

Engineering study guide

Course options and
career opportunities

swinburne.edu.au/engineering



Innovation for a new generation.

Are you a natural problem solver? Do you love challenging the status quo? Always asking 'how it can be done better? Say 'hello' to engineering at Swinburne. Civil, mechanical, biomedical, electrical and software engineering are all about finding solutions to life's big problems and improving the way we live.

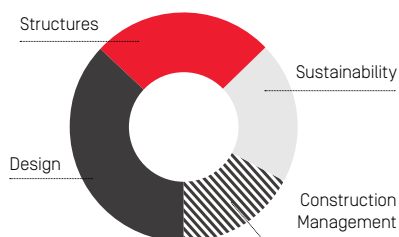
I want to learn

About designing, building and maintaining infrastructure

Study

Civil engineering

To learn about



With a degree

Bachelor of Engineering (Honours) (Professional)

with a major in civil

Bachelor of Engineering (Honours)

with a major in civil

Pathway to a degree:

Diploma of Engineering (UniLink)

To become

- Civil engineer
- Geotechnical engineer
- Water/Environmental engineer
- Structural engineer
- Transport engineer

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

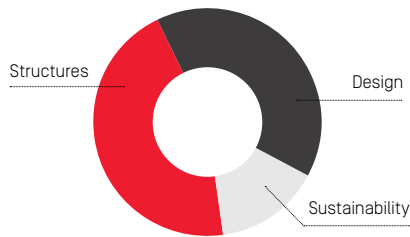
I want to learn

How to design beautiful and liveable buildings

Study

Architectural engineering

To learn about



With a degree

Bachelor of Engineering (Honours) (Professional)

with a major in architectural

Bachelor of Engineering (Honours)

with a major in architectural

Pathway to a degree:

Diploma of Engineering (UniLink)

To become

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

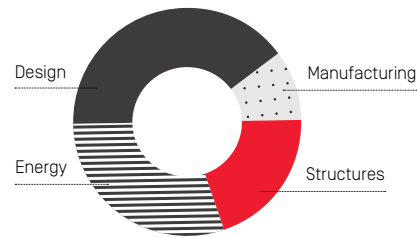
I want to learn

How things work and how to make them better

Study

Mechanical engineering

To learn about



With a degree

Bachelor of Engineering (Honours) (Professional)

with a major in mechanical

Bachelor of Engineering (Honours)

with a major in mechanical

Pathway to a degree:

Diploma of Engineering (UniLink)

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

Advanced Diploma of Engineering Technology specialising in Mechanical

To become

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

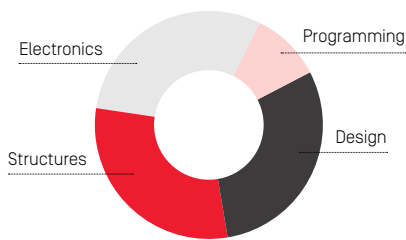
I want to learn

How to improve everyday life through automation

Study

Robotics and mechatronics engineering

To learn about



With a degree

Bachelor of Engineering (Honours) (Professional) with a major in robotics and mechatronics
Bachelor of Engineering (Honours) (Professional) with a major in robotics and mechatronics

Pathway to a degree:

Diploma of Engineering (UniLink)

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

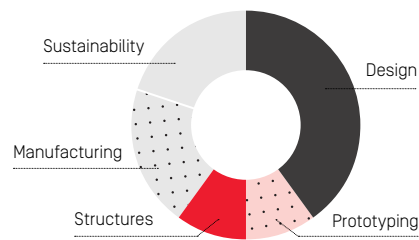
I want to learn

How to use technology to design innovative products

Study

Product design engineering

To learn about



With a degree

Bachelor of Engineering (Honours) (Professional) with a major in product design
Bachelor of Engineering (Honours) (Professional) with a major in product design

Pathway to a degree:

Diploma of Engineering (UniLink)

To become

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

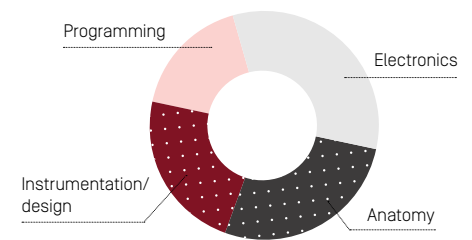
I want to learn

How to create devices to improve people's health

Study

Biomedical engineering

To learn about



With a degree

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

Pathway to a degree:

Diploma of Engineering (UniLink)

To become

- Biomedical engineer
- Clinical engineer
- Medical device designer
- Medical electronics engineer
- Medical imaging technician
- Product designer
- Project planner or manager
- Research and development engineer

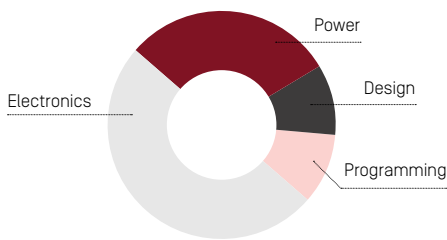
I want to learn

About circuits and power generation

Study

Electrical and electronic engineering

To learn about



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

Pathway to a degree:

