Aeronautical engineering focuses on the development and operation of aircraft – from design and manufacture to maintenance and operation – both within the Earth’s atmosphere and in space.

Your studies
This degree will provide you with a complex understanding of the design of a flight vehicle and a knowledge of aerodynamics, propulsion systems, structural design, materials, avionics, and stability and control systems.

There is a strong emphasis on hands-on learning throughout the degree. You will participate in the construction of a light aircraft and in doing so, learn about aircraft design, the operation of light aircraft and the regulations relating to light aircraft.

In third year, you’ll conduct hands-on experiments with wind-tunnel tests, gain elementary flying experience and take part in industry-style, design-build-test projects.

A final year honours thesis offers you the opportunity to specialise in a particular field, such as helicopter design, structural optimisation or experimental aerodynamics.

Your career
Aeronautical engineering is an international industry, so you can expect to be employed in:
- aeronautical/aerospace manufacturing and assembly
- design, research or certification positions
- aerospace technologies
- navigation systems
- low-speed aerodynamics such as automobile design
- communications or consulting.

Space Engineering Major
The faculty offers a major in Space Engineering to high achieving students. If you have an ATAR of 99 or above, you may also apply for the Space Engineering major. Once you have enrolled, please contact us by email at engineering.enquiries@sydney.edu.au to request a variation to your enrolment to include the Space Engineering major units of study.

Year 1 | Year 2
---|---
Integrated Engineering 1 | Integrated Engineering 2
Intro to Aerospace Engineering | Instrumentation & Dynamics
Engineering Computing & Mechanics | Fluid Mechanics 1
Materials 1 | Mechanics of Solids 1
Introduction to Aircraft Construction & Design | Mechanics Design 1
Maths | Thermal Engineering 1
Aerospace Structures | Aero Performance & Operations

Year 3 | Year 4
---|---
Integrated Engineering 3 | Integrated Engineering 4
Aerodynamics 1 | Aerodynamics 2
Flight Mechanics 1 | Flight Mechanics 2
Aerospace Design 1 & 2 | Aerospace Design 3
Aerospace Structures | Practice Experience
Propulsion | Thesis A & B
Aeronautical Electives | Aeronautical Electives

Sample course table only. Refer to sydney.edu.au/courses for full information.
Engineering at Sydney

As one of the top 30 engineering and technology universities in the world*, we will provide you with the leadership skills to develop innovative, creative and sustainable solutions that promote positive change.

Clear pathways, widest choice

Our engineering degree options cover aeronautical, mechanical, mechatronic, biomedical, chemical and biomolecular, civil, electrical, and software engineering.

Depending on your degree stream, up to 15 majors are available to personalise your degree:

- Chemical Engineering
- Computer Engineering
- Construction Management
- Electrical Engineering
- Environmental Engineering
- Geotechnical Engineering
- Information Technology (Engineering)
- Materials
- Mechanical Engineering
- Mechatronic Engineering
- Power Engineering
- Space Engineering
- Structures
- Telecommunications Engineering
- Transport Engineering

You can broaden your career options even further by combining your degree with studies in arts, law, architecture, science, commerce, music or medical science. Combined degrees are mostly five years in length and very popular, as they allow you to combine a range of interests.

Flexible First Year Program

If you're not sure in which area of engineering you'd like to specialise, our Flexible First Year program (UAC code 511756) gives you the time and freedom to discover where your strengths and interests lie before deciding.

Advanced Engineering program

Our Advanced Engineering program is open to students demonstrating outstanding academic ability (indicative ATAR of 97.5 or above). You will take advanced units covering topics such as sustainability and humanitarian issues, business planning and strategy, technology and education. You will also participate in small groups working on problems relevant to the community. You may take any engineering stream within this program. Apply directly through UAC (UAC code 511700).

Assumed knowledge

These HSC subjects are assumed knowledge for our engineering degrees:

- Mathematics Extension 1
- Physics and/or Chemistry (depending on stream)

The whole you, not just your ATAR

If you would like to study engineering subjects at university but are worried about making the ATAR cut-off, don't worry. Our Flexible Entry scheme considers your ATAR as well as your performance in maths and science subjects, and your leadership capability. Apply at:

- sydney.edu.au/engineering/flexibleentry

Globally recognised qualifications

Our engineering degrees are accredited by Engineers Australia, so you will graduate with a prestigious qualification that is recognised worldwide.

Scholarships

We offer more than 500 University-wide scholarships to undergraduates every year. The Faculty of Engineering and Information Technologies also offers a variety of entry, merit and industry scholarships.

For more information about scholarships visit:

- sydney.edu.au/engineering/scholarships
- sydney.edu.au/scholarships

Faculty of Engineering and Information Technologies

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sydney.edu.au/ask-domestic
sydney.edu.au/ask-international

*QS World University Rankings 2015/16