Australian Government

MEA30211 Certificate III in Aeroskills (Mechatronics)

Release 2

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

MEA30211 Certificate III in Aeroskills (Mechatronics)

Modification History

Release 2 - Licensing requirements clarified - equivalent
Release 1 - New qualification

Description

This qualification may apply to individuals employed within the General Aviation industry sector on the maintenance of small aircraft who are not seeking direct progression to a CASA B1.2 Aircraft Maintenance Engineer licence limited to basic small aircraft maintenance. It may also be of use as a first Aeroskills qualification for individuals transitioning from an allied trade to employment on small aircraft maintenance.
Individuals who intend to seek the grant of a licence in the future should consider the requirements for MEA41011 Certificate IV in Aeroskills (Mechatronics) when selecting elective units of competency for this qualification.

Pathways Information

Depending on the choice of elective units, this qualification articulates with MEA41011 Certificate IV in Aeroskills (Mechatronics) and a number of units also provide credits towards other qualifications at AQF Certificate IV and Diploma levels.

Licensing/Regulatory Information

This qualification complies with airworthiness regulatory requirements of CASA for the maintenance of small aircraft.

Entry Requirements

Not applicable.

Employability Skills Summary

Employability Skill	Industry/enterprise requirements for this qualification include:
Communication	• Understanding work and organisational instructions • Understanding input from specialist personnel and technical representatives • Negotiating with other team members or supervisors regarding timing and progress of work activities and access to sections of the aircraft, or to equipment • Understanding and interpreting regulations, procedures, instructions and maintenance publications • Completing maintenance documentation • Reading drawings relating to modifications and maintenance activities • Using computers to obtain maintenance data and complete documentation • Networking with other team members regarding work planning and execution
Teamwork	• Performing tasks as an individual while being responsive to supervisors and allowing for relevant human factors • Working effectively with others who may be of different ages, gender, race, religion and political persuasion • Assisting other team members with tasks and providing advice on work processes
Problem solving	• Identifying problems in a timely manner and developing practical solutions to problems not fully covered by maintenance data • Proposing solutions to problems as modifications or amendments to specified maintenance processes • Constantly reviewing problem solving skills and ability to effectively apply competencies to solve problems within the limits permitted by regulatory and organisational guidelines • Responding to emergencies or accidents in accordance with regulatory and organisational requirements • Using mathematical techniques to apply tolerances and limits, and to convert values between systems of measurement
Initiative and enterprise	• Adapting to new situations that arise as a consequence of regulatory changes, revised maintenance data, practices and procedures • Varying work practices and behaviour as a result of performance feedback from peers and supervisors • Evaluating ideas to ensure that technical and regulatory aspects have been fully covered before proposing action that may result in modifications or changes to work processes

	• Applying human factors to avoid maintenance errors and maintain quality standards • Adapting competencies to the performance of a wide range of maintenance tasks • Contributing to a process of continuous improvement and a willingness to support and participate in the effective introduction of new work practices
Planning and organising	• Clarifying task objectives and required outcomes through discussion with supervisors and other team members • Monitoring the time taken to complete tasks against team requirements or targets provided by supervisors • Collecting, analysing and organising information relating to assigned tasks and confirming the purpose and required work outcomes • Identifying the extent of impact on assigned work of changes in procedures, work instructions or regulatory requirements
Self-management	• Accepting responsibility for managing individual workload to meet target completion times or fit in with team milestones • Assessing personal knowledge and skills with the aid of the self-assessment work sheets in the Log of Industrial Experience and Achievement and preparing for competency assessments • Actively seeking opportunities to develop competencies and to apply them across a range of tasks and monitoring performance using indicators such as the extent of oversight exercised by supervisors • Identifying career paths and training opportunities that will assist in attaining career goals
Learning	• Taking advantage of learning opportunities that arise through training courses provided by the organisation or external providers and through mentoring and on-job training • Adapting competencies to accommodate new ideas and techniques • Using feedback from supervisors and peers to identify ways in which competence can be improved • Mentoring new or more junior personnel • Interpreting units of competency and applying them to attainment of identified career goals
Technology	• Operating aircraft and avionic systems, test equipment and ground support equipment, ground running engines and troubleshooting faults • Maintaining aircraft systems, components and test stands • Performance testing of aircraft systems and engines • Storing and caring for components, parts, tools, test equipment and support equipment

	• Amending various forms of maintenance data • Using computers and microfiche to obtain maintenance data and using computers to complete documentation

Packaging Rules

To be awarded the MEA30211 Certificate III in Aeroskills (Mechatronics), competency must be demonstrated in **nineteen (19)** units of competency, as follows:

- **fourteen (14)** Core units consisting of common, technical stream and imported units
- **five (5)** Elective units drawn from the technical stream units listed in Group A while observing the unit selection guidelines.

