 4.7** Segmented tasks are integrated progressively in accordance with established workplace procedures
 - 4.8** Interventions are made as required to assist trainee progress or to maintain flight safety
 - 4.9** Trainee is provided with sufficient opportunity to practise techniques through assisted and unassisted practice sequences
 - 4.10** Trainee cognitive load is assessed, monitored and managed throughout training sequences
- 5 Conduct post-flight briefing**
 - 5.1** Trainee is encouraged to self-assess performance against the required performance criteria
 - 5.2** Significant details of the trainee's performance are described clearly and accurately, and the trainee's achievement assessed against the training outcomes for the lesson and associated performance criteria

- 5.3 Deficiencies in performance are identified and remedial actions and training suggested
 - 5.4 TEM issues encountered during flight training activities are discussed
 - 5.5 Trainee is briefed on the details of the next required training exercise if necessary
- 6 **Complete post-training administration**
 - 6.1 Achievement, or otherwise, of competency and any remedial training required are recorded and content of the next required training exercise identified
 - 6.2 Administration procedures required for issue of an endorsement or military equivalent are completed where applicable
 - 6.3 Relevant stakeholders are informed of the trainee's performance and results where required
 - 6.4 Effectiveness of training is reviewed and any adjustments to delivery, presentation and content for improvement are identified and discussed with appropriate stakeholders

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit Mapping Information

This unit replaces and is not equivalent to AVIM5002 Conduct aeronautical knowledge training.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIM0003 Conduct aeronautical knowledge training and flight training

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- achieving transfer of knowledge and training objectives
- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- adhering to pilot in command (PIC) responsibilities
- anticipating the need for alternative actions
- applying appropriate level of responsibility for trainee progress and welfare
- applying crew resource management (CRM) principles applicable to flight training and the role of the instructor in assisting the trainee to develop these skills
- applying precautions and required action to minimise, control or eliminate identified training hazards
- applying relevant aeronautical knowledge
- applying situational awareness and methods of developing and monitoring trainee situational awareness skills in terms of:
 - monitoring current environmental factors
 - evaluating their possible effects on the flight
 - anticipating the need for alternative actions
 - assessing learning and performance
 - communicating effectively with others
 - completing relevant documentation
- conducting briefings and debriefings with a representative range of trainees
- conducting timely assessment of learning and performance
- debriefing significant details of trainee performance including any threat and error management (TEM) issues encountered
- demonstrating flight instructor role modelling
- demonstrating procedures and manoeuvres to the required skill level while giving effective flight instruction
- developing an appropriate lesson plan based on performance/assessment of training objectives
- developing an appropriate training plan that includes threat and error management (TEM)

- evaluating instructional effectiveness and developing strategies for continuous improvement
- identifying and correctly using relevant equipment
- identifying errors in performance of flight manoeuvres readily, and suggesting a variety of effective strategies for improvement
- identifying potential threats and errors, including those associated with simulation of abnormal or emergency procedures or aircraft mishandling by trainee, and planning suitable countermeasures
- implementing CRM principles in flight training and instructor role when assisting trainee to develop skills
- implementing handover/takeover procedures for control of aircraft
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- intervening as required to assist trainee progress or to maintain flight safety
- maintaining and reviewing assessment records and trainee progress
- maintaining levels of situational awareness and methods of developing and monitoring trainee situational awareness
- maintaining situational awareness while providing instruction
- managing an environment that fosters learning and performance
- modifying activities depending on workplace contingencies, situations and environments
- monitoring current environmental factors
- monitoring work activities in terms of planned schedule
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- recording and debriefing training events
- recording results for flight and post-flight administration in accordance with workplace procedures
- reporting and/or rectifying problems, faults or malfunctions promptly in accordance with workplace procedures
- responding appropriately to cultural differences in the workplace
- reviewing and reflecting on instructional performance
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- adult learning principles
- adult learning issues
- application of instructional principles to airborne instruction

- appropriate use of scenario-based training in flight instruction
- application of risk management principles to emergency procedure simulations in flight
- attributes of effective learning outcomes:
 - achievable
 - observable
 - measurable
- advantages and disadvantages of guided discussion
- advantages and disadvantages of various teaching methods
- barriers to effective communication:
 - lack of common experience
 - confusion
 - abstractions
- behavioural (performance-based) outcomes and purpose in flight training
- communication process factors:
 - source
 - symbols
 - receiver
 - communication barriers
 - monitoring whether communication has been achieved
- CRM principles
- checklists for single pilot or multi-crew operations as required
- cognitive basis of airmanship, situational awareness, captaincy, prioritisation, load shedding and decision making
- common trainee errors and suggested suitable remedial instruction
- emergency procedures
- debriefing and feedback techniques
- effective use of a course of training, curricula/syllabus and lesson plans
- factors that hinder the learning process:
 - rationalisation
 - flight
 - aggression
 - resignation
 - stress levels and impact on learning
 - relationship between perception and understanding
 - positive and negative motivation
 - levels of learning
 - how rate of learning varies with practice
 - transfer and habit formation
 - reinforcement
- flight rules for flight instructor ratings:

