



Why study Metal and Engineering?

The manufacturing, engineering and related service industries include a wide range of industry sectors. The major industry activities and sectors are metal fabrication, metal manufacturing, Aeroskills, metal machining, transport equipment manufacturing, electrical equipment and appliance manufacturing, and industrial machinery and equipment manufacturing.

Most occupations within the industry have been subject to significant change within the last decade. In some areas career paths are converging with those in computer programming.

Working in the metal and engineering industry involves:

- constructing, assembling, installing, modifying, repairing and maintaining machines
- assembling, making parts, equipment, machines, instruments and tools
- designing machinery, parts, computer hardware and electronic circuits, using 3D graphics and drafting skills
- managing clients and staff, overseeing quotas and information, leading projects

Samples of occupations students can aim for in the metal and engineering industry:

- ✓ engineering draftsman
- ✓ engineer (automotive, fabrications, production, plastics, marine, mechanical)
- ✓ fitter
- ✓ instrument maker
- ✓ maintenance fitter
- ✓ structural steel and welding supervisor
- ✓ toolmaker
- ✓ boat builder/ repairer
- ✓ sailmaker

Depending on competencies chosen, full or part qualifications from the Metal and Engineering Industry Training Package (MEM05) are available in mechanical, fabrication and electrical/electronic trade; production technology and systems; jewellery manufacture; boating services; and marine craft construction. Your teacher or VET Coordinator will advise you of the competencies and qualifications that may be available.

The qualifications through the Metal and Engineering Framework are:

- Certificate I in Engineering MEM10105 *

The following additional qualifications may also be available for delivery by TAFE NSW or another training provider:

- Certificate I in Boating Services MEM10205 *
- Certificate II in Boating Services MEM20305 *
- Certificate II in Engineering MEM20105 *
- Certificate III in Boating Services MEM30905 *

Metal and Engineering

Industry Curriculum Framework

The following additional qualifications may also be available for delivery by TAFE NSW or another training provider:

- Statement of attainment in partial completion of Certificate II in Engineering – Production Technology MEM20205
- Statement of attainment in partial completion of Certificate III in Engineering – Mechanical Trade MEM30205
- Statement of attainment in partial completion of Certificate III in Engineering – Fabrication Trade MEM30305
- Statement of attainment in partial completion of Certificate III in Engineering – Electrical/Electronic Trade MEM30405
- Statement of attainment in partial completion of Certificate III in Engineering – Technical MEM30505
- Statement of attainment in partial completion of Certificate III in Jewellery Manufacture MEM30605
- Statement of attainment in partial completion of Certificate III in Marine Craft Construction MEM30705

* A statement of attainment in partial completion of qualification/s may also be available.

For more information on possible outcomes please refer to the Metal and Engineering Curriculum Framework syllabus that can be found by visiting the VET Curriculum Frameworks page of the Board of Studies NSW website: http://www.boardofstudies.nsw.edu.au/syllabus_hsc/metal-engineering.html

Course description

This course is based on units of competency, which have been developed by the metal, engineering and related service industries to describe the competencies, skills and knowledge required by workers in the industry.

Manufacturing, engineering and related services industries induction
MEM09002B Interpret technical drawing
MEM12023A Perform engineering measurements
MEM12024A Perform computations
MEM13014A Apply principles of occupational health and safety in the work environment
MEM14004A Plan to undertake a routine task
MEM15002A Apply quality systems
MEM15024A Apply quality procedures
MEM16007A Work with others in a manufacturing, engineering or related environment
MEM18001C Use hand tools
MEM18002B Use power tools/hand held operations

Work placement is a mandatory HSC requirement within this Framework - 70 hours for a 2 year course.

Recognition of Prior Learning

If you have already completed all or part of a similar vocational course elsewhere, such as at TAFE, your previous studies and results will be recognised. You will not have to repeat that training and assessment. Additionally if through previous work or life experiences you have already developed high level skills in this course area, these may also be able to be recognised. Your teacher or VET Coordinator can provide more details of the recognition process.

School-based traineeships and apprenticeships are available in this industry area, for more information: <http://www.sbatinnsw.info/>