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STUDENT RECOGNITION OF PRIOR LEARNING (RPL)

AVI50519 Diploma of Aviation (Instrument Rating)

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Summary of Evidence included in Portfolio "Summary Table"

List here any evidence you have ticked, and/or other evidence you are providing for this unit of competency, so that your RTO assessor can refer to it in your portfolio, please ensure that your item numbers are consistent with that of your portfolio documentation.

Item No.	Unit of Competency / Performance Criteria	Source of the Evidence	Description of Evidence	Date	Verified / Assessor Initial
1					
2					
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AVIF0029 Implement Threat and Error Management Strategies

Units of Competency

Application

This unit involves the skills and knowledge required to implement threat and error management (TEM) strategies in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.
It includes recognising and managing actual and potential threats, recognising and managing actual and potential errors, and recognising and managing undesired aircraft states.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) of flight crew and contributes to safe and effective performance in complex aviation operational environments.
Operations are conducted as part of recreational, commercial and military aircraft across a variety of operational contexts within the Australian aviation industry.
Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.
Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-Requisite Unit

Not applicable

Competency Field

F – Safety

Unit Sector

Not applicable.

Elements and Performance Criteria

See below

Resource

https://training.gov.au/Training/Details/AVIF0029

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 equivalent to AVIF0007 Implement threat and error management strategies.

Links

Companion Volume Implementation Guide at:
http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=21

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Assessment Requirements

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:

- applying active listening techniques to others in the operational environment
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- delegating duties and tasks
- determining and implementing appropriate countermeasures
- giving and receiving instructions related to implementing threat and error management (TEM) strategies
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting relevant instructions, regulations, procedures and information
- maintaining situational awareness
- making timely operational decisions
- modifying activities depending on operational contingencies, risk levels and environments
- operating and adapting to differences in communications equipment in accordance with standard operating procedures (SOPs)
- planning own work, predicting consequences and identifying improvements
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- responding to feedback from other flight or ground crew
- reporting and rectifying identified problems, faults or malfunctions promptly, in accordance with workplace procedures
- supervising others when implementing TEM strategies
- working collaboratively with others
- 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:

- application of situational awareness to identifying real or potential environmental or operational threats to aviation safety
- aspects of multi-crew operations that can prevent an undesired aircraft state
- effective communication during normal, abnormal and emergency situations
- leadership and supervision strategies
- recognition techniques and management strategies for:
    - actual and potential threats
    - actual and potential errors
    - undesired aircraft states
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders related to TEM
- removing and mitigating errors

- removing and mitigating threats
- safety philosophies
- task management, including:
  - workload organisation and priority setting to ensure optimum safe outcome of a flight
  - event planning to occur in a logical and sequential manner
  - anticipating events to ensure enough opportunity is available for completion
  - using technology to reduce workload and improve cognitive and manipulative activities
  - task prioritisation and protection while filtering and managing real time information
- TEM model, including:
  - principles and components of TEM
  - definition of threats
  - definition of errors
  - undesired aircraft states
  - TEM countermeasures.

Assessment Conditions

Unit of Competency – https://training.gov.au/Training/Details/AVIF0029
Assessment Requirements https://training.gov.au/Training/Details/AVIF0029

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AVIF0029 Implement Threat and Error Management Strategies

Element Elements describe the essential outcome	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element.	**Evidence to support my achievement of competence**		**Trainer / Assessor / Instructor only**	
		Current and Recent Evidence - including mapping	**Historical evidence (more than 2-3 years old) – including mapping**	**Evidence provided and sighted**	**Approval date / initial**
1. Recognise and manage actual and potential threats	1.1 Potential environmental or operational threats likely to affect flight safety are identified				
	1.2 Actual environmental or operational threats that affect flight safety are identified				
	1.3 Competing operational priorities and task demands that may represent a threat to flight safety are identified				
	1.4 Countermeasures to manage threats are identified and implemented				
	1.5 Flight progress and effect of countermeasures are monitored and assessed to ensure a safe outcome				
	1.6 Alternative countermeasures are identified and implemented, and effectiveness of countermeasures is re-evaluated for effectiveness				

