SWINBURNE UNIVERSITY OF TECHNOLOGY

Engineering

Study options and career opportunities

2019

KNOWING

swinburne.edu.au/engineering

Engineering study guide

> I want to learn about designing, building and maintaining infrastructure

Study

Civil engineering

With a degree

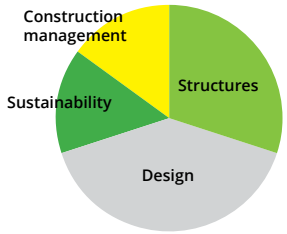
Bachelor of Engineering (Honours) (Professional) with a major in Civil

Bachelor of Engineering (Honours) with a major in Civil

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Civil engineer
- Geotechnical engineer
- Water environmental engineer
- Structural engineer
- Transport planner

Or an associate degree

Associate Degree of Engineering

To become

- Engineering associate

Or a diploma

Advanced Diploma of Engineering Technology specialising in Civil

To become

- Designer or planner
- Construction supervisor
- Technical officer

> I want to learn about designing and managing the construction of buildings

Study

Construction engineering

With a degree

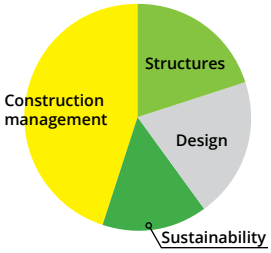
Bachelor of Engineering (Honours) (Professional) with a major in Construction

Bachelor of Engineering (Honours) with a major in Construction

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Asset management engineer
- Construction engineer or manager
- Project engineer or manager

Or a diploma or certificate

Advanced Diploma of Building Design (Architectural)

Diploma of Building and Construction (Building)

Certificate IV in Building and Construction (Building)

To become

- Builder
- Building designer
- Estimator
- Draftsperson
- Supervisor

> I want to learn how to design buildings in which people want to live and work

Study

Architectural engineering

With a degree

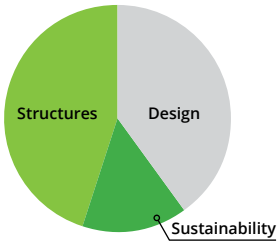
Bachelor of Engineering (Honours) (Professional) with a major in Architectural

Bachelor of Engineering (Honours) with a major in Architectural

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Design engineer
- Structural system engineer
- Architectural engineer
- Project engineer

> I want to learn how things work and how to make them better

Study

Mechanical engineering

With a degree

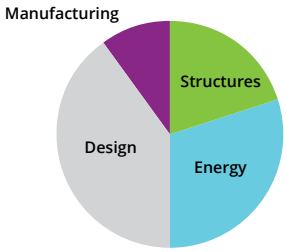
Bachelor of Engineering (Honours) (Professional) with a major in Mechanical

Bachelor of Engineering (Honours) with a major in Mechanical

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Design engineer
- Mechanical engineer
- Production engineer
- Project engineer or manager

Or an associate degree

Associate Degree of Applied Technologies

Associate Degree of Engineering

To become

- Engineering associate

Or a diploma or certificate

Advanced Diploma of Engineering Technology specialising in Mechanical

Certificate IV in Engineering

To become

- Drafting technician
- Production supervisor or planner or controller
- Sales technical officer
- Tool designer
- Certified welder
- Welding supervisor
- Technical officer

> I want to learn how to improve everyday life through automation

Study

Robotics and mechatronics engineering

With a degree

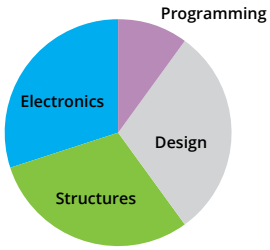
Bachelor of Engineering (Honours) (Professional) with a major in Robotics and Mechatronics

Bachelor of Engineering (Honours) with a major in Robotics and Mechatronics

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Design engineer
- Project planner or manager
- Research and development engineer
- Robotics and mechatronics engineer

Or an associate degree

Associate Degree of Applied Technologies

To become

- Engineering associate

Or a diploma

Advanced Diploma of Engineering Technology specialising in Robotics and Mechatronics

To become

- Production supervisor or planner or controller
- Technical officer

> I want to learn how to design innovative products that can be manufactured at scale

Study

Product design engineering

With a degree

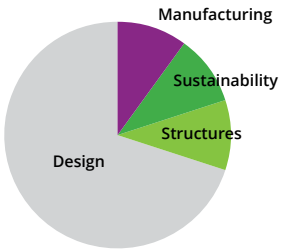
Bachelor of Engineering (Honours) (Professional) with a major in Product Design

Bachelor of Engineering (Honours) with a major in Product Design

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Design consultant
- Entrepreneur
- Industrial designer
- Product design engineer

NEW
ENGINEERING DEGREE

Launched in 2018, the revolutionary new **Bachelor of Engineering Practice (Honours)** is co-created by industry partners to mirror the professional workplace with project-based learning. Rather than traditional majors, students can refine their interests towards an industry sector through selection of different team projects. The four industry sectors covered are:

- Smart cities
- Internet of Things and People
- Industry 4.0
- Products designed for people.