Diploma of Engineering (UniLink)

To become

- Communications engineer
- Design engineer
- Electrical 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

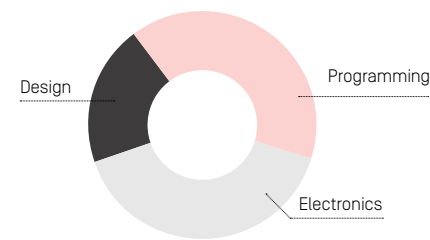
I want to learn

How to build hardware and program software to solve problems

Study

Software engineering

To learn about



With a degree

Bachelor of Engineering (Honours) (Professional)

with a major in software

Bachelor of Engineering (Honours)

with a major in software

Pathway to a degree:

Diploma of Engineering (UniLink)

To become

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





Your next gen_now upgrades

Guaranteed real industry experience

At Swinburne, your education is more than reading; with our Work Integrated Learning program, it's doing. Start building your résumé with placements, internships and industry-linked projects while you study. Real industry experience is guaranteed in all our bachelor degrees that commence in 2021 and beyond.

Visit swinburne.edu.au/workintegratedlearning

Professional degrees

More than a standard bachelor degree, a Professional Degree is a premium university experience you'll graduate from having completed a 12-month full-time work placement. Not only will you apply your knowledge in the workplace, you'll be paid award rates and receive academic credit.

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 Science
- Bachelor of Laws/Bachelor of Engineering (Honours)

Pathways to a degree

UniLink diplomas

Not sure if jumping straight into a degree is for you? Or worried about not getting the ATAR you need? Generally equivalent to eight units of study (usually one year full-time), UniLink diplomas offer a more supportive style of learning and can provide a pathway to the second year of a related bachelor degree.

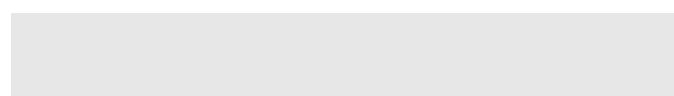
Certificates and diplomas

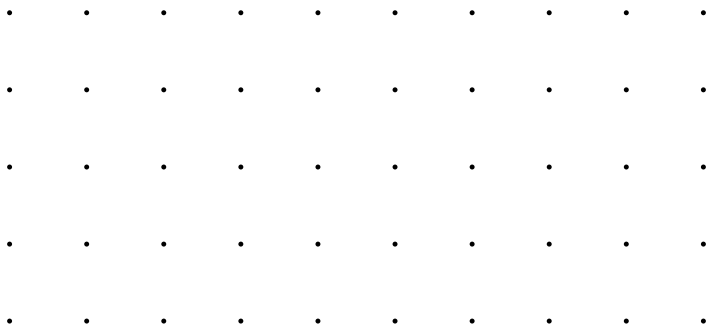
Certificates and diplomas are vocational qualifications that provide practical teaching and skills for work. Successful completion of a vocational qualification may help you to prepare for work, or progress to another qualification with advanced standing.

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.

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 swinburne.edu.au/scholarships





Launching our new Bachelor of Digital Construction Management

Make, well, positively huge things happen in a career in construction management. Stand at the foot of an awe inspiring building and say “yes, I helped build that.”

In this exciting new course, develop your essential construction manager leadership, teamwork, project management and resource management skillset – both onsite and in the virtual world.

The construction industry is not only booming with Victoria’s Big Build and a Federal government investment of \$110 billion over the decade – it is also going through a massive digital transformation.

And with our Australian-first partnership with a global tech company – you’ll be at the forefront of the future of the construction industry.

It’s the only digital construction management course in the country that gives you access to industry-standard, state-of-the-art hardware and software technology in the lab.

In this course you’ll model and simulate projects for a range of construction management aspects such as time, cost, quality, productivity, safety and sustainability.

With a digital skillset like this – your employability as a construction manager will boom too, landing you in a dynamic, highly paid career when you graduate.

Construction Managers*

- Weekly pay \$3450
- Strong future growth
- Very high skill

Pre-requisites

VCE Units 3 and 4: a minimum study score of 25 in any English (except EAL) or 30 in English as Alternate Language (EAL) or equivalent

Want to know more?

swinburne.edu.au/courses/find-a-course/engineering/construction



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Why study engineering with us?

Engineering leads to great things. Whether it’s biomedical, civil, electrical, mechanical or software engineering, Swinburne delivers all the theoretical and practical skills you’ll need to thrive in your career. As for Swinburne itself, see why we’re such a great choice:

#100

In the world for civil engineering

Academic Ranking of World Universities by subject, 2021

#45

In the world under 50 years old

2021 QS World University Rankings - Top 50 under 50

A\$100 million

Advanced manufacturing & design centre

2x in a row

We’re located in the world’s 2nd most liveable city

The Economist Intelligence Unit’s Global Liveability Ranking 2019

*Source joboutlook.gov.au

The information provided here was correct at the time of printing (July 2021). For the most up-to-date information, please visit our website: swinburne.edu.au