

# COURSE OUTLINE



<b>RTO</b>	Aviation Australia Pty Ltd		<b>RTO number CASR Part 147</b>	30770 CASA.147 MTO.0025
<b>Course Details</b>	<b>Code</b>	MEA40718		
	<b>Title</b>	Certificate IV in Aeroskills (Mechanical)		
<b>Purpose of Course</b>	<p>This course provides students with the underpinning knowledge and skill requirements to progress to an Aircraft technician, enabling them to complete:</p> <ul style="list-style-type: none"> <li>perform scheduled inspections;</li> <li>fault diagnosis and repair;</li> <li>modification of airframes and airframe mechanical, hydraulic and pneumatic systems and components; and of aircraft engines and (where applicable) propellers.</li> </ul> <p>The qualification defines the exit from an apprenticeship and may apply to either aircraft maintenance performed on flight lines/ramps and in hangars, or to airframe and engine component repair and overhaul performed in workshops.</p> <p>This qualification articulates with the MEA50218 Diploma of Aeroskills (Mechanical) which is one of the elements that qualifies individuals for the grant of a CASA B1.1 or B1.3 Aircraft maintenance Engineer Licence.</p> <p>The qualification also provides credits towards the MEA50418 Diploma of Aviation Maintenance Management (Mechanical) and the MEA60218 Advanced Diploma of Aviation Maintenance Management (Mechanical).</p>			
<b>Target Group</b>	<p>This qualification may apply to employees of civil aviation maintenance organisations or to individuals that wish to gain employment in the aviation industry who perform scheduled inspections, fault diagnosis and repair, and modification of airframes and airframe mechanical, hydraulic and pneumatic systems and components, and of aircraft engines and (where applicable) propellers.</p> <p>The qualification may apply to either aircraft maintenance performed on flight lines/ramps and in hangars, or to airframe and engine component repair and overhaul performed in workshops.</p>			
<b>Packaging Rules</b>	<p>To be awarded the MEA40718 Certificate IV in Aeroskills (Mechanical), competency must be demonstrated in:</p> <p><b>Aircraft Maintenance Stream</b></p> <ul style="list-style-type: none"> <li><b>Eight (8)</b> Core common and imported units: units, and</li> <li><b>Thirteen (13)</b> Elective technical stream units from Group A.</li> </ul> <p>Total: <b>Twenty-one (21)</b> units.</p> <p>OR</p> <p><b>Component Maintenance Workshop Stream</b></p> <ul style="list-style-type: none"> <li><b>Eight (8)</b> Core common and imported units: units, and</li> <li><b>Six (6)</b> Elective technical stream units from Group B and C.</li> </ul> <p>Total: <b>Fourteen (14)</b> units.</p>			



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Core Units of Competency (common to both streams)			
Competency Unit(s)	National Code	Title	Core / Elective
	MEA107	Interpret and use aviation maintenance industry manuals and specifications	Core
	MEA118	Conduct self in the aviation maintenance environment	Core
	MEA154	Apply work health and safety practices in aviation maintenance	Core
	MEA155	Plan and organise aviation maintenance work activities	Core
	MEA156	Apply quality standards applicable to aviation maintenance processes	Core
	MEA157	Complete aviation maintenance industry documentation	Core
	MEA158	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance	Core
	MSMENV272	Participate in environmentally sustainable work practices	Core



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## Elective Units of Competency Group A (Aircraft Maintenance Stream)