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Element Elements describe the essential outcome	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element.	**Evidence to support my achievement of competence**		**Trainer / Assessor / Instructor only**	
		Current and Recent Evidence - including mapping	**Historical evidence (more than 2-3 years old) – including mapping**	**Evidence provided and sighted**	**Approval date / initial**
2. Recognise and manage actual and potential errors	2.1 Checklists and standard operating procedures are implemented to prevent aircraft handling, procedural or communication errors				
	2.2 Committed errors are identified and responded to before aircraft enters an undesired state				
	2.3 Aircraft systems are monitored using a systematic scan technique to collect and analyse flight information for potential or actual error recognition purposes				
	2.4 Flight operating environment is monitored to collect and analyse flight information for potential or actual error recognition purposes				
	2.5 Individual or team performance is monitored to recognise potential or actual error occurrence				
	2.6 Countermeasure implementation and supervision are undertaken to prevent errors before aircraft enters an undesired state				
	2.7 Countermeasure implementation and supervision are undertaken to correct errors after aircraft enters an undesired state				

Element Elements describe the essential outcome	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element.	**Evidence to support my achievement of competence**		**Trainer / Assessor / Instructor only**	
		Current and Recent Evidence - including mapping	**Historical evidence (more than 2-3 years old) – including mapping**	**Evidence provided and sighted**	**Approval date / initial**
3. Recognise and manage undesired aircraft states	3.1 Undesired aircraft states are recognised				
	3.2 Individual and team tasks are prioritised to ensure an undesired aircraft state is managed effectively				
	3.3 Corrective actions to recover from an undesired aircraft state are applied in a safe and timely manner				
	3.4 Undesired aircraft states are reported and recorded as required in accordance with applicable workplace procedures				

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AVIF0030 Manage Safe Flight Operations

Units of Competency

Application

This unit involves the skills and knowledge required to implement threat and error management strategies, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.
It includes maintaining an effective lookout, maintaining situational awareness, and assessing situations and making decisions. It also includes setting priorities and task management and maintaining effective communications.

This unit addresses aviation non-technical skill requirements (mental, social and personal-management abilities) for flight crew and contributes to safe and effective performance in complex aviation operational environments.
Operations are conducted as part of recreational, commercial and military aircraft across a variety of operational contexts within the Australian aviation industry.
Work is performed independently or under limited supervision within a single-pilot or multi-crew 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

F – Safety

Unit Sector

Not applicable.

Elements and Performance Criteria

See below

Resource

https://training.gov.au/Training/Details/AVIF0030

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 equivalent to AVIF0008 Manage safe flight operations.

Links

Companion Volume Implementation Guide at:
http://companion_volumes.vetnet.education.gov.au/Pages/TrainingPackage.aspx?pid=21

Assessment Requirements

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 on at least one occasion and include:

- accepting responsibility for flight outcomes
- accepting responsibility for own performance
- applying relevant aeronautical knowledge
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting relevant instructions, regulations, procedures and other information
- managing and mitigating risk
- managing contingency flight operations:
    - abnormal situations
    - emergency conditions
- monitoring flight path, aircraft configuration and systems to achieve desired performance using a systematic scan technique
- operating effectively as a crew member
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- responding appropriately to cultural differences in the workplace
- selecting and using appropriate instruments, displays, communications equipment and aids
- taking initiative and responding to changing conditions
- using appropriate normal, abnormal and emergency aviation terminology

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 include knowledge of:

- crew co-ordination:
    - basic principles of crew coordination
    - verbal and non-verbal communication factors
    - barriers to communication
    - listening skills
    - assertion skills
    - factors affecting decision-making processes
    - communication, including:
        - communication – attitude
        - personality
        - judgement
        - leadership style
        - leadership qualities
        - poor crew coordination factors
- effective decision-making processes, including:
    - identify problems and causal factors
    - assess component parts systematically and logically
    - employ analytical techniques to identify solutions and consider the value and implications of each
    - generate solution and/or alternative courses of action

