



Australian Government

AVIM5004 Facilitate training in a synthetic environment

Release: 1

AVIM5004 Facilitate training in a synthetic environment

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 facilitate training in a synthetic environment, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

Use of the unit for simulation training activities outside of an aviation context is in accordance with relevant regulatory, organisational or enterprise procedures.

It includes planning a synthetic learning activity; preparing a trainee for these activities; and guiding, facilitating and monitoring learning. It also includes conducting post-training activities and reviewing facilitation processes.

This unit addresses vocational training technical skill requirements (physical, mental and task-management abilities) related to synthetic training and assessment duties of vocational instructors and assessors, and contributes to safe and effective performance in simple and/or complex operational and training environments.

Operations are conducted as part of recreational, commercial and military vocational training activities across a variety of operational contexts within Australian industry.

Work is performed independently or under limited supervision as a single operator or within a team environment.

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

Use for Defence Aviation is to be in accordance with relevant Defence Orders, Instructions, Publications and Regulations.

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 a synthetic learning activity

2 Prepare trainee for synthetic training activities

3 Guide and facilitate learning in a

PERFORMANCE CRITERIA

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

- 1.1 Learning strategy and/or learning program is accessed, read and interpreted to determine learning outcomes or objectives to be met and relevant delivery requirements
- 1.2 Potential risks including those associated with human factors aspects of synthetic training devices are identified
- 1.3 Limitations of synthetic training device are identified
- 1.4 Delivery plan is developed to plan, manage and sequence synthetic training activities and events to ensure logical progression of learning content, trainee safety and continuity of trainee progress
- 1.5 Technical and human factors requirements for synthetic environment including safety and emergency procedures, are confirmed
- 2.1 Availability of suitable resources is confirmed
- 2.2 Mental and physical preparedness of trainee to undertake training in synthetic environment is confirmed
- 2.3 Introduction to synthetic environment is provided including training objectives and relevant workplace procedures
- 2.4 Instructional relationships are established between trainer/facilitator and trainees using appropriate communication tools and skills
- 2.5 Trainee is briefed on how synthetic training activity will be conducted to meet training objectives
- 2.6 Risk management issues applicable to synthetic training activity are discussed with trainee and trainee responsibility for managing relevant risks is confirmed
- 2.7 Trainee ability to comprehend and/or recall training objectives, knowledge, handling techniques and planned synthetic training activity/scenario is confirmed
- 3.1 Liaison with relevant personnel is conducted to determine simulation activity requirements

- synthetic environment**
- 3.2 Learning is facilitated in accordance with delivery plan using relevant synthetic devices and facilitation skills
 - 3.3 Good practice in facilitating learning in a synthetic environment is applied to ensure an effective and safe transfer of learning to the real world
 - 3.4 Technical issues are addressed as required using relevant technical support mechanisms and/or personnel
 - 3.5 Opportunities for authentic learning, practice and formative assessment are built into the learning experience
 - 3.6 Pre-loaded automatic demonstrations are employed as required
 - 3.7 Abnormal/unusual conditions are monitored and addressed
 - 3.8 Variations to activity conditions are implemented as required
 - 3.9 Handover/takeover procedures for control of synthetic device are implemented in accordance with workplace procedures
- 4 Monitor learning in a synthetic environment**
- 4.1 Trainee progress is monitored and documented in accordance with workplace procedures
 - 4.2 Trainee cognitive load is assessed, monitored and managed
 - 4.3 Support and guidance are provided within synthetic environment as appropriate
 - 4.4 Trainee is encouraged to develop self-assessment skills
 - 4.5 Trainee interaction with others and participation in synthetic training activities is continuously monitored, and interventions are made as required
 - 4.6 Opportunities are provided for trainees to reflect on their learning progress
- 5 Conduct post-training activities**
- 5.1 Significant details of trainee performance are clearly and accurately debriefed
 - 5.2 Playback devices are employed during debriefing to illustrate key learning points as required
 - 5.3 Trainee is briefed on details of next training event as required