- legislation
- privileges and limitations
- fundamentals of instructing, questioning, engaging and motivating learners
- how goal fixation affects good decision making
- how to develop the essential elements of behavioural outcomes:
 - performance (what has to be done)
 - performance criteria
 - conditions
- lesson planning and development:
 - aim/motivation/revision
 - outcomes
 - explanation of principles
 - explanation/demonstration of technique
 - TEM
 - practice
 - review
- learning domains:
 - cognitive (knowledge)
 - affective (attitudes, beliefs and values)
 - psychomotor (physical skills)
- levels of learning:
 - rote
 - understanding
 - application
 - correlation
- memory systems and information processing models:
 - sensory register
 - short-term memory
 - long-term memory
- operational concept of TEM in relation to flight training in terms of:
 - managing threats
 - managing errors
 - managing undesired aircraft state
- positive and negative learning transfer
- principles of flight
- principles of instruction:
 - role of the instructor
 - rote learning, understanding of knowledge and correlation, and application to flight training
- principles of learning:

- adult learning process
- learning as a behavioural change
- sensory perception
- factors affecting perception and understanding
- motivation, positive and negative
- attitudes, discipline and responsibility
- principles of questioning:
 - reasons for questioning
 - characteristics of effective or open questioning techniques
 - oral questions for mental stimulation
 - confirming answers
 - desired qualities of good oral questions
 - procedure to follow when asking
 - key points when handling learner answers and questions
- purpose and use of training aids
- reasons to limit the duration of lessons and desirable duration of a typical lesson
- role of instructor in steps towards skill practice
- role of the instructor for each phase of review and evaluation:
 - fault analysis (diagnosis)
 - competency assessment
 - trainee self-assessment
 - training effectiveness
- steps to the teaching process
- relevant WHS and environmental procedures and regulations
- relevant sections of national and state/territory regulatory requirements and codes of practice
- requirements for completing relevant documentation
- risk management principles applicable to emergency procedure simulations in flight
- role of psychology in flying instruction:
 - satisfaction of human needs
 - defence mechanisms
 - dealing with stress, abnormal reactions to airborne stress situations
 - psychological problems of trainee and experienced pilots
- role of instructor in providing skill practice to trainees:
 - explanation
 - demonstration
 - performance
 - supervision
 - evaluation
- scenario-based training and its advantages in aeronautical knowledge training
- suitable procedures for developing trainee TEM skills

- suitable procedures for making decisions in-flight and for developing trainee decision-making skills
- task prioritisation system to assist the development of trainee task management skills in terms of:
 - aircraft control
 - navigation
 - communication
- teaching methods, including advantages and disadvantages:
 - lecture, theory and skill lessons, guided discussion, briefing
 - behavioural objectives, their importance and formulation
- teaching process:
 - preparation
 - presentation
 - application
 - review and evaluation
- three types of stress likely to affect trainee performance and methods of assisting trainees to cope with stress:
 - physical
 - physiological
 - psychological
- training syllabus and competency-based standards
- use and abuse of teaching aids
- risk management principles to emergency procedure simulations in flight
- instruction, questioning, engaging and motivating learners
- instructor professionalism, including interpersonal skills, implications of being a role-model, self-reflection and self-managed professional development
- learning factors that will affect trainee cognitive load:
 - anxiety
 - apathy
 - fatigue
 - lack of preparation
 - impatience
 - inadequate demonstration
 - inadequate fault analysis
 - inadequate opportunity to practise
 - outside pressures
 - physical discomfort
 - task complexity
 - unreasonable expectations
 - information overload
- operational concept of TEM in relation to flight training in terms of:

- managing errors
- managing threats
- managing undesired aircraft state
- performing and learning complex skills, including cognitive and developmental issues and observational learning
- principles of flight
- principles, purpose and location of controls, monitoring devices and systems
- procedures and strategies for developing trainee TEM skills
- rate of learning, enforced automaticity and the foundations of expertise
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders related to flight training
- relevant sections of national and state/territory regulatory requirements and codes of practice
- requirements for completing relevant documentation
- task prioritisation system to assist developing trainee task management skills in terms of:
 - aircraft control
 - navigation
 - communication
- techniques for introducing tasks in manageable segments to avoid overloading a trainee and principles for integrating task segments
- training and assessment competency standards
- transfer of control (handover and takeover or follow-through) drills and procedures
- principles and methods of instruction as prescribed in unit FIRC in Schedule 3 of the Manual of Standards (MOS)
- the process of making an objective assessment against a standard;
- provision of evidence of competency in performing as a flight crew member
- terms used in respect of the evidence used to determine an individual's competency against a standard
- the different forms of assessment and application in flight training
- the requirements for assessing consistency of performance of flight crew standards
- the differences in standards for consistency of performance at different licence levels
- the application of the range of variables in making an assessment
- performing and learning complex skills, including cognitive and developmental issues and observational learning;
- the levels of situational awareness and methods of developing and monitoring trainees' situation awareness skills
- rate of learning, enforced automaticity and the foundations of expertise
- instructor professionalism, including interpersonal skills, implications of being a role-model,
- training and assessment standards
- techniques for introducing tasks in manageable segments to avoid overloading a trainee and principles for integrating task segments
- obstacles to learning associated with flight training
- task prioritisation system to assist the development of trainee task management skills
- goal fixation effects on good decision making

- requirements for completing relevant documentation.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- acceptable means of simulated assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals

relevant and appropriate materials, tools, equipment and PPE currently used in industry.

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