  - assess alternative solutions and risks with other flight crew members
  - determine course of action
  - communicate decision and delegate tasks to flight crew
  - monitor progress against agreed plan
  - evaluate decisions in accordance with changing circumstances
  - ensure decision making is improvement-focused and directed towards achieving optimum outcomes
- fatigue risk management processes, including:
  - proactive
  - predictive
  - reactive
- flight rules, including:
  - documentation
  - aircraft nationality and registration
  - airworthiness of aircraft
  - personnel licencing
  - rules of the air
  - procedures for air navigation
  - air traffic services
  - aeronautical information service
  - aerodromes
  - facilitation
  - search and rescue
  - security
  - aircraft accidents and incidents – crew responsibilities
  - air service operations
- judgment and decision making, including:
  - pilot judgment concepts
  - types of judgment
  - motor skills and human factors
- aeronautical decision making:
  - decision-making concepts
  - pilot responsibilities
  - behavioural aspects
- identification of hazardous aircraft attitudes:
  - physical factors
  - psychological factors
  - social influences and interface between people
- pilot judgment awareness:
  - risk assessment
  - cockpit stress management
- applying decision-making concepts:
  - practical application
  - managing resources
  - safety awareness

- task management, including:
  - workload organisation and priority setting to ensure optimum safe flight outcome
  - event planning, in a logical and sequential manner
  - anticipating events to ensure enough opportunity is available for completion
  - using technology to reduce workload and improve cognitive and manipulative activities
  - task prioritisation and protection while filtering and managing real time information.

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

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment.
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry

Unit of Competency – https://training.gov.au/Training/Details/AVIF0030
Assessment Requirements https://training.gov.au/Training/Details/AVIF0030

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AVIF0030 Manage Safe Flight Operations

Element Elements describe the essential outcome	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element.	**Evidence to support my achievement of competence**		**Trainer / Assessor / Instructor only**	
		Current and Recent Evidence - including mapping	**Historical evidence (more than 2-3 years old) – including mapping**	**Evidence provided and sighted**	**Approval date / initial**
1. Maintain effective lookout	1.1 Systematic visual scan techniques are applied at a rate determined by traffic density, visibility and terrain to maintain traffic separation				
	1.2 Radio listening watch is maintained, and transmissions are interpreted to determine traffic location and intention				
	1.3 Airspace-cleared procedures are performed before commencing any manoeuvre				
2. Maintain situational awareness	2.1 All aircraft systems are monitored using a systematic scan technique				
	2.2 Information is collected to facilitate ongoing system management				
	2.3 Flight environment is monitored for deviations from planned operations				
	2.4 Flight environment information is collected to update planned operations				

Element Elements describe the essential outcome	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element.	**Evidence to support my achievement of competence**		**Trainer / Assessor / Instructor only**	
		Current and Recent Evidence - including mapping	**Historical evidence (more than 2-3 years old) – including mapping**	**Evidence provided and sighted**	**Approval date / initial**
3. Assess situations and make decisions	3.1 Problems affecting flight performance are identified and analysed				
	3.2 Potential solutions to flight performance problems are identified				
	3.3 Potential solutions and risks are assessed				
	3.4 Course of action is determined and communicated to flight crew, passengers and/or other personnel, as required				
	3.5 Tasks are allocated and actioned to implement optimal course of action outcomes				
	3.6 Tasks are monitored for progress against determined course of action				
	3.7 Plan is re-evaluated as required to achieve optimal outcomes				
4. Set priorities and manage tasks	4.1 Task workload and priorities are organised to ensure optimum outcome of the flight				
	4.2 Events and tasks are planned to occur sequentially				
	4.3 Events and tasks are anticipated to ensure sufficient opportunity for completion				
	4.4 Technology is used to reduce workload and improve cognitive and manipulative activities				