- 5.4 Trainee records are maintained in accordance with workplace procedures
 - 5.5 Relevant stakeholders are kept informed about trainee progress
 - 5.6 Synthetic device faults are recorded and/or rectified in accordance with workplace procedures
 - 5.7 Support and guidance are provided post synthetic environment activities as required
- 6 Review synthetic environment facilitation processes**
- 6.1 Synthetic training session outcomes are evaluated against desired session outcomes
 - 6.2 Review is undertaken post-completion of learning program, course or qualification
 - 6.3 Time is taken to reflect on own performance as a trainer or facilitator, and ways to improve performance are explored
 - 6.4 Recommendations for improvements in facilitating training and appropriateness of synthetic systems, tools and resources are identified and documented, and discussed with relevant personnel for future action

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.

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| Potential risks must include: | <ul style="list-style-type: none"> • effects on what is learned and relationship with the real world • negative learning |
| Limitations of synthetic training device must include: | <ul style="list-style-type: none"> • fidelity • instrumentation • movement • resolution |
| Synthetic training devices | <ul style="list-style-type: none"> • associated simulator computer hardware and software |

must include one or more of the following:

- desktop simulator
- flight training device
- full motion simulator
- operating system
- part-task trainer
- simulator
- single, multiple or team operator simulator
- synthetic training device
- virtual reality training system

Delivery plan must include:

- determination of learning management tools such as feedback systems and support mechanisms
- individual/group learning objectives or outcomes for learning program or segment of learning program to be addressed
- learning/activities/events to be addressed in e-learning sessions
- number of trainees and their specific support requirements
- resources and/or tools to be used
- timing, sequence and number of pre-planned sessions
- types of pre-planned sessions – synchronous (in real time using conferencing, chat, forum) or asynchronous (not in real time using email, offline forum, bulletin boards)
- topics to be addressed in learning sessions

Safety and emergency procedures must include:

- established procedures
- industry safe practice

Risk management issues must include one or more of the following:

- emergency communication
- equipment malfunction/failure
- fidelity and resolution constraints/limitations smoke or overheat warnings
- loading stops
- motion stops
- negative learning
- simulator access/egress
- simulation/motion sickness
- TEM

Good practice in facilitating learning in a synthetic environment must include:

- assisting trainees in locating, using and evaluating online information
- facilitating group work
- guiding learning activities through setting up questions, issues, scenarios to be addressed
- knowing when to intervene/when to let trainees direct themselves
- maintaining momentum and motivation of trainees through ongoing individual contact and feedback

- Abnormal/unusual conditions must include one or more of the following:
- moderating disruptive, abusive or dominant trainees
 - observing trainee interaction and intervening as required to maintain focus/momentum/engagement
 - emergency communication
 - equipment malfunction/failure
 - hardware malfunction/failure
 - loading stops
 - motion stops
 - participant simulation sickness
 - personnel equipment malfunction/failure
 - poor/unusual participant performance
 - smoke or overheat warnings
 - software malfunction/failure
- Variations to activity conditions must include one or more of the following:
- changes made in response to a strategic requirement
 - changes made in response to a training need
- Cognitive load assessment must include one or more of the following:
- anxiety
 - apathy
 - fatigue
 - impatience
 - inadequate demonstration
 - inadequate fault analysis
 - inadequate opportunity to practice
 - information overload
 - lack of preparation
 - outside pressures
 - physical discomfort
 - task complexity
 - unreasonable expectations
- Debrief must include one or more of the following:
- providing feedback to manufacturer, contracted suppliers and contracted maintainers
 - providing feedback to relevant organisational authorities
 - providing feedback to relevant personnel on conclusion of simulator activity
- Review must include one or more of the following:
- effectiveness of learning protocols, their application and proposed changes
 - feedback from trainees, colleagues, learning designers via survey or discussion
 - identification of issues in managing/monitoring e-learners and the need for changes to contact/monitoring processes
 - identification of issues in using a delivery plan and the need for

- Reflecting on own performance must include:
- changes/modifications to the plan
 - technology effectiveness
 - asking critical questions about performance, problems, methods used and success of trainees
 - seeking, listening to and acting on feedback from trainees and others

Unit Mapping Information

This unit replaces and is equivalent to AVIM5004A Facilitate training in a synthetic environment.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>