

# Bachelor of Engineering (Honours)



JAMES COOK  
UNIVERSITY  
AUSTRALIA

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# Bachelor of Engineering (Honours)

✔ Become a leader in engineering through your world-class education at JCU. Build a strong foundation as you study essential engineering fundamentals like statics and dynamics, mathematical techniques, and electrical circuits.

✔ Be ready today for tomorrow through your Bachelor of Engineering (Honours) and gain hands-on, practical experience through work placements. Work to understand current issues facing the industry and design effective solutions under the guidance of lecturers committed to student success.

✔ Develop as a well-rounded professional as you learn skills in organising and interpreting data, communicating effectively, and conducting reliable experiments. Prepare to make the world a better place as you study engineering and learn critical problem-solving skills in the context of cultural frameworks.

## COURSE DETAILS:

<b>Locations:</b>	Cairns, Townsville
<b>Start Dates:</b>	February, July
<b>Duration:</b>	4 years full-time, part-time available
<b>ATAR:</b>	78.1
<b>Prerequisites:</b>	English, Math Methods.

Please visit the [handbook](#) for a detailed outline of the course structure. Note: Information is for domestic students only

# Majors

Prepare for the future that is right for you with your Bachelor of Engineering degree from JCU. Choose from any of five majors that will develop you into an industry and community leader and prepare you to reach your career goals.

## Chemical Engineering

Create, manipulate and design products using raw materials, and chemistry and physics principles. Become an expert in the intricacies of reactor design and modelling, and learn how to comprehend the concepts of instrumental analysis. Build an in-depth understanding of advanced chemical technologies such as minerals processing, extractive metallurgy and bioprocessing. Available at Townsville campus only.

## Civil Engineering

Benefit from JCU's expert lecturers and explore various civil engineering disciplines such as structural, hydraulic, geotechnical, transport and environmental engineering. You will have the skills to work in design, construction and maintenance of infrastructure such as buildings, bridges, roads, railways, airports, ports, water supply systems, dams, mines and waste disposal systems. Available at Townsville campus only.

## Electrical and Electronic Engineering

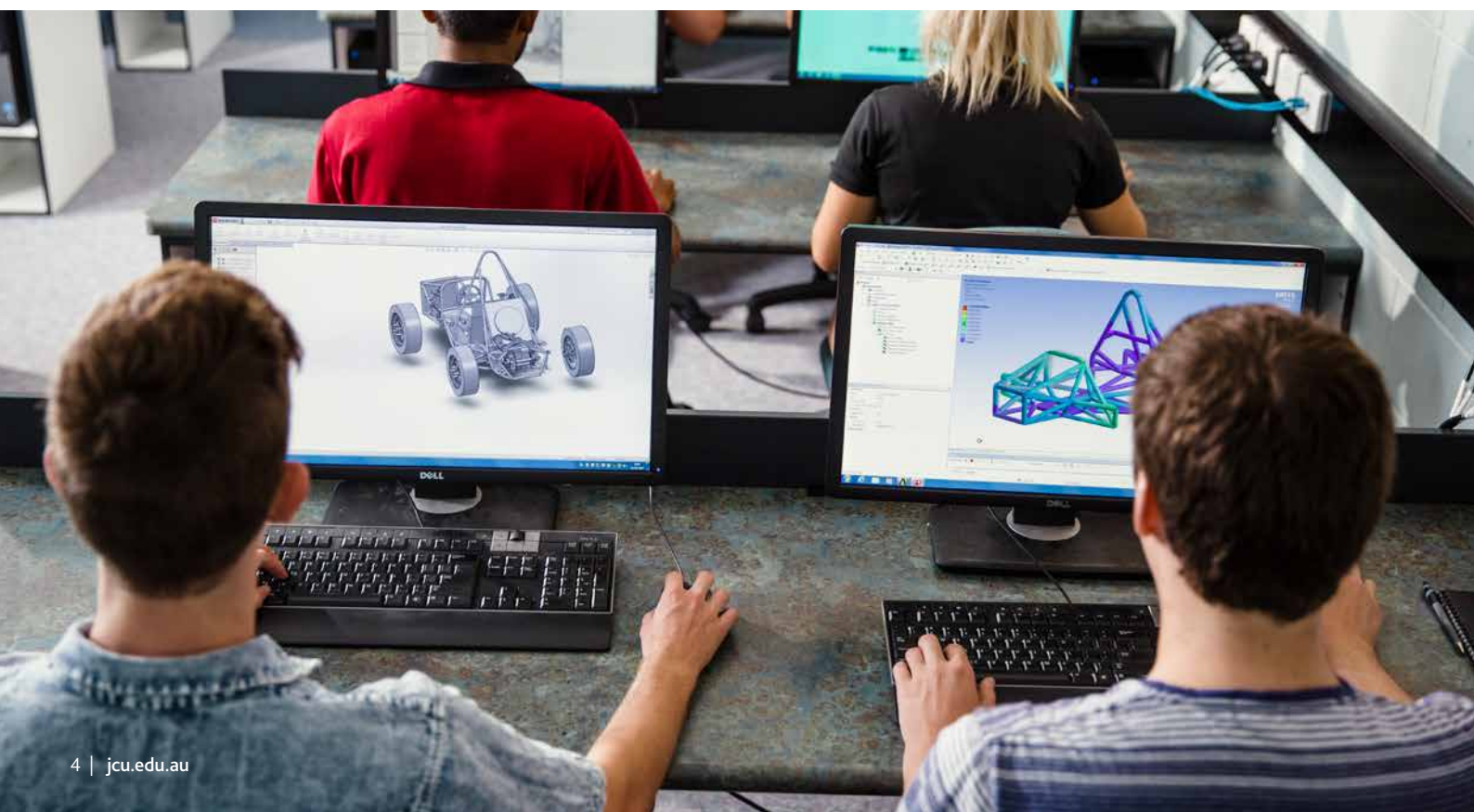
Learn how to design and maintain electrical energy infrastructure through the application of the electrical principles. You will integrate theory with practice and visit telecommunications companies, power utilities and mines. Build a comprehensive knowledge of electrical materials, circuit theory, single phase and three phase power system modelling and signal processing. Available at Townsville and Cairns campuses.