Element Elements describe the essential outcome	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element.	**Evidence to support my achievement of competence**		**Trainer / Assessor / Instructor only**	
		Current and Recent Evidence - including mapping	**Historical evidence (more than 2-3 years old) – including mapping**	**Evidence provided and sighted**	**Approval date / initial**
5. Maintain effective communication and interpersonal relationships	5.1 Effective and efficient communication and interpersonal relationships are established and maintained with all stakeholders to ensure optimum flight outcome				
	5.2 Objectives are defined and explained to stakeholders				
	5.3 Appropriate levels of assertiveness are applied that ensure the optimum completion of a flight				

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AVIW0032 Operate and Manage Aircraft Systems

Units of Competency

Application

This unit involves the skills and knowledge required to operate and manage aircraft systems, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes operating and managing aircraft systems during normal flight and managing aircraft systems during abnormal and emergency procedures.
This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of flight or ground operations personnel and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.
Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.
Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-Requisite Unit

Not applicable

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

Pre-Requisite Unit

Not applicable

Elements and Performance Criteria

See below

Resource

https://training.gov.au/Training/Details/AVIW0032

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 equivalent to AVIW5018 Operate and manage aircraft systems.

Links

Companion Volume implementation guides are found in VETnet
https://vetnet.education.gov.au/Pages/TrainingDocs.

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Assessment Requirements

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 and performance criteria on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical and aircraft systems knowledge
- applying relevant legislation and workplace procedures
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting aircraft system displays
- interpreting and following operational instructions and prioritising work
- modifying activities depending on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- operating manual and automated aircraft systems
- performing systematic scan technique for monitoring aircraft systems, sub-systems (equipment) and devices
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with workplace procedures
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- undertaking fault finding in aircraft systems
- using automated systems to manage workload
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

- aircraft systems as applicable to aircraft rating/endorsement requirements, including:
- anti-icing and de-icing systems:
    - method of de-icing aerofoils, propeller and carburettor
    - heat or power source of de-icing/anti-icing equipment
    - anti-icing and de-icing system limitations
    - operation and control of anti-icing and de-icing systems
    - likely faults that may affect anti-icing and de-icing systems
    - emergency operating procedures for anti-icing and de-icing systems

- aircraft system checklists, including:
  - explanation of normal system operating procedures of aircraft systems, subsystems and devices used to operate specific aircraft type including use of published scans and checklists, immediate action items, warnings, limitations
- automated systems, including:
  - limitations of automated systems
  - operating procedures for systems such as flight management system, auto throttle/engine control, flight director system, automated aircraft navigation systems, automated engine condition and monitoring system
  - workload management procedures for utilising automated systems
  - warning systems/indicators to identify automated systems failure
- autopilot, including:
  - principles of operation of autopilot system
  - likely faults that may affect autopilot system
  - emergency operating procedures for autopilot system
  - identification of power sources, voltage or pressure
  - procedure to determine gyros are operating normally
  - procedure to engage autopilot
  - normal and emergency procedure to disengage autopilot
  - limits of gyro units
- electrical system, including:
  - use of a schematic diagram of the electrical system to explain type/s of electrical system (AC/DC)
  - likely faults that may affect electrical system
  - emergency operating procedures for electrical system
  - voltage and amperage of battery
  - number and output of generators
  - methods of circuit protection
  - location of fuses and circuit breakers
  - precautions to be taken when operating electrical service
  - instruments operated by electrics
- enhanced ground proximity warning system (EGPWS) / terrain awareness and warning system /(TAWS), including:
  - identification and demonstration or explanation of function of all cockpit EGPWS/TAWS controls
  - information terrain awareness display shows
  - warnings given by fitted EGPWS/TAWS, including what each warning indicates is happening to aircraft in flight
- fuel system, including:
  - use of a schematic diagram of fuel system to explain layout and normal operating procedures
  - likely faults that may affect fuel system
  - emergency operating procedures for fuel system
  - operation of fuel selector panel
  - use of cross-feed
  - fuel-dumping procedures
  - full fuel capacity and fuel grade
  - normal, minimum and maximum fuel pressures

