THE GOOD UNIVERSITIES GUIDE 2020

ENGINEERING

This is a detailed profile of the engineering field of study. It lists the range of specialisations available and compares degree-level courses. We examine the institutions that get the best ratings, based on real student experience and graduate outcome data, which will help you decide the right university for your educational journey.

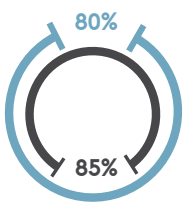
ENGINEERING

Engineers make, build and design, creating a huge range of things that we use on a daily basis. Many courses direct you to a particular specialisation, however it is possible to combine other fields through double degrees and postgraduate study.

FULL-TIME EMPLOYMENT

UNDERGRADUATE POSTGRADUATE

Proportion of students who have secured a full-time job within four months of graduating.



MEDIAN GRADUATE SALARY

$64,500
UNDERGRADUATE

$90,000
POSTGRADUATE

NUMBER OF STUDENTS

24,438
UNDERGRADUATE INTERNATIONAL

78,944
UNDERGRADUATE

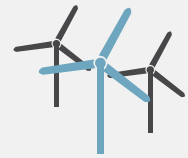
32,617
POSTGRADUATE

Data has been sourced from the Graduate Outcomes Survey. Results are pooled to represent graduates who completed the survey in 2018, 2017 and 2016 . Graduates complete the Graduate Outcomes Survey approximately four months post- graduation.

WHAT CAN I DO?

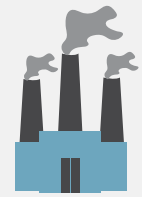
Mining

Telecommunications



Environmental Engineering

IT



Manufacturing

Engineering Management

FIVE-STAR UNIVERSITIES

ENGINEERING

EDUCATIONAL EXPERIENCE

MURDOCH	83.1%
QUT	80.6%
ECU	79.7%
RMIT	79.5%
UniSA	79.1%
NEWCASTLE	78.8%
WOLLONGONG	78.7%
CANBERRA	78.7%
QUEENSLAND	78.7%

NATIONAL AVERAGE = 74.4%

GRADUATE EMPLOYMENT

USQ	93.2%
CDU	92.5%
UTS	89.5%
WOLLONGONG	89.3%
LA TROBE	88.9%
FEDERATION	88.9%

NATIONAL AVERAGE = 79.6%

LEARNER ENGAGEMENT

QUEENSLAND	77.0%
WOLLONGONG	74.0%
MONASH	73.4%
RMIT	73.1%
UniSA	72.9%
QUT	72.4%

NATIONAL AVERAGE = 68.0%

LEARNING RESOURCES

FLINDERS	91.2%
DEAKIN	90.3%
QUEENSLAND	90.3%
ECU	89.9%
FEDERATION	89.9%
WOLLONGONG	88.7%

NATIONAL AVERAGE = 82.7%

MEDIAN STARTING SALARY

USQ	$80,000
MURDOCH	$73,100
CQUni	$70,000
CURTIN	$69,900
WOLLONGONG	$67,000
DEAKIN	$65,000
UTS	$65,000
NEWCASTLE	$65,000
UNSW	$65,000
QUEENSLAND	$65,000

NATIONAL AVERAGE = $64,500

SKILLS DEVELOPMENT

QUEENSLAND	85.2%
UniSA	84.8%
FLINDERS	84.3%
MONASH	84.1%
WOLLONGONG	84.0%
CQUni	83.5%

NATIONAL AVERAGE = 79.4%

STUDENT SUPPORT

MURDOCH	81.8%
ECU	81.0%
FEDERATION	77.6%
WOLLONGONG	77.2%
FLINDERS	77.1%
UniSA	76.2%
CANBERRA	75.6%

NATIONAL AVERAGE = 70.1%

TEACHING QUALITY

CANBERRA	84.8%
MURDOCH	84.7%
QUEENSLAND	83.0%
CDU	82.1%
QUT	81.9%
UniSA	81.8%

NATIONAL AVERAGE = 75.9%

WHAT DO THESE NUMBERS MEAN? The ratings above represent the top 20 per cent of results for each measure in this particular field of study. For overall institution results, see the ratings section at the front of the guide.

ENGINEERING

ENGINEERING AND TECHNOLOGY

The following are just some of the available engineering and technology majors:

- Aerospace engineering
- Chemical engineering
- Civil engineering
- Electrical engineering
- Environmental engineering
- Marine engineering

Engineers help to make things that we use on a daily basis — from the cars we drive and the medical technology (including pharmaceuticals) we depend on, to our cities' buildings and our regions' water supplies.