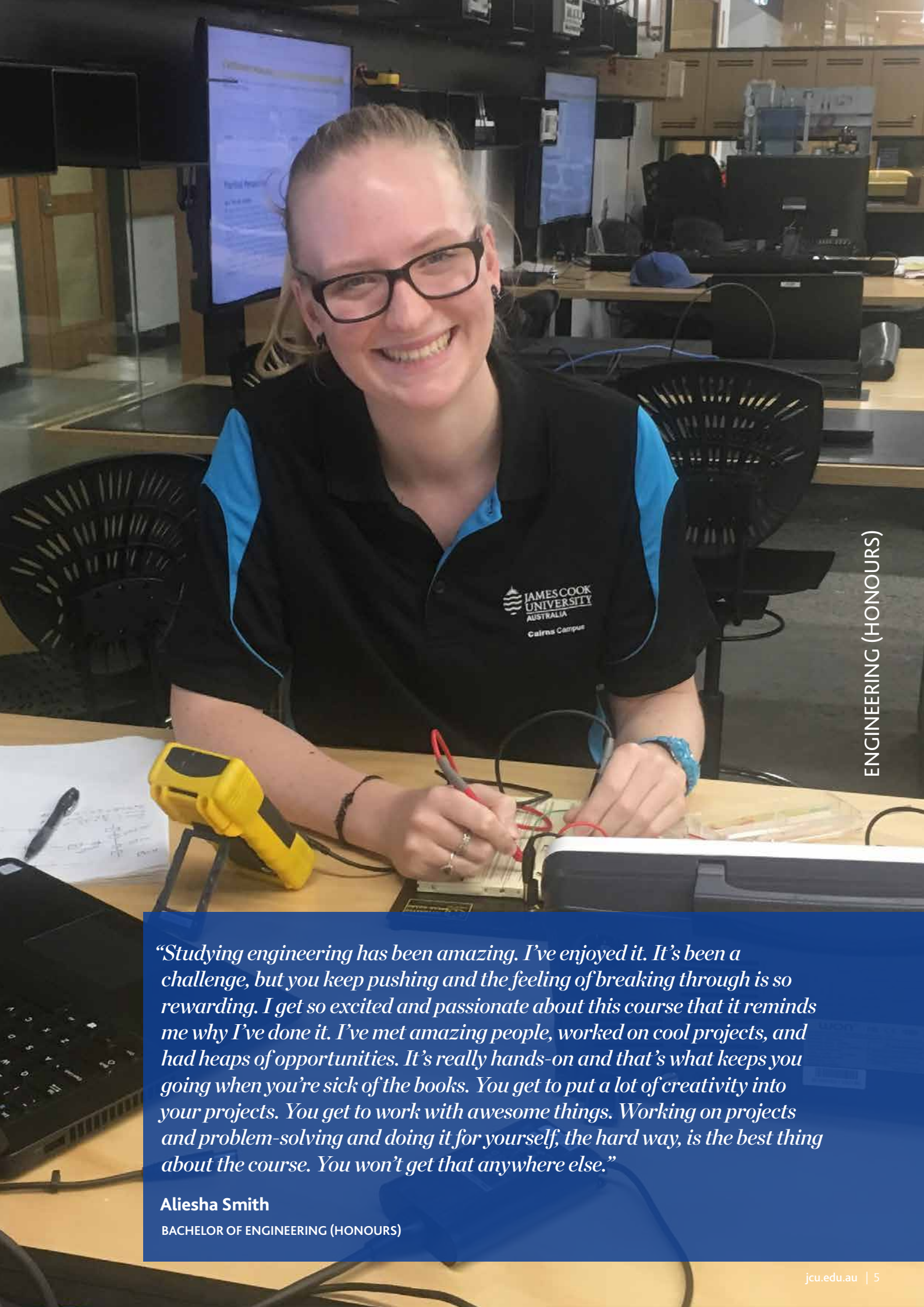
## Electronic Systems and Internet of Things (IoT) Engineering