Unit/s of Competency	National Code	Title	Core / Elective
	MEA201	Remove and install miscellaneous aircraft electrical hardware / components	Elective
	MEA246	Fabricate and/or repair aircraft electrical hardware or parts	Elective
	MEA296	Use electrical test equipment in aviation maintenance activities	Elective
	MEA301	Perform aircraft flight servicing	Elective
	MEA303	Remove and install aircraft pneumatic system components	Elective
	MEA304	Remove and install non-pressurised aircraft structural and non-structural components	Elective
	MEA305	Remove and install aircraft fixed wing flight control system components	Elective
	MEA306	Remove and install engines and engine system components	Elective
	MEA307	Remove and install propeller systems and components	Elective
	MEA308	Remove and install rotary wing rotor and flight control system components	Elective
	MEA309	Inspect, test and troubleshoot aircraft hydro-mechanical and landing gear systems and components	Elective
	MEA310	Inspect, test and troubleshoot aircraft pneumatic systems and components	Elective
	MEA312	Inspect, test and troubleshoot aircraft fixed wing flight control systems and components	Elective
	MEA313	Inspect, test and troubleshoot piston engine systems and components	Elective
	MEA314	Inspect, test and troubleshoot gas turbine engine systems and components	Elective
	MEA315	Inspect, test and troubleshoot propeller systems and components	Elective
	MEA316	Inspect, test and troubleshoot rotary wing rotor and control systems and components	Elective
	MEA317	Remove and install pressurised aircraft structural and non-structural components	Elective
	MEA318	Inspect aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components	Elective
	MEA319	Inspect gas turbine engine systems and components	Elective
	MEA320	Test and troubleshoot aircraft hydro-mechanical, mechanical, gaseous and landing gear systems and components	Elective
	MEA321	Test and troubleshoot aircraft fixed wing flight control systems and components	Elective
	MEA322	Test and troubleshoot gas turbine engine systems and components	Elective



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Elective Units of Competency Group A (Aircraft Maintenance Stream - Continued)			
Unit/s of Competency	National Code	Title	Core / Elective
	MEA327	Fabricate and/or repair aircraft mechanical components or parts	Elective
	MEA328	Maintain and/or repair aircraft mechanical components or parts	Elective
	MEA339	Inspect, repair and maintain aircraft structures	Elective
	MEA362	Maintain aircraft vapour cycle air conditioning systems	Elective
	MEA366	Perform borescope inspections	Elective
	MEA398	Remove and install aircraft hydro-mechanical and landing gear system components	Elective
	MEA401	Inspect aircraft structures	Elective
	MEA410	Maintain aircraft structure / component	Elective



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## Elective Units of Competency Group B (Component Workshop Stream)

Choose at least three (3) of the elective technical stream units listed in Group B and make up to a total of six (6) units with units from Group C

Unit/s of Competency	National Code	Title	Core / Elective
	MEA380	Repair and/or overhaul aircraft hydraulic system components	Elective
	MEA381	Repair and/or overhaul aircraft pneumatic system components	Elective
	MEA382	Repair and/or overhaul aircraft fuel system components	Elective
	MEA383	Repair and/or overhaul gas turbine engine air inlet and compressor components and/or modules	Elective
	MEA384	Repair and/or overhaul gas turbine engine combustion section components and/or modules	Elective
	MEA385	Repair and/or overhaul gas turbine engine turbine and exhaust section components	Elective
	MEA386	Repair and/or overhaul gas turbine engine ancillary section components	Elective
	MEA387	Test gas turbine engines and engine modules after overhaul or repair	Elective
	MEA389	Repair and/or overhaul propellers	Elective
	MEA390	Repair and/or overhaul rotary wing dynamic components	Elective
	MEA391	Repair and/or overhaul aircraft mechanical system components	Elective
	MEA392	Disassemble aircraft piston engines	Elective
	MEA393	Repair and/or overhaul aircraft piston engine cylinder assembly components	Elective
	MEA394	Repair and/or overhaul aircraft piston engine crankcase assembly components	Elective
	MEA395	Reassemble aircraft piston engines	Elective
	MEA396	Assemble aircraft piston engine quick engine change unit	Elective
	MEA397	Test aircraft piston engines after repair or overhaul	Elective

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## Elective Units of Competency Group C (Component Workshop Stream)

Choose at least three (3) of the elective technical stream units listed in Group B and make up to a total of six (6) units with units from Group C

