Bachelor of Engineering (Honours)
Bachelor of Engineering (Honours) and Master of Engineering
Bachelor of Engineering (Honours) / Dual Degree

The University Of Queensland
AUSTRALIA

Mechanical Engineering Specialisation

First Year Study Pathways and Information Guide

What is Mechanical Engineering?

Mechanical engineering is all about the responsible development of products, processes, and management of power, at scales ranging from molecules to large and complex systems

Look around you. How much of what you see has been manufactured? Mechanical Engineers are involved in the design and manufacture of everything that moves from cars to planes to spacecraft. From micro and nanoscale machinery to passenger aircraft and the world's largest mining equipment.

Mechanical Engineering pushes the limits of the possible – the ultra-efficient and hyper-fast, the maximally enduring and most sustainable, the fully autonomous and the super-controlled.

Many of the great technical achievements of our age, and the innovations of our futures, will be based in the world of mass, motion, forces, and energy – the world of mechanical engineering.

With a solid grounding in the principles and practice of mechanical engineering, our graduates are ready to engage in ethical approaches to engineering, with concern for society and the environment.

What You'll Experience

Mechanical Engineering is highly experiential. You won't just learn the theory, you'll apply it

UQ Mechanical Engineering graduates benefit from an education that enables them to make a real difference to the world while, at the same time, pursuing successful and rewarding careers.

Mechanical Engineering is highly experiential. You won't just learn the theory, you'll apply it- you'll have opportunities like:

- Applied classes – use specialist equipment, workshops and facilities

- Design projects – create, test and improve engineering solutions

- Global opportunities – through the New Colombo Plan

- Field trips – like the AERO4200 Flight Lab

Three things you might not know about Mechanical Engineering:

1. It's one of the broadest engineering disciplines – you'll gain skills to work across many industries

2. It's highly hands-on – you'll learn by creating, testing and improving real engineering solutions

3. It helps shape a sustainable future – you'll apply engineering to complex global challenges

First Year
Core Courses

Second Year
You MUST declare your specialisation at the start

Third Year
If you're choosing one, start taking your majors courses

Fourth year +
Your major must be declared now, Advanced courses, thesis, capstone etc

Your Final Year

Regardless of specialisation you will do some version of a final year project. This could take the form of:

- Research project
- Thesis
- Design project
- Capstone
- Industry placement

Industry placements can be either self-sourced or sourced by the Faculty. EAIT Employability provides guides for finding placements and work experience, as well as how to prepare for your placement.

After You Graduate

You'll have choice as mechanical engineers work across industries including mining, renewable energy, defence, aerospace, manufacturing and healthcare

You'll be prepared for a wide range of roles – such as mechanical engineer, design engineer, project engineer, systems engineer, manufacturing engineer or reliability engineer.

You'll apply your versatile skills - design, testing, project management, automation, operations and problem-solving. Mechanical engineers design and manufacture machinery and equipment for a wide range of uses, design and operate power plants, and calculate the economical combustion of fuels, the conversion of heat energy into mechanical power and how mechanical power is used.

Salary expectations vary by industry, role and experience, but engineering offers strong graduate and long-term career pathways. Career paths can lead to roles in the;

- automotive,
- aerospace,
- environmental,
- medical,
- power generation
- and building industries

as well as in research, design and development, testing and manufacturing, program management, specialist consulting engineering firms, government agencies and educational institutions.

The 2026 Average Annual Salary for Mechanical Engineers is between:

$90K–$110K

seek.com.au

Graduate Spotlight

Jeromy Moore – Chief Engineer, Cadillac Racing LMDh program

Jeromy is the Chief Engineering at Cadillac Racing; the tech guru of the entire operation at the Red Bull Ampol Racing.

He began working in the motorsport industry in 2001. He received his Bachelor degree in Mechanical Engineering from UQ in 2000 and worked immediately there after as Data and Design Engineer for Larkham motorsport, then Briggs Motorsport, which later became Tripleeight Race Engineering Australia.

Becoming Race Engineer in 2008 and later Chief Designer, Jeromy helped achieve many race victories, series championships and Bathurst 1000 wins as well as a Bathurst 12 hour victory.

He left Australia to work in Porsche Motorsport in Germany on their Le Mans 24 hour LMP1 race team from the 2015 season firstly as Performance Engineer in 2015 then to Race Engineer 2016 onward, resulting in three straight Le Mans 24 wins, and three drivers and constructors championships before the program was stopped end of 2017.

In 2018 Jeromy worked on the factory Porsche GTE program being the Technical Project Leader for the 911 RSR race car with further victories in Le Mans GT class, and in the USA in the IMSA championship.

Jeromy returned to Australia at the end of 2019 to become the Technical Director of Tripleeight Race Engineering Australia, in charge of the engineering design and race team, developing the current race cars, and currently working on the next generation race car for the category.

"I chose to study engineering because I have always enjoyed the problem-solving side of maths and physics. I also love cars and enjoy working with dynamic systems. At UQ I was able to join the UQ Racing team where we designed, built and raced a formula-style car against other universities."

Timothy Shannon
Graduate, Bachelor of Engineering (Honours) (Mechanical)

Find Your Community

UQ has 200+ clubs and societies, including groups connected to Mechanical Engineering

Student clubs and societies provide a voice for the student community and bring students together through networking and social events. They also provide valuable opportunities to engage with industry, enhance your leadership skills and make long-lasting friendships.

Student societies related to Mechanical Engineering include:

- **MESS – Mechanical Engineering Student Society**
- **EUS – Engineering Undergraduate Society**
- **BMES – Biomedical Engineering Society**

Mechanical Engineering related student clubs include:

- **UQ Space: The No.1 student aerospace organisation in Australia**
- **UQ Racing: Top ranked team in Australia, and 11th out of over 400 teams globally**

Mechanical Engineering Study Pathways

You can tailor Mechanical Engineering towards your interests through majors and minors

Majors Include:

- **No Major**
- **Aerospace Engineering Major**
- **Biomedical Engineering Major**
- **Materials Engineering Major**
- **Mining Engineering Major**

Minors Include:

- **Artificial Intelligence Minor**
- **Computing Minor**
- **Design Minor**
- **Data Science Minor**

Mechanical Engineering Study Plans

Here are the resources available to help you plan your degree

There is a specific order that we recommend you take your courses in. These study plans are designed to ensure that you meet your prerequisites and can take the courses in the semester that they are offered.

For more information

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https://www.eait.uq.edu.au/study-plans/undergraduate/mechanical-engineering