

# STEM at QUT

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Science and Engineering International Team

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**the university  
for the real world**



# QUT Science and Engineering International Team

**Connect with us at [sef.intl@qut.edu.au](mailto:sef.intl@qut.edu.au)**



**Annie Liu**  
North Asia and  
oversees all markets



**Leonard Fitzpatrick**  
The Americas, Europe, Middle East,  
Africa, Vietnam and Bangladesh



**Patricia Martinez**  
South Asia and Indonesia



**Rhian McDonald**  
Malaysia, the Philippines,  
Onshore and support to North  
Asia



**Zoe Yip**  
Student support and special  
projects



**Wendy Hii**  
Student support and special  
projects

# Why study STEM at QUT?

- 1 Flexible and transdisciplinary teaching approach
- 2 Innovative, dynamic and interactive facilities
- 3 Practical experiences
- 4 Research with a global impact
- 5 International experiences, global perspectives
- 6 Job-ready graduates



[Hear from current students why you should choose STEM at QUT](#)



[Hear more about the global impact of our research](#)



[Where are our graduates now?](#)

# STEM research with global impact

- Our Science and Engineering Faculty is one of the fastest rising institutions in the world and top in Australia for scientific research. [Source: 2019 Nature Index](#)
- 90 per cent of our faculty's research ranks as above or well above world standard, placing us among the very best STEM faculties in Australia for quality of research. [Source: Excellence in Research for Australia](#)

## Research opportunities

- Vacation Research Experience Scheme (VRES) program - a 10 week program over the summer holidays.
- Research Based Projects
- Honours program for each Bachelor degree



### QUT researchers to head to Antarctica in preservation efforts

QUT researchers are working on building the technology necessary to help preserve, model, and monitor the harsh Antarctic environment and its wildlife.



### Ancient Australian plant may help in production of COVID-19 vaccine

An international team of scientists, led by QUT researchers, may help in producing large amounts of vaccine in the fight against COVID-19.



### New mask material can remove virus-size nanoparticles

Scientists around the world are scrambling to adapt their research to find solutions to the many problems raised by the Covid-19 pandemic sweeping the world, not the least being a face mask shortage.



### Drones to seek out surviving koalas in bushfire zones

QUT researchers will apply their innovative method for detecting koalas using drones and infrared imaging in a collaborative project to identify wildlife populations in bushfire affected areas.



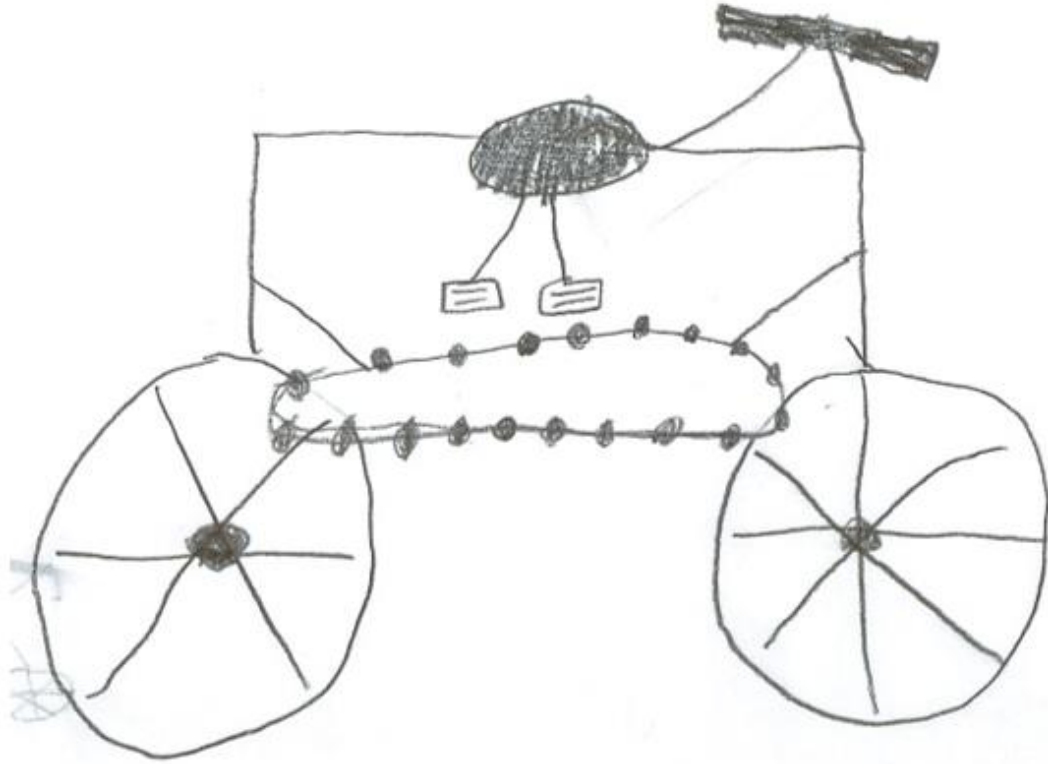
A photograph of two students in a laboratory setting. The student in the foreground, wearing a blue jacket and glasses, is focused on a complex robotic assembly on a desk. The robot has a transparent top, revealing internal electronic components like a microcontroller board and various wires. The student in the background, also wearing glasses, is looking at a laptop. The scene is dimly lit, with the primary light source coming from the computer monitors.

