

Federation
Academy



RTO No: 52785 | CRICOS No: 03980A

Course Outline

MEM40119 - Certificate IV in Engineering
Specialisation: Marine Craft Construction



Course Information

Qualification Code	MEM40119
Qualification Name	Certificate IV in Engineering (Marine Craft Construction)
Qualification Specialisation	Marine Craft Construction
CRICOS Course Code	114754K
Duration in Weeks (120)	96 Study Weeks including Industry Placement + 20 Holiday Weeks = Total Duration 116 Weeks
CRICOS Provider	#03980A
RTO Code	52785
Provider Name	Federation Academy
Delivery Location/s	Brisbane Level 3, 160 Edward Street Brisbane Q 4000 Adelaide Level 4 117 King William St, ADELAIDE, SA, 5000 Cairns 58-70 Lake St, CAIRNS CITY, QLD, 4870

What is this course about?

The MEM40119 Certificate IV in Engineering (Marine Craft Construction) is a nationally recognized qualification in Australia that equips individuals with the skills and knowledge needed to work as a higher engineering tradesperson in the specialised field of building and repairing boats and marine craft. Currently, there is a worldwide demand for people with skills in the boat building and marine craft construction industries. This program also includes all the units required for the MEM30719 - Certificate III in Marine Craft Construction to ensure that all students, regardless of their backgrounds, have the same basic skill level. Individuals that have previously completed the qualification MEM30719 - Certificate III in Marine Craft Construction will be eligible for Credit Transfer.

Students will learn valuable skills and undertake industry placement as part of the program including:

- **Fabrication and Construction:** Gain expertise in repairing, fabricating, and constructing componentry and structural frames for various types of vessels. This includes using hand and power tools, welding techniques, and boat construction methods.
- **Technical Skills:** Learn how to interpret technical drawings, carry out engineering measurements and calculations, and utilize computer technologies relevant to marine craft construction.
- **Quality Control and Safety:** Employ important quality control processes for ensuring the construction and repair of vessels meet industry standards and safety regulations.
- **Communication and Teamwork:** Effective communication skills are crucial in this field, and the course emphasizes teamwork and collaboration within the marine craft construction environment.
- **Work Placement:** The program is divided into eight (8) separate study blocks. From Block Three (3) onwards, students will undertake 1-2 days of Industry Placement in an actual Marine Craft Construction business as part of their training. Block Eight incorporates 16 weeks of Industry Placement where students will be given the opportunity to work as part of a team on a final project. This will allow students an opportunity to both understand the day to day demands of the workplace and make strong connections in the marine craft construction industry.

What do I get out of this course?

Employment Outcomes and Job Roles vary across different Industry Sectors.

Possible vocational outcomes for this qualification may include:

- Boat Builder
- Shipwright
- Mechanical Engineering Supervisor
- Mechanical Engineering Draftsperson
- CAD/CAM Programmer
- Advanced Mechanical Maintenance Technician
- Mechanical engineering Technician
- Pressure Welder
- Advanced Fabrication Technician



What do I need to apply?

The following requirements apply to entry into this qualification:

INTERNATIONAL:

