Advanced Diploma of Engineering (Mechanical)

In this program you’ll gain the theoretical and practical skills to work in the mechanical and manufacturing industries as a technical officer or engineering supervisor/manager. You’ll develop an understanding of advanced technical and managerial concepts and be able to work in small, medium and large enterprises as well as the defence forces. Mechanical engineering is a diverse and challenging field where you will be responsible for designing, improving and building mechanical devices, systems and machines to solve problems across a range of industrial sectors and within general society.

Note: Programs may change as training packages are updated.

Industry connections
You’ll complete an industry-based project (or equivalent) as part of the program. This program has a strong Industry Advisory Committee (IAC), which links the program and industry developments. The IAC comprises staff from local manufacturing, automotive, refrigeration and air-conditioning industries. It provides regular feedback on the program and the changing needs of industry.

Career outlook
After graduating from this program, you’ll have the necessary knowledge and skills to be employed as a technical officer/engineering assistant, supervisor or manager. You may work in offices, technical laboratories, workshops or manufacturing plants. Mechanical and manufacturing paraprofessional engineers:

- assist professional engineers in mechanical design
- supervise and manage manufacturing and assembly plants
- construct, operate and maintain machines
- manufacture and maintain mechanical equipment, mechanical installations, and mechanical facilities.

Professional recognition
This program is fully accredited by Engineers Australia. Graduates of the program will be eligible for graduate membership of Engineers Australia at Engineering Associate level. Australia is a signatory to the International Engineering Alliance, also known as the Dublin Accord, for engineering technicians. Graduates of the program will be recognised in all countries that are signatories to the accord.

International opportunities
Through partner organisations in Europe, Asia and the United States, the RMIT International Industry Experience and Research Program (RIIERP) offers workplace training and academic research placements of between six and 12 months. There are also opportunities to study abroad through Education Abroad.

Pathways
Graduates with a GPA of at least 3.0 out of 4.0 are eligible to apply for credit of up to one-and-a-half years into the following RMIT programs, if successful in gaining a place:

- Bachelor of Engineering (Automotive Engineering) (Honours)
- Bachelor of Engineering (Mechanical Engineering) (Honours).

www.rmit.edu.au/programs/c6130
Program structure

The advanced diploma covers engineering skills including drafting, computer-aided drafting (CAD), use of hand and power tools, machining and manufacturing processes.

You’ll learn skills in basic machining operations and fabrication tasks, as well as learn how to select, set up and use a range of mechanical test equipment.

You’ll also be introduced to engineering mathematics, scientific principles and materials engineering. You may also learn to apply computer-aided manufacturing (CAM) processes and programming.

Specialist areas include:
- 3D computer-aided drafting and solid modelling
- advanced statics and dynamics
- design of machinery
- project and quality management
- strength of materials
- thermodynamics and fluid mechanics.

Organise and communicate information (MEM16006A)

Use computer-aided design (CAD) to create and display 3-D models (MEM30033A)

Select electrical equipment and components for engineering applications (MEM23111A)

Interact with computing technology (MEM16008A)

 Produce basic engineering drawings (MEM30032A)

Select and test mechanical engineering materials (MEM23063A)

Perform engineering activities (MEM22001A)

Contribute to the design of basic mechanical systems (MEM30009A)

Evaluate hydrodynamic systems and system components (MEM23113A)

Manage self in the engineering environment (MEM22002A)

Prepare mechanical models for computer-aided engineering (CAE) (MEM09155A)

Evaluate thermodynamic systems and components (MEM23114A)

Select common engineering materials (MEM30007A)

Apply mechanical engineering analysis techniques (MEM14085A)

Evaluate fluid power systems (MEM23115A)

Apply mathematical techniques in a manufacturing engineering or related environment (MEM30012A)

Integrate mechanical fundamentals into an engineering task (MEM14089A)

Select mechanical machine and equipment components (MEM23120A)

Participate in environmentally sustainable work practices (MSENV272B)

Coordinate engineering projects (MEM22013A)

Analyze loads on frames and mechanisms (MEM23121A)

Calculate force systems within simple beam structures (MEM30005A)

Apply technical mathematics (MEM23004A)

Apply fluid and thermodynamics principles in engineering (MEM23006A)

Calculate stresses in simple structures (MEM30006A)

Apply calculus to engineering tasks (MEM23007A)

Apply engineering mechanics principles (MEM23109A)

Use computer-aided design (CAD) to create and display 3-D models (MEM30033A)

Operate and program computers and/or controllers in engineering situations (MEM23003A)

Use workshop equipment and processes to complete an engineering project (MEM30029A)

This program is structured to deliver competencies, knowledge and skills required by the nationally accredited Metal and Engineering Training Package. It includes core and specialist units in the major study areas.

Entrance requirements

Successful completion of an Australian Year 12 senior secondary certificate of education or equivalent.

Additional information

Non-Year 12 applicants may submit additional information if they would like it to be considered. For semester 1 intake, this can be completed through the VTAC Personal Statement online. For semester 2 intake, this can be completed through the personal statement in the Apply Direct application.