**Q: How do students learn within the Science and Engineering Faculty?**

**A: Through an integrated learning approach..**

# Draw a bicycle

(you have 20 seconds)







# Practical learning in STEM

“

Learn with your head

Apply with your hands

Know by heart

- *Knowledge*
- *Application*
- *Integrated Learning*

”



**the university  
for the real world**

A wide-angle, high-angle shot of a large, modern classroom or workshop. The room features prominent yellow pillars and a ceiling with a colorful geometric pattern. Numerous students are seated at long tables, working on projects or using computers. The atmosphere is active and collaborative.

**Q: How do we prepare students for successful careers?**

**A: Balancing the development of academic, professional and personal skills through an integrated journey**

# A balanced journey of academic, professional and personal experiences

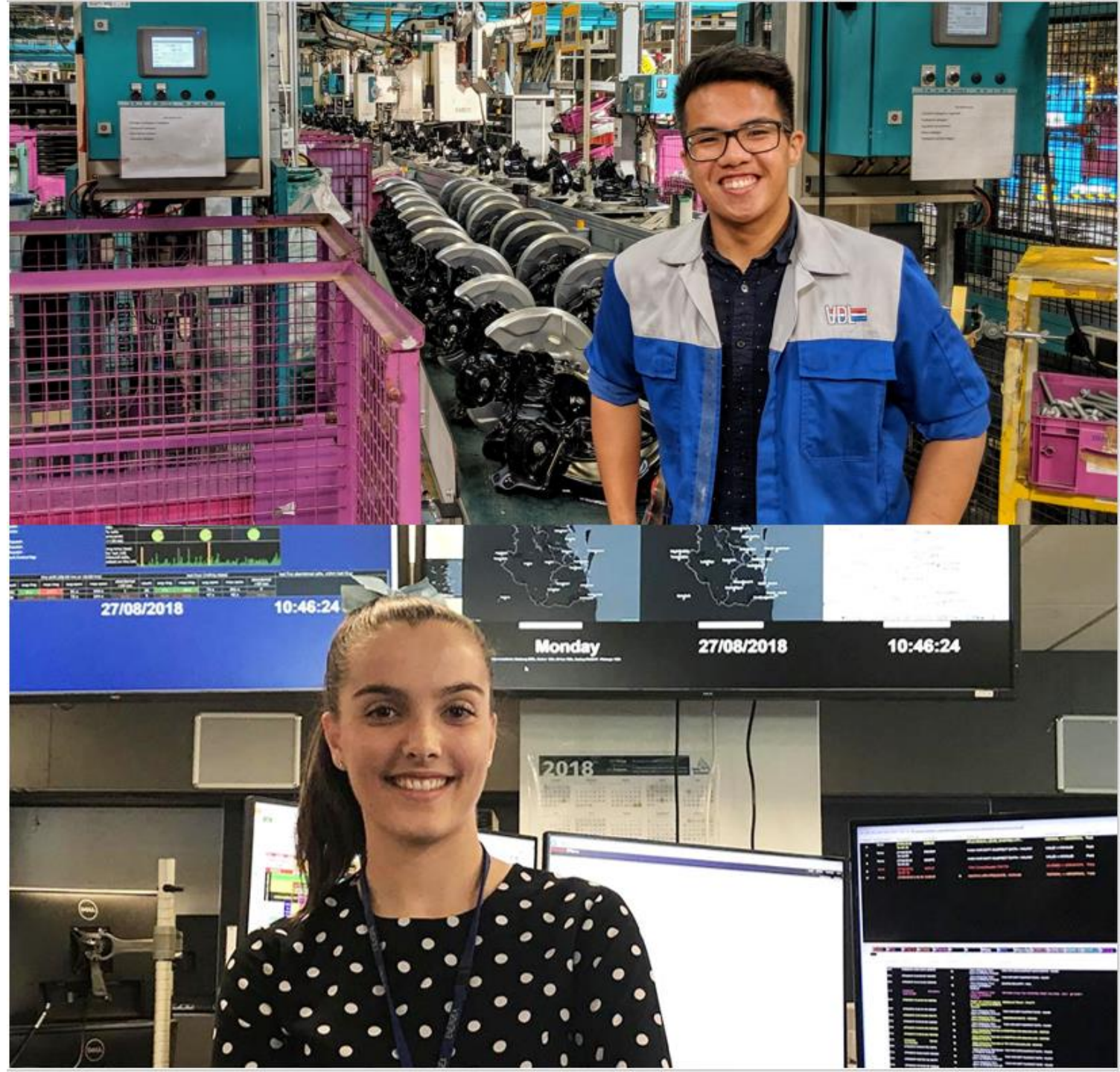
## What experiences and opportunities do we offer?

- Work placements (30