1. Age 18+
2. IELTS 6.0 or equivalent English proficiency
3. Completed high school Year 12, or equivalent.

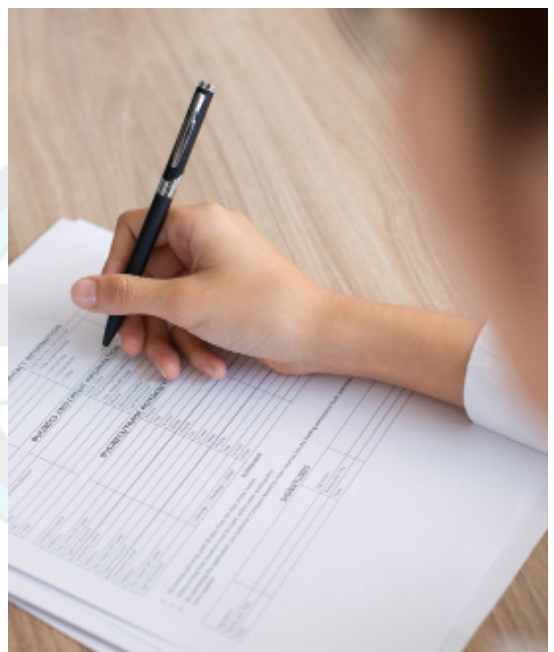
AND

4. Verifiable Evidence of at least two (2) years full time experience working in the Marine Craft Construction, Boat Building or allied Manufacturing or Mechanical Engineering Trades, either in Australia or abroad.

OR

5. Verifiable evidence of having successfully undertaken at least two (2) years full time post-secondary studies in an area related to an allied Manufacturing or Mechanical Engineering Trade, either in Australia or abroad.

Refer to the Federation Academy Enrolment Form for further information regarding possible enrolment requirements.



Who is this course for?

The typical entrant into the program are.

- CRICOS (international) candidates seeking to find employment as an experienced tradesperson in Marine Craft Construction in the fields of Mechanical Engineering or Manufacturing,
- CRICOS (international) candidates who have previously completed MEM or aligned qualifications in Australia or abroad.
- CRICOS (international) candidates who have previously worked in or completed Manufacturing or Engineering qualifications in a non-Marine Craft Construction related field and wish to transition into a new industry.
- Adult learners, most learners are 18-45 years of age, but age is not limited in the target group.
- Are interested in obtaining employment in Marine Craft Construction or allied para-professional positions in the MEM sector, in either Australia or their country of origin.
- Those who have worked in the MEM sector in other roles/allied roles and now wish to expand their skillset to include Marine Craft Construction skills.

What **career path** does this course follow?

Educational Pathways into the Qualification / Skill set

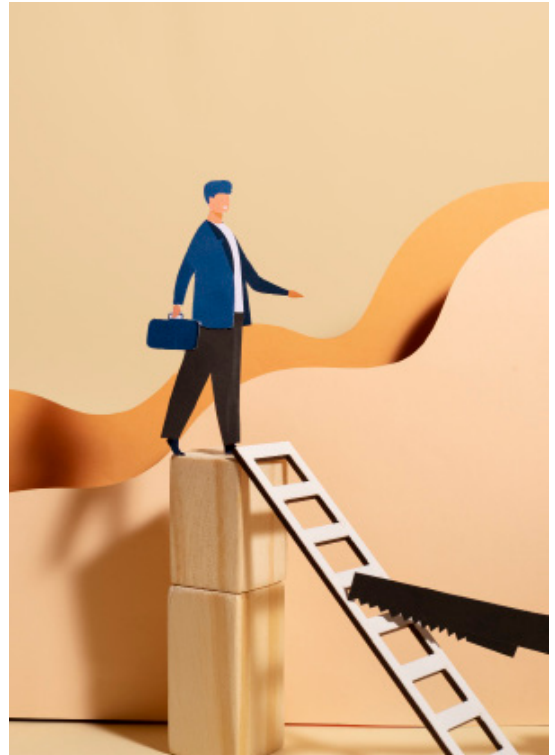
Student's pathway may include.

- Completion of previous courses such as:
 - » Certificate III in Engineering
 - » Certificate III in Marine Craft Construction
 - » Certificate III in Boating Services

Educational Pathways into the Qualification / Skill set

Related/Potential Allied Pathways

- Diploma of Engineering - Advanced Trade
- Diploma of Engineering – Technical
- Diploma of Applied Technologies
- Advanced Diploma of Engineering
- Higher Education Level Qualifications in:
 - » Engineering



How is this **course trained and assessed?**

Training has been designed to be progressive and step-based to provide the skills and knowledge required to undertake all the units. The course is designed to provide the skills and knowledge in a practical and theory-based approach to meet the needs of the students, who have experience working in marine craft construction industry at a team member level. Students are required to attend class a minimum of 20 hours per week over the study weeks and undertake all Industry Placement training hours. All training material is available to students 24/7 on the Federation Academy LMS. All assessments are submitted and assessed via the LMS.