Develop sensor technologies, analyse big data and design smart technology that relates to various industries. Work with cloud computing and wireless communication utilising a state-of-the-art Internet of Things research lab. Become innovative technology leaders, accessing world-class lecturers and their strong industry partnerships. Available at Cairns campus only.

## Mechanical Engineering

Understand the principles of mechanics and thermodynamics to analyse, design, manufacture and maintain machines across almost all industries. Learn skills that will see you working in design, manufacturing and maintenance of machines – from bicycles to robots to supersonic jets to renewable energy systems. Available at Townsville campus only.





*“Studying engineering has been amazing. I’ve enjoyed it. It’s been a challenge, but you keep pushing and the feeling of breaking through is so rewarding. I get so excited and passionate about this course that it reminds me why I’ve done it. I’ve met amazing people, worked on cool projects, and had heaps of opportunities. It’s really hands-on and that’s what keeps you going when you’re sick of the books. You get to put a lot of creativity into your projects. You get to work with awesome things. Working on projects and problem-solving and doing it for yourself, the hard way, is the best thing about the course. You won’t get that anywhere else.”*

**Aliesha Smith**  
BACHELOR OF ENGINEERING (HONOURS)



*“JCU Engineering students enjoy small class size, access to lectures and professors after class, hands on projects, industry thesis projects, and a program design based on industry feedback and needs. JCU Engineering students have accepted jobs in a wide range of industry sectors with all of our students securing employment after graduation.”*

**Dr Elsa Dos Santos Antunes**

LECTURER, MECHANICAL ENGINEERING

## Career Opportunities

A JCU Engineering degree prepares students to work across a broad range of occupations and industries, depending on their chosen major.

Job opportunities include:

**Chemical Engineer** – operate in highly diverse industries ranging from environmental science, water treatment, the manufacturing of food, fuel 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 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, transport.

JCU Engineering graduates work worldwide with a qualification recognised in Australia, New Zealand, Europe, North America, Asia and South Africa.



# JCU Accommodation

Study and live in some of the most interesting places in the world. Cairns and Townsville are on the doorstep of the Great Barrier Reef, magnificent rainforests, the savannah region and Outback Australia.

Living on-campus is a great way to make the most of your time at JCU. With five different accommodation options at JCU Townsville, housing over 1,200 students, and a new complex for 300 students at JCU Cairns, living on-campus is a great place to make new friends and immerse yourself into the JCU culture. All rooms at our on-campus residences are single board, with a single bed, study desk, chair, fan, air-conditioning and Wi-Fi. Each residence is different in regards to style of living, culture and atmosphere. There are options for fully catered or self-catered housing. Find out more at [jcu.edu.au/accommodation](https://jcu.edu.au/accommodation)



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