Unit/s of Competency	National Code	Title	Core / Elective
	MEA201	Remove and install miscellaneous aircraft electrical hardware / components	Elective
	MEA246	Fabricate and/or repair aircraft electrical hardware or parts	Elective
	MEA296	Use electrical test equipment in aviation maintenance activities	Elective
	MEA368	Shot peen aircraft components	Elective
	MEM24002B	Perform penetrant testing	Elective
	MEM24004B	Perform magnetic particle testing	Elective
	MEM24012C	Apply metallurgy principles	Elective



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<b>Assessment Method and Delivery Mode</b>	<p><b>Apprenticeship Pathway</b> The traditional apprenticeship model includes a 10 month on-campus program (approximately) combining instructor-led theory classes, computer self-paced learning and practical sessions involving small group and individual activities.</p> <p>Subsequent to the completion of the underpinning program, depending on the success of the student gaining employment, the student will enter an apprenticeship and complete his/her work-based component (generally 3 or more years in duration). On successful completion of the work-based component, the student will be awarded with a Certificate IV qualification.</p> <p><b>CASR Part 66</b> The course delivery is in line with the CASR Part 66 basic knowledge syllabus. Delivered in a modular format with CASR Part 66 Multi-Choice-Question examinations as summative assessments. Please see Annex A.</p> <p>As per the CASR Part 66 Manual of Standards, if a candidate passes the examinations at over 75% then they receive a 10 year credit for that particular module/sub-module towards the applicable category/sub-category of licence.</p>
<b>Course Length</b>	<p>Approximately 10 months on-campus plus 3 to 4 years in the workplace under an apprenticeship arrangement. Course length will vary depending on Public Holidays and Aviation Australia's Term Breaks.</p>
<b>QLD State Government Funding</b>	<p><b>Eligibility</b></p> <ul style="list-style-type: none"> <li>• Australian citizens or permanent residents of Australia living in Queensland.</li> <li>• Permanent residents of Australia living in Queensland that are New Zealand citizens.</li> <li>• Refugee and humanitarian visa holders living in Queensland.</li> </ul> <p><b>Evidence required</b></p> <ul style="list-style-type: none"> <li>• A valid Australian Passport, or an Australian Birth Certificate, or an International Passport with accompanying Visa Grant Notification/VEVO documentation; and</li> <li>• Queensland Drivers Licence and/or a valid QLD Adult Proof of Age Card (18+ card).</li> </ul>
<b>Course Costing</b>	<ul style="list-style-type: none"> <li>• \$4,500 (Post QLD State Government Funding).</li> </ul>
<b>Prerequisites</b>	<ul style="list-style-type: none"> <li>• Year 10 (or equivalent) completion of high school, preferably year 12, with evidence of studies in English, Mathematics and Physics.</li> <li>• Successful completion of Aviation Australia's Language, Literacy and Numeracy aptitude testing.</li> </ul>
<b>Outcome</b>	<ul style="list-style-type: none"> <li>• Statement of Results towards MEA40718 Certificate IV in Aeroskills (Mechanical) upon successful completion of the prevocational Aeroskills program.</li> <li>• If students are successful in gaining and completing an apprenticeship, a Certificate IV in Aeroskills qualification will be awarded.</li> <li>• CASR Part 147 Certificate of Recognition for CASR Part 66 basic knowledge examinations passed at over 75%.</li> </ul>



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## Annex A CASR Part 66 basic knowledge syllabus

Subject Module	Title
1	Mathematics
2	Physics
3	Electrical Fundamentals
4	Electronic Fundamentals
6	Aircraft Materials and Hardware
7	Maintenance Practices
8	Aerodynamics
11	Aeroplane Aerodynamics, Structures and Systems
12	Helicopter Aerodynamics, Structures and Systems
15	Gas Turbine Engine
16	Piston Engine
17	Propeller Systems