The program has been separated into eight (8) study blocks and the electives have been chosen to allow students to undertake the MEM30719 Certificate III in Marine Craft Construction units in addition to developing detailed understanding and application of advanced engineering skills required for the Marine Craft Construction process. Ongoing trainer support and training is provided by direct face to face contact with trainers and assessors throughout the training products delivery. Each trainer is also contactable by email to help students. To align with the intended purpose of a higher trade qualification, up to 50% of the training is undertaken as Industry Placement in an actual marine craft construction workplace. The remaining qualification hours encompass training delivery in the classroom and workshop as well as the assessment tasks that will be undertaken at the Institution.



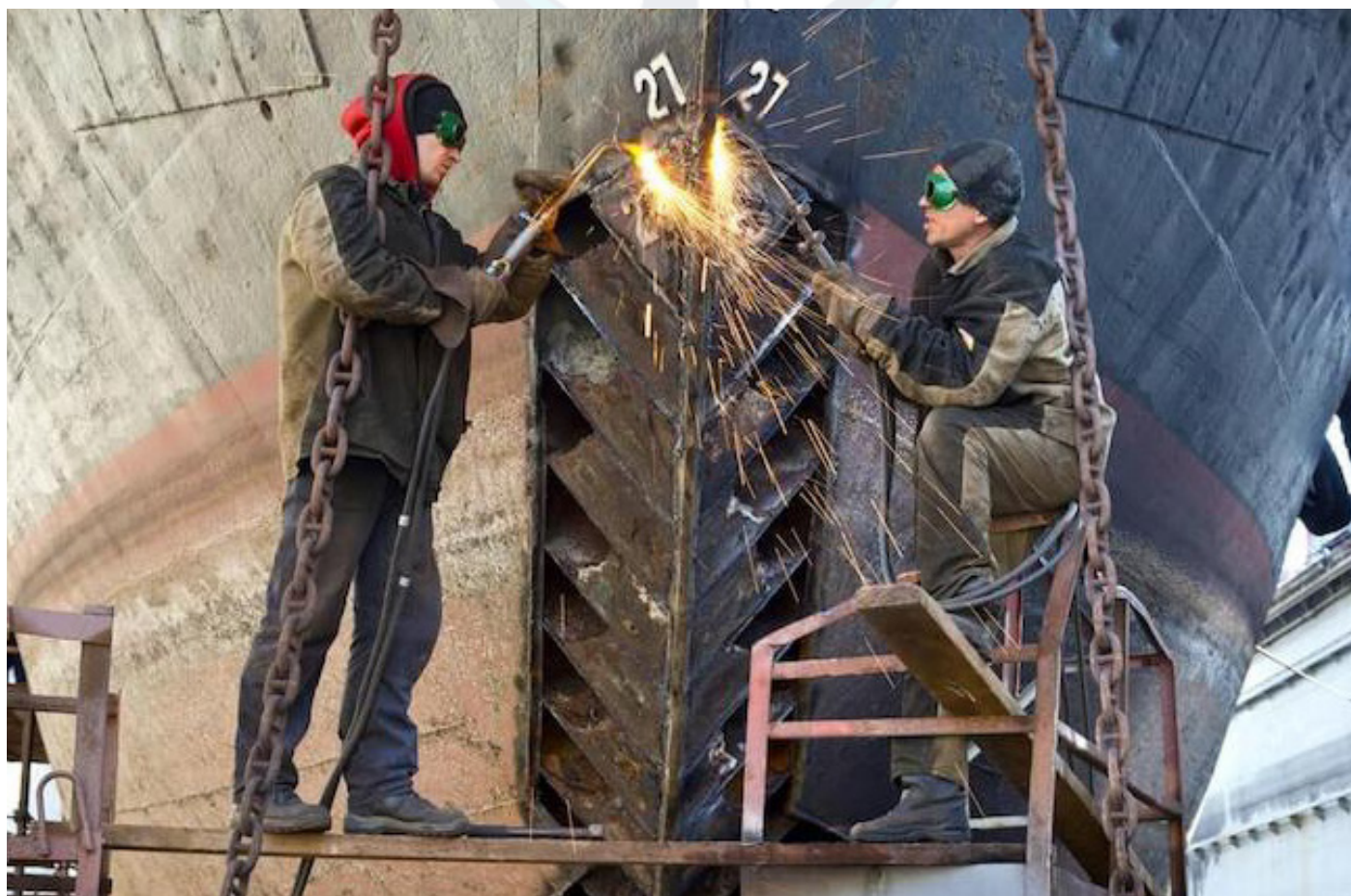
Qualification Structure

C/E	PTs	Unit Code – Unit Title	Study Weeks
Study Block One			
C	2	MEM13015 Work safely and effectively in manufacturing and engineering	2
C	2	MEM16006 Organise and communicate information	1
C	2	MEM11011 Undertake manual handling	1
E/B1	1	MEM13001 Perform emergency first aid	1
C	5	MEM12023 Perform engineering measurements	2
C	3	MEM12024 Perform computations	2
C	2	MEM16008 Interact with computing technology	1
C	4	MEM09002 Interpret technical drawing	2
Study Block Two			
E/B2	8	MEM09003 Prepare basic engineering drawing	4
E/B3	6	MEM09011 Apply basic engineering design concepts	3
E/A1	8	MEM09009 Create 2-D drawings using computer-aided design system	4
Study Block Three			
C	4	MEM14006 Plan work activities	2
C	2	MEM18001 Use hand tools	2
C	2	MEM18002 Use power tools / handheld operations	2
C	3	MSMENV272 Participate in environmentally sustainable work practices	2
E/B4	4	MEM07024 Operate and monitor machine and process	2