- heating, ventilation and pressurisation systems, including:
  - normal procedures to operate and control system
  - likely faults that may affect heating, ventilation and pressurisation system
  - emergency procedures for operation of system
  - precautions to be complied with
- hydraulic system, including:
  - use of a schematic diagram of hydraulic system to explain layout and normal operating procedures
  - likely faults that may affect hydraulic system
  - emergency operating procedures for hydraulic system
  - units or services operated by hydraulics
  - type of hydraulic fluid, operating pressure and capacity of reservoir
- oil system, including:
  - use of a schematic diagram of oil system to explain functions of oil system
  - likely faults that may affect oil system
  - emergency operating procedures for oil system
  - number of tanks, capacity and oil grade
  - oil sources of auxiliary systems such as constant speed unit (CSU), propeller feathering if fitted
  - normal, minimum and maximum oil pressure and temperature
  - operation of oil cooling system
- pitot/static system, including:
  - use of a schematic diagram to explain layout and operation of pitot/static system
  - heating source of pitot system
  - operating procedure for pitot/static system
  - methods of detecting pitot/static system problems
  - procedures to rectify static system problems
  - location of pitot and static pressure source
  - location of static drain points
- pressurisation systems, including:
  - pressurisation failure warning indications fitted to aircraft type flown
  - function of bleed air with respect to an aircraft pressurisation system
  - procedure for manual control of cabin pressurisation applicable to aircraft type flown
  - recall of maximum pressure differential for aircraft type flown
  - symptoms, indications and warnings that may indicate failure of pressurisation system
  - automatic depressurisation system operation procedures after landing
  - physiological symptoms of hypoxia
  - physical and psychological hazards that could occur during a rapid decompression
  - cabin altitude above which supplementary oxygen must be used by crew and passengers
- retractable undercarriage, including:
  - method of preventing retraction of undercarriage on the ground
  - cockpit indications for undercarriage down and locked
  - cockpit indications for undercarriage retracted
  - emergency procedures to extend and lock undercarriage down

- suction system, including:
  - use of a schematic diagram of suction system to explain function of suction system
  - source of suction pressure
  - normal operating pressure
  - instruments operated by suction pressure
  - warning system to indicate suction pump failure
- traffic and collision avoidance systems (TCAS), including:
  - surveillance and collision avoidance functions of TCAS II
  - system limitations, selectivity and inhibits
  - basic components of TCAS II
  - identification and demonstration or explanation of function of cockpit controls
  - TCAS II visual displays and symbology
  - functions of audio alerts and annunciations
  - appropriate crew response to multiple TCAS II events, and parallel runway approach conflicts
  - recall of radiotelephone procedures following a TCAS II alert
  - requirements for a written report of a TCAS II alert and to whom it must be submitted

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

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.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and PPE currently used in industry.

Unit of Competency - https://training.gov.au/Training/Details/AVIW0032
Assessment Requirements - https://training.gov.au/Training/Details/AVIW0032

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AVIW0032 Operate and Manage Aircraft Systems

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1.Operate and manage aircraft systems during normal flight	1.1 Aircraft systems, sub-systems (equipment) and devices applicable to aircraft type and task are operated and managed				
	1.2 Aircraft systems, sub-systems (equipment) and devices are monitored using a systematic scan technique				
	1.3 Aircraft systems and flight environment information is analysed to identify actual and potential threats or errors				
	1.4 Automated aircraft systems are utalised to manage cockpit workload				
	1.5 Hazards are identified, risks are assessed, and hazard management is implemented				
	1.6 Checklist procedures are completed as appropriate to aircraft system				

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Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
2. Manage aircraft systems during abnormal and emergency procedures	2.1 Non-normal or emergency situations are recognised				
	2.2 Control of aircraft flight path is maintained during abnormal and emergency response procedures				
	2.3 Affected aircraft system or sub-system is identified and confirmed				
	2.4 Checklist procedures are recalled and implemented during abnormal and emergency situations using appropriate techniques				
	2.5 Appropriate non-normal or emergency procedures are performed in accordance with relevant workplace and emergency procedures, and regulatory requirements				
	2.6 Course of action is decided, implemented, evaluated and revised to achieve safest outcomes				
	2.7 Location and operation of emergency systems applicable to aircraft type are explained				

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AVIY0033 Operate Aircraft Using Aircraft Flight Instruments

Unit of Competency

Application

This unit involves the skills and knowledge required to operate and manage aircraft systems, in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes establishing serviceability of flight instruments and instrument power sources, operating an aircraft using full instrument procedures and recovering from unusual attitudes using full instrument procedures. It also includes operating an aircraft using limited instrument procedures, recovering from unusual attitudes using limited instrument procedures, re-establishing visual flight, and performing steep turns.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to aircraft operational duties that complement flight crew non-technical skills and contributes to safe and effective performance in complex aviation operational environments.
Operations are conducted as part of recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.
Work is performed independently or under limited supervision within a single-pilot or multi-crew environment.
Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-Requisite Unit
Not applicable

Competency Field
Y – Aircraft Operation and Traffic Management

Unit Sector
Not applicable.

Elements and Performance Criteria
See below

Resource
https://training.gov.au/Training/Details/AVIY0033

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 equivalent to AVIY0001 Operate aircraft using flight instruments.

Links
Companion Volume implementation guides are found in VETnet
https://vetnet.education.gov.au/Pages/TrainingDocs.

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Assessment Requirements

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 the requirements of the Elements and performance criteria on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- compensating for secondary effects of controls
- completing relevant documentation
- controlling aircraft by reference to artificial horizon and gyro compass
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- maintaining compliance with regulatory requirements
- maintaining orientation under simulated instrument flight conditions
- modifying activities dependent on workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communications equipment to required protocol
- performing manoeuvres and procedures solely by use of instrument panel:
- full instrument panel procedures
- limited instrument panel procedures
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting or rectifying identified problems promptly by referring to instrument panel
- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- setting local or area barometric pressure adjusted for sea level (QNH) at appropriate stages of flight
- using instrument scan techniques applicable to flight condition
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

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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 included knowledge of:

- anti-icing and de-icing controls and switches fitted to aircraft type
- attitude and power requirements to achieve specified flight profiles
- Civil Aviation Safety Regulation (CASR) Part 61 Manual of Standards (MOS) Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- flight instrument performance tolerances for instrument meteorological condition (IMC) flights
- functions and effects of all aircraft controls
- hazards that exist when controlling an aircraft by reference to instrument panel and related risk control processes
- human factors applicable to instrument panel operating procedures, including:
    - full instrument panel
    - limited instrument panel
- in a Defence context, relevant Defence Orders and Instructions
- instrument panel failure cautions, warning and indication systems, and appropriate response techniques
- instrument panel scan techniques
- meteorological conditions impacting instrument flight procedures
- operation of flight instruments and pitot/static system
- operation, function and limitations of flight instruments and instrument power sources
- performance instrument indications and power requirements to achieve specified flight profiles
- pitot, airframe and carburettor icing and prevention/removal procedures
- principles of aerodynamics
- problems that may occur when controlling an aircraft by reference to full instrument panel and action that should be taken in each case
- relevant sections of CASRs and Civil Aviation Orders
- relevant WHS and environmental procedures and regulations
- safety risks associated with application of large or rapid control inputs in more than one axis simultaneously
- scan techniques appropriate to fitted flight instruments and phase of flight, including:
    - with attitude and stabilised heading indicators
    - without attitude and stabilised heading indicators.

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

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.

Performance must be assessed in one or more of the following:

- single engine aircraft
- multi engine aircraft
- synthetic training device approved by appropriate authority
- fixed wing
- helicopter
- other commercial or military aircraft

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment and PPE currently used in industry.

Unit of Competency – https://training.gov.au/Training/Details/AVIY0033
Assessment Requirements – https://training.gov.au/Training/Details/AVIY0033

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AVIY0033 - Operate Aircraft Using Aircraft Flight Instruments

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
1.Establish serviceability of flight instruments and instrument power sources	1.1 Serviceability of flight instrument, pitot/static system and instrument power sources is determined before flight				
	1.2 Functional checks of flight and navigational instruments are performed before departure				
2. Operate aircraft using full instrument procedures	2.1 Flight instrument and instrument power sources are monitored, and pilot cautions, warnings and indications are reacted to in accordance with full instrument procedures				
	2.2 Power and attitude are set and maintained by reference to full instrument panel to achieve straight and level performance during normal cruise				
	2.3 Power and attitude are set and maintained by reference to full instrument panel to achieve nominated climb performance				
	2.4 Power and attitude are set and maintained by reference to full instrument panel to achieve nominated descent performance				
	2.5 Power, attitude and bank during climb, descent and straight and level flight are set and maintained by reference to full instrument panel to achieve rate one turns onto a nominated heading				
	2.6 Aircraft is balanced and trimmed to maintain nominated aircraft altitude, heading, speed and/or climb/descent performance within flight tolerances				
	2.7 Aircraft is levelled at nominated altitude, from climb or descent during straight or turning flight				

Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
3. Recover from unusual attitudes using instrument procedures	3.1 Unusual attitudes and upset situations are recognised and identified				
	3.2 Controlled flight is resumed by reference to flight instruments using a full instrument panel				
	3.3 Straight and level attitude is achieved without excessive oscillations at the horizon				
	3.4 Aircraft is recovered to above lowest safe altitude (LSALT)				
4. Operate aircraft using limited instrument procedures	4.1 Flight instrument and instrument power sources are monitored, and pilot cautions, warnings and indications are reacted to in accordance with limited instrument procedures				
	4.2Aircraft is transitioned from full instrument operating procedures to limited instrument operating procedures while maintaining safe flight profiles				
	4.3 Power and attitude are set and maintained by reference to limited instrument panel to achieve straight and level performance during normal cruise				
	4.4 Power and attitude are set and maintained by reference to limited instrument panel to achieve nominated climb performance				
	4.5 Power and attitude are set and maintained by reference to limited instrument panel to achieve nominated descent performance				
	4.6 Power, attitude and bank during climb, descent, straight and level flight are set and maintained by reference to limited instrument panel to achieve rate one turns onto a nominated heading				
	4.7 Aircraft is balanced and trimmed to maintain nominated aircraft altitude, heading, speed and/or climb/descent performance within flight tolerances				
	4.8 Aircraft is levelled at nominated altitude, from climb or descent during straight or turning flight				

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Element	Performance Criteria	Evidence to support my achievement of competence		Trainer / Assessor / Instructor only	
		Current and Recent Evidence - including mapping	Historical evidence (more than 2-3 years old) – including mapping	Evidence provided and sighted	Approval date / initial
5. Recover from unusual attitudes using limited instrument procedures	5.1 Unusual attitudes and upset situations are recognised and identified				
	5.2 Controlled flight is resumed by reference to flight instruments using limited instrument panel				
	5.3 Straight and level attitude is achieved without excessive oscillations at the horizon				
	5.4 Aircraft is recovered to above LSALT				
6. Re- establish visual flight	6.1 Aircraft is transitioned from visual flight conditions to instrument flight conditions while aircraft control is maintained				
	6.2 Aircraft is manoeuvred to re-establish visual flight				
	6.3 Plan is implemented to ensure flight continues within visual meteorological conditions (VMC)				
7. Perform steep turns	7.1 Power, attitude and bank are set to maintain level flight by reference to full instrument panel that achieves a steep turn				
	7.2 Nominated angle of bank is maintained				
	7.3 Aircraft turn is exited onto nominated heading				
	7.4 Aircraft is balanced and trimmed to maintain nominated aircraft altitude, heading, speed and/or climb/descent performance within flight tolerances				