

# ENGINEERING CAREER SNAPSHOT

## Study Opportunities

Considering studying Engineering at JCU? Then check out:  
Engineering [Courses - JCU Australia](#)

## Clarify your study goals

Prepare yourself for the new world of work by exploring the careers that match your skills and interests.  
[The Good Careers Guide](#)

## Graduate Opportunities

[Engineering](#) is an occupation that covers many fields and incorporates many skills. Engineering uses a range of skills such as design thinking, creativity, and innovation to define and solve real life problems through the practical application of science, often through interdisciplinary synergies.

JCU offers the following specialisations:

**Chemical Engineer** – operate in industries ranging from environmental science, water treatment, the manufacturing of food, fuel, pharmaceuticals and chemicals, minerals processing and development of new materials.

**Civil Engineer** – work in design, construction and maintenance of infrastructure such as buildings, bridges, roads, railways, airports, water supply systems, dams, mines and waste disposal systems.

**Electrical and Electronic Engineer** – design solutions for electronics and electrical infrastructure in industries such as energy, communications, automotive, mining, agriculture, aviation or medical technology.

**Electronic Systems and Internet of Things Engineer** – design electronics, software and data analytics for many industries such as communications, energy, smart cities, smart healthcare, precision agriculture, environmental monitoring, mining, manufacturing, and automation.

**Mechanical Engineer** – design, manufacture and maintain machines for a large number of industries such as manufacturing, oil and gas, mining,

agriculture, automotive, aerospace, communications, health and transport.

## Employment Data

Explore more about our Labour markets.

[Jobs and Skills Australia -- Home](#)

The [James Cook University LinkedIn](#) page provides information on over 3153 JCU alumni (graduates) who have listed engineering within their profile. ([LinkedIn](#), Jan 2024)

You can drill down to identify alumni with your engineering major and view their career pathways and current and past employers.

The top five employers of JCU Engineering alumni currently listed on LinkedIn are:

- JCU
- GHD
- BHP
- Energy Australia
- AECOM
- Townsville City Council

The [Graduate Outcomes Survey 2020-2022](#) reported the following findings.

	JCU	National Average
<b>Full-time employment</b>	<b>90.4%</b> 94 responses	<b>83.6%</b>
<b>Overall employment</b>	<b>92.6%</b> 95 responses	<b>88.3%</b>
<b>Continued to Full-time study</b>	<b>5.6%</b> 63 responses	<b>13%</b>

Retrieved [ComparED](#), 15 January 2024

## Skills and Workplace Experience

Your course helps you **develop professional knowledge and technical skills** specific to your chosen engineering field.

It teaches you that devising and implementing a technical solution involves more than just technical skills and includes project management; effective oral communication; presentation and technical writing; interdisciplinary collaboration; planning and delegating; and identifying, developing, and maintaining strategic working relationships with key stakeholders.

These **transferable skills** help your technical skills shine and help you transfer between jobs, industries and careers.

A combination of technical and transferable skills **proven through extra-curricular experiences and workplace-related experiences** within your course make you more employable in the eyes of employers.

Take ownership of your skill development so that by the time you graduate you have filled every semester with **systematically recorded** experiences that complement your course, for example:

- You can start with project management and leadership skills within a [student club](#) and communication skills within [mentoring programs](#) in your first and second year
- Keep networking and ask for workplace shadowing or mentoring opportunities.
- Apply your course expertise and develop workplace skills through volunteering; [workplace vacation programs](#); project work referred through your professional networks; office part-time work within engineering firms; and internships in your penultimate year.
- Complete vacation work or internships to gain knowledge, skills and experience and showcase your talents to potential future employers.

It is recommended that you keep auditing your technical and transferable skills over time and keep an experience diary (together with a portfolio of drawings, screen shots, photographs, web links to your work) and other evidence of your learning and achievements.

## Enterprise and Innovation

The engineering profession often requires enterprising skills. JCU offers access to a range of free online courses on entrepreneurship through LinkedIn Learning e.g. Entrepreneurship Foundations; Design Thinking etc. Sign in through the JCU library site [LinkedIn Learning](#) to ensure you gain free access.

JCU's Technology Design Thinking Sprint are a good way to apply your skills in action.

**Volunteering** and **attending industry specific events** are effective ways to develop your understanding of the labour market and develop professional networks.

## Job Opportunities

Researching job vacancy listings will give you an understanding of the range of employment **opportunities** available to Bachelor of Engineering students and graduates.

For job opportunities check the following online job boards

### Online Job Boards

- [JCU CareerHub](#)
- [Seek](#)
- [EngineeringCareer](#)
- [Engineering Jobs](#)
- [LinkedIn Jobs](#)
- [Australian Job Search](#)
- [Queensland Government Jobs](#)
- [Hays \(recruitment firm\)](#)
- [Chandler Macleod \(recruitment\)](#)

### Graduate Recruitment Sites

The following sites provide information on graduate jobs, internships, and vacation programs.

- [Prosple](#)
- [GradConnection](#)
- [Queensland Government Graduate Portal](#)
- [Australian Government Graduate Program](#)

**Job and internship opportunities** are frequently posted on employer websites (e.g. [Ergon Vacation work](#), [GHD](#) or [Aurecon](#)) and their social media channels e.g. LinkedIn and Facebook pages.

## Cadetships

Employers may offer opportunities for students to work part-time while completing their university studies, usually starting in the first or second year of their degree.

Contact local firms or government departments to identify opportunities.

For example:

- [QLD Government Department of Transport and Main Roads Cadetships](#)
- [Australian Government Cadetships, Scholarships and Work Experience Opportunities](#)

## Graduate Positions vs Graduate Programs

### Graduate Programs

Large organisations and government departments may offer **Graduate Programs** which are advertised throughout a students' final year of study for commencement of employment in the following year. Successful applicants are offered on the job training and mentoring.

Tap into [Prosple](#) and [GradConnection](#) to identify opportunities and [Glassdoor](#) and [Whirlpool Forum](#) to find out about applicant's experiences of the recruitment processes.

### Graduate Positions

Employers, particularly small to medium sized engineering firms, may not offer formal graduate programs and will recruit when a position arises. Identify organisations of interest and familiarize yourself with their recruitment practices.

## Professional Associations

Investigate your future professional body to gain greater awareness of developments and opportunities within your industry area. [Professional Engineers Australia](#)

Consider applying for student membership (it is free of charge) with the [Engineering Australia Student Chapter](#).

Membership demonstrates your commitment to the profession and enables access to additional professional development.

The following special interest groups cater to various areas of engineering:

- [Australian Academy of Technology and Engineering](#)
- [Australian Institute of Energy](#)
- [Infrastructure Association of Australia](#)
- [Institute of Public Works Engineering Australasia \(IPWEA\)](#)
- [Institution of Chemical Engineers](#)
- [Institute of Electrical and Electronics Engineers](#)
- [International Association of Engineers](#)

## JCU Careers Resources

As a student, consider accessing JCU Careers resources and be job ready by developing your Employability skills.

[Careers and Employability - JCU Australia](#)

Build your employability skills and fine tune your Application Skills

- Resumes
- Application Documents
- Interviews
- LinkedIn

For further ideas access [Career Ready Plan](#)