Learn more: **swinburne.edu.au/engineering-practice-honours**

> **I want to learn how to create devices to improve people's health**

Study

Biomedical engineering

With a degree

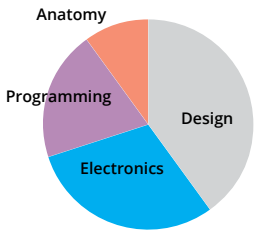
Bachelor of Engineering (Honours) (Professional) with a major in Biomedical

Bachelor of Engineering (Honours) with a major in Biomedical

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Biomedical engineer
- Clinical engineer
- Medical device designer
- Medical electronics engineer
- Medical imaging technician

> **I want to learn about circuits and power generation**

Study

Electrical and electronic engineering

With a degree

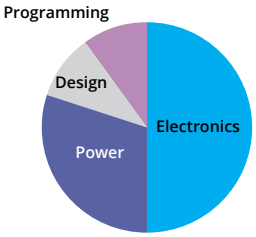
Bachelor of Engineering (Honours) (Professional) with a major in Electrical and Electronic

Bachelor of Engineering (Honours) with a major in Electrical and Electronic

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Design engineer
- Power engineer
- Product designer
- Project planner or manager
- Research and development engineer

Or an associate degree

Associate Degree of Engineering

To become

- Engineering associate

Or a diploma or certificate

Advanced Diploma of Engineering Technology – Electrical

Advanced Diploma of Electronics and Communications Engineering

Certificate III in Electronics and Communications

To become

- Planning design supervisor
- Electrical technician
- Systems technician
- Project manager

> **I want to learn how to make information easier to transfer and use**

Study

Telecommunications engineering

With a degree

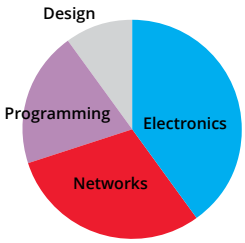
Bachelor of Engineering (Honours) (Professional) with a major in Telecommunications

Bachelor of Engineering (Honours) with a major in Telecommunications

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Network design and security analyst
- Project manager
- Telecommunications and network product manager
- Telecommunications design engineer
- Telecommunications systems manager

THE SWINBURNE ADVANTAGE

At Swinburne, getting you job-ready is at the core of what we do. Our Work Integrated Learning options prepare you for the day-to-day requirements of work, helping you become a more competitive graduate. You'll build invaluable skills, career networks and, most importantly, the confidence of knowing you have what it takes to land a job in your field. This is the Swinburne Advantage.

Visit **www.swinburne.edu.au/workintegratedlearning**

Professional degrees

Professional degrees are available to students who have completed an Australian Year 12 program. These courses extend the standard degrees to include a professional placement co-major comprising a 12-month work placement. The professional placement co-major is credit-bearing and will strengthen your employability. You'll benefit from Swinburne's unique industry partnerships and be paid during your placement. Look for degrees with (Professional) in the title.

> **"I want to learn how to build hardware and program software to solve problems"**

Study

Software engineering

With a degree

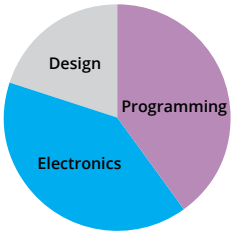
Bachelor of Engineering (Honours) (Professional) with a major in Software

Bachelor of Engineering (Honours) with a major in Software

Bachelor of Engineering Practice (Honours)

Diploma of Engineering (UniLink) [pathway to a degree]

To learn about



To become

- Embedded systems and mobile application engineer
- Quality assurance engineer
- Software architect or engineer
- Software designer or developer
- Systems engineer

Double degrees

Double degrees are a great way to broaden your study experience and are highly respected by employers. They combine two areas of study and on completion you'll be awarded two degrees. A double degree is generally only one year longer than a single degree.

Consider combining your Engineering degree with a degree in another study area by studying:

- Bachelor of Engineering (Honours)/ Bachelor of Business
- Bachelor of Engineering (Honours)/ Bachelor of Computer Science
- Bachelor of Engineering (Honours)/ Bachelor of Innovation and Design
- Bachelor of Engineering (Honours)/ Bachelor of Science
- Bachelor of Laws/Bachelor of Engineering (Honours)

Pathways to a degree

UniLink diplomas

UniLink diplomas are equivalent to eight units of study (typically one year of full-time study) and can provide a pathway to the second year of a related bachelor degree.

These courses are an option for students who miss direct entry to a degree or who would benefit from a more supportive style of learning.

Vocational education

Diplomas and certificates are vocational qualifications that provide practical teaching and skills for work. A vocational qualification could prepare you for your first job, help you retain or take the first step in a career change.

Successful completion of a vocational qualification may also allow you to progress to another qualification with advanced standing.

Scholarships

The Vice-Chancellor's Excellence Scholarship is awarded to students in recognition of academic excellence. Recipients will receive $5000 per annum for the normal duration of their chosen degree, plus a one-off payment of $2000 towards an international study experience. They will also have the opportunity to join our High Achievers Program.

To learn more about the program visit **www.swinburne.edu.au/highachievers**

Swinburne also offers scholarships to students from indigenous backgrounds, students suffering from financial hardship and students who have relocated from regional areas to study.

For a full list of scholarships, including value and eligibility criteria, visit **www.swinburne.edu.au/scholarships**

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RTO: 3059

SWINBURNE
at a glance

No. 65 IN THE WORLD
under 50 years old
Times Higher Education
Young University Rankings, 2018

TOP 75 CIVIL ENGINEERING
Shanghai Ranking's Global Ranking of Academic Subjects, 2016

TOP 200 NATURAL SCIENCES AND MATHEMATICS
Academic Ranking of World Universities, 2017