Mechanical Engineering

About this area of study

Mechanical engineers plan, design and oversee the development, installation, operation and maintenance of machinery. They conduct research to solve practical engineering problems and improve efficiency. Mechanical engineers may perform the following tasks:

- design new machines, equipment or systems taking into account cost, availability of materials, strength and maintenance requirements
- consider the appearance of the designs as well as the impact on the user and on the environment
- carry out research in the use of different types of fuel and energy, materials handling, heating and cooling processes, the storage and pumping of liquids and gases, and environmental controls
- use computer-aided design (CAD) to assist in design and drawing
- undertake the design and construction of resource development projects
- supervise the operation of manufacturing process plants such as vehicle and electrical appliance production plants, coal handling installations, power stations and sewerage and water supply pumping stations
- specify, select, install and manage the maintenance of factory production and machinery
- set up work control systems to make sure that standards of performance, quality, cost and safety are met
- act as consultants, carrying out studies about possible changes or improvements and estimating costs of products for clients.

Engineering is a very challenging, but also very rewarding career. While most engineers start their careers in a technical role, many subsequently move into management roles and take on senior positions in a wide range of organisations. The skills learnt in engineering are highly transferable and engineers can easily move across industries. Many people who started in engineering have moved into areas such as investment banking, management consulting, marketing, accounting, and many other fields. Engineers will also be highly valued in the emergence of “green” jobs.

Key skills that Mechanical Engineering graduates demonstrate include

- Technical and engineering skills
- Communication and interpersonal skills
- Problem-solving and analytical proficiency
- Investigation and research techniques
- Teamwork skills

Courses offered by Deakin University include

- Bachelor of Engineering (Mechanical Engineering Major)

Labour market information

Grads online has information regarding graduate salaries and where graduates go after completing their course www.gradsonline.com.au

Job Outlook has information about the labour market outlook http://joboutlook.gov.au

Related occupations

- Aerospace Engineer
- Industrial Designer
- Industrial Engineer
- Marine Engineer
- Marine Surveyor
- Mechanical Engineering Associate
- Mechanical Engineering Technician
- Mechanical Engineering Technologist
- Naval Architect
- Patent Examiner

An industry career profile, salary and other employment information can be obtained from the My Future website www.myfuture.edu.au

Descriptions of occupations can be found at The Job Guide www.jobguide.thegoodguides.com.au

Employers

Victorian Government www.graduates.vic.gov.au

Vic Roads www.vicroads.vic.gov.au

Holden www.holden.com.au

Shell www.shell.com

Alcoa World Alumina www.alcoa.com.au

BlueScope Steel www.bluescopesteel.com/graduates

Ford Motor Company www.careers.ford.com.au

URS www.ap.urscorp.com

Worley Parsons www.worleyparsons.com/graduates

BHP Billiton www.bhpbilliton.com/bb/peopleEmployment/graduates.jsp

Thiess www.thiess.com.au/careers/graduates

For specific employment opportunities visit the following sites

Engineering Jobs www.engineeringjobs.com.au

Technical Resources www.techresourses.com.au

Deakin University Jobshop www.deakin.edu.au/jobshop

Graduate Opportunities www.graduateopportunities.com

Uni Grad www.unigrad.com.au

Seek www.seek.com.au

My Career www.mycareer.com.au

Career One www.careerone.com.au

Professional associations

Engineers Australia www.engineersaustralia.org.au

Engineers Australia (Vic Division) www.vic.engineersaustralia.org.au

Association of Professional Engineers, Scientists and Managers,

Australia (APESMA) www.apesma.asn.au

Institute of Public Works Engineering Australia (IPWEA) www.ipwea.org.au

Australian Constructors Association www.constructors.com.au