E/B5	4	MEM12007 Mark off/out structural fabrications and shapes	2
Study Block Four			
E/B6	4	MEM25003 Set up marine vessel structures	2
E/B7	2	MEM13003 Work safely with industrial chemicals and materials	1
E/B8	2	MEM25004 Fair and shape surfaces	2
E/B9	4	MEM25007 Maintain marine vessel surfaces	2
E/A2	4	MEM25008 Repair marine vessel surfaces and structures	2
E/B10	2	MEM07001 Perform operational maintenance of machines/equipment	2
Study Block Five			
E/B11	2	MEM08011 Prepare surfaces using solvents and/or mechanical means	1
E/B1	8	MEM25011 Install marine systems	4
E/B13	2	MEM25015 Assemble and install equipment and accessories / ancillaries	2
E/B14	1	MEM50002 Work safely on marine craft	1
E/B1	1	MEM50003 Follow work procedures to maintain the marine environment	1
E/B16	4	MSMENV472 Implement and monitor environmentally sustainable work practices	2
Study Block Six			
E/B17	2	MEM05005 Carry out mechanical cutting	2
E/B18	2	MEM05007 Perform manual heating and thermal cutting	2
E/B19	2	MEM05049 Perform routine gas tungsten arc welding	2

Qualification Structure

C/E	PTs	Unit Code – Unit Title	Study Weeks
E/B20	2	MEM05050 Perform routine gas metal arc welding	2
E/B21	4	MEM11010 Operate mobile load shifting equipment	2
E/B2	4	MEM11022 Operate fixed/moveable load shifting equipment	2
Study Block Seven			
C	2	MEM17003 Assist in the provision of on-the-job training	1
E/B23	2	MEM15004 Perform inspection	1
E/B2	2	MEM16004 Perform internal/external customer service	1
E/A3	4	MEM09010 Create 3-D models using computer-aided design system	4
E/B2	4	MEM09021 Interpret and produce drawings of curved 3-D shapes	2
E/A4	2	MEM16010 Write reports	1
Industry Placement Block Eight			
E/B26	2	MEM16005 Operate as a team member to conduct manufacturing, engineering, or related activities	17
Total Weeks			96

*Pre-Requisite = P | Core = C | Elective = EA/B# |



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TRAINING