Many courses automatically set you on a path to one specialisation, although some provide a general first year before you specialise. While some engineering specialisations focus on a certain type of technology (automotive, aerospace, biomedical, marine and telecommunications), others are concerned with adapting certain base elements or resources for a myriad of purposes (chemical, electrical, materials and mechanical). Another group concentrates on harvesting, developing and sustaining natural resources (agricultural, environmental and mining). The newer engineering fields — such as aeronautics, informatics and mechatronics — have been more popular than the older sub-disciplines in recent years.

If you're yet to find your specific interest within engineering, you should research carefully and consider the following points. Most engineering students become engineers and, what's more, the specialisation they study is the specialisation they practise. It's not a once-and-for-all decision though; many engineers move into other fields (such as management, project management and consultancy) a few years into their careers. Another option is to complete a double degree — you can combine engineering with arts, business, computer science, environmental science, commerce and law, among others.

For more information, visit:

- Engineers Australia
  www.engineersaustralia.org.au

SURVEYING

This is a field with a clear focus: 'the determination and identification of the shape, contour, location and dimensions of land or water masses and their features, or planning and designing maps', says one definition. Career versatility is a key selling point for potential surveyors. According to the Surveying and Spatial Sciences Institute (SSSI), modern surveyors help police at crime scenes, predict earthquakes, use computer imaging and satellites to monitor environmental change, map the ocean floor and tell you where your land ends and your neighbour's begins.

The various traditional surveying specialisations (cadastral, marine and mining) now sit alongside a host of other geoinformatics sub-fields such as geographic information systems, spatial information systems, global positioning and photogrammetry, all of which exploit high-level technology to collect, analyse, display and manage geographical and spatial information.

For more information, visit:

- Surveying & Spatial Sciences Institute
  www.sssi.org.au.

WHERE TO STUDY

Overall, engineering is fairly tough to get into compared with other fields. Subjects such as mathematics and sciences (especially physics) are almost always required. Don't forget, there is often a difference in the cut-off scores between single and combined degrees.

Engineering degrees are offered at almost all universities, although some specialisations are more widely available than others. In order to practise, you will need to meet the accreditation requirements set by Engineers Australia, which includes a period of compulsory industry experience.

Degrees in surveying and its many specialisations are offered at a number of universities around the country — just remember to check course handbooks to ensure that the course covers the field in which you are looking to specialise.

JESSICA KAHL

BACHELOR OF ENGINEERING (HONOURS) AND DIPLOMA OF PROFESSIONAL PRACTICE (CO-OP ENGINEERING)
CQUNIVERSITY

I chose engineering because I loved design. I love facilitating and I think I will venture into management, so engineering has really been a basis for my technical side and it's something that's going to give me good grounding for the rest of my career. I chose to study at CQUniversity for several reasons.

Being close to home was really important to me because it meant that I got to gradually improve my skills while living at home but the best thing about studying at CQUniversity was the industry placements. In a standard bachelor degree, you do 12 weeks of industry placements, but at CQUniversity, with the engineering co-op, you do 48 weeks of paid work placement. This gives you insights into different perspectives as well as skills you wouldn't normally gain as a student. You also get exposed to innovation currently happening in the industry.

JORDAN BUTLER

BACHELOR OF ENGINEERING (CIVIL) HONOURS
EDITH COWAN UNIVERSITY

"If you want a well rounded and practical experience, definitely study Engineering at ECU."

My advice to students would be to study to get a job, not to get a degree. Maximise your opportunities to get experience that will get you a career. So for me, that was participating in Engineering societies, going overseas, joining the Vice Chancellor's forum and so forth. All of these gave me interpersonal skills and international experience.

I was also named the WA Young Professional Engineer of the Year 2018 at the Engineers Australia WA Engineering Excellence Awards.

If you want a well rounded and practical experience, definitely study Engineering at ECU.

JESSICA

BACHELOR OF MEDICAL ENGINEERING (HONOURS), MA & MORLEY SCHOLAR
UNIVERSITY OF NEWCASTLE

Growing up, Jessica was certain that she wanted to help people and make the world a better place. As a young social justice leader, she was twice awarded the Australian Defence Force Long Tan Leadership Award and enjoyed taking part in many advocacy and volunteering initiatives. After attempting to complete a Bachelor of Nursing despite significant health problems, Jessica made the difficult decision to change career paths. She went on to complete the Intensive Open Foundation course at the University's Central Coast campus and is now studying a Bachelor of Medical Engineering. For Jessica, the most important leadership qualities are empathy and commitment. Motivated by her own experience, she is driven to help alleviate the suffering that can be caused by illness and to make a difference to others.