Core units of competency

Unit code	Unit title	Prerequisites
MEA101B	Interpret occupational health and safety practices in aviation maintenance	Nil
MEA103B	Plan and organise aviation maintenance work activities	MEA101B, MEA105C, MEA107B, MEA108B
MEA105C	Apply quality standards applicable to aviation maintenance processes	MEA101B, MEA107B
MEA107B	Interpret and use aviation maintenance industry manuals and specifications	Nil
MEA108B	Complete aviation maintenance industry documentation	MEA105C
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	MEA105C, MEA108B
MEA118A	Conduct self in the aviation maintenance environment	Nil
MEA201B	Remove and install miscellaneous aircraft electrical hardware/components	MEA101B, MEA103B, MEA105C, MEA107B, MEA108B, MEA109B
MEA246C	Fabricate and/or repair aircraft electrical hardware or parts	MEA201B, MEA260B
MEA260B	Use electrical test equipment	MEA101B, MEA103B, MEA105C, MEA107B, MEA108B, MEA109B
MEA301C	Perform aircraft flight servicing	MEA101B, MEA103B, MEA105C, MEA107B, MEA108B, MEA109B

MEA363B	Inspect, repair and maintain structures and related components of non-pressurised small aircraft	MEA101B, MEA103B, MEA105C, MEA107B, MEA108B, MEA109B
MEA364A	Maintain and/or repair small aircraft mechanical components or parts	MEA101B, MEA103B, MEA105C, MEA107B, MEA108B, MEA109B
MSAENV272B	Participate in environmentally sustainable work practices	Nil

Elective units Group A
Select **five (5)** units while observing the unit selection guidelines in column four.

Unit code	Unit title	Prerequisites	Unit selection guidelines
MEA202C	Remove and install basic aircraft electrical system components	MEA201B	Required for electrical retractable undercarriage maintenance – do not take with MEA274A
MEA210C	Inspect, test and troubleshoot basic aircraft electrical systems and components	MEA202C MEA246C	Required for electrical retractable undercarriage maintenance – do not take with MEA274A
MEA274A	Maintain basic light aircraft electrical systems and components	MEA246C	Required for 100 hourly inspection on basic light aircraft or helicopters
MEA275A	Maintain basic light aircraft instrument systems and components	MEA246C	Required for 100 hourly inspection on basic light aircraft or helicopters
MEA276A	Maintain basic light aircraft communication and radio navigation systems	MEA246C	Required for 100 hourly inspection on basic light aircraft or helicopters
MEA302C	Remove and install aircraft hydro-mechanical and landing gear system components	MEA101B MEA103B MEA105C MEA107B	Required for hydraulic retractable undercarriage maintenance

Unit code	Unit title	Prerequisites	Unit selection guidelines
		MEA108B MEA109B	
MEA304C	Remove and install non-pressurised aircraft structural and non-structural components	MEA302C	Do not take with MEA317C – MEA363B provides credits towards this unit
MEA306C	Remove and install engines and engine system components	MEA302C	Applicable to piston and gas turbine engines
MEA307C	Remove and install propeller systems and components	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	Required for variable pitch propellers
MEA308C	Remove and install rotary wing rotor and flight control system components	MEA302C	Required for helicopters with powered flight controls – count as 2 units - do not take with MEA352A
MEA309C	Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components	MEA302C	Required for hydraulic retractable undercarriage maintenance
MEA311D	Inspect and repair/modify aircraft structures	MEA304C or MEA317C	MEA363B provides credit towards this unit – count as 2 units
MEA313C	Inspect, test and troubleshoot piston engine systems and components	MEA306C	Required for supercharged and turbocharged engines
MEA314C	Inspect, test and troubleshoot gas turbine engine systems and components	MEA306C	Required for gas turbine engines
MEA315C	Inspect, test and troubleshoot propeller systems and	MEA307C	Required for variable pitch propellers

Unit code	Unit title	Prerequisites	Unit selection guidelines
	components		
MEA316C	Inspect, test and troubleshoot rotary wing rotor and control systems and components	MEA308C	Required for helicopters with powered flight controls – count as 2 units – do not take with MEA352A
MEA351A	Maintain airframe systems of basic light fixed wing aircraft	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	Required for 100 hourly inspection on basic light aircraft
MEA352A	Maintain basic rotary wing aircraft systems	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	Required for 100 hourly inspection on basic helicopters
MEA353A	Maintain basic light aircraft engines and propellers	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	Required for 100 hourly inspection on basic light aircraft or helicopters
MEA354A	Maintain light aircraft pneumatic systems	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	
MEA355A	Maintain light aircraft air cycle	MEA201B	

Unit code	Unit title	Prerequisites	Unit selection guidelines
	air conditioning systems	MEA246C	
MEA356A	Maintain light piston engine aircraft pressurisation systems	MEA201B MEA246C	
MEA357A	Inspect, test and repair aircraft fabric surfaces	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	
MEA359A	Inspect and repair aircraft wooden structures	MEA101B MEA103B MEA105C MEA107B MEA108B MEA109B	
MEA360A	Maintain aircraft diesel engines	MEA353A	
MEA361A	Maintain aircraft two stroke petrol engines	MEA353A	
MEA362A	Maintain aircraft vapour cycle air conditioning systems	MEA201B MEA246C	
MEA367A	Repair/modify aircraft composite structure using cold bonding	MEA401C or MEA339C or MEA363B	Do not take with MEA405B
MEA405B	Repair/modify aircraft composite material structure/components	MEA401C Note that MEA363B is equivalent to this unit	Required for repairs to composite primary and secondary structure

Custom Content Section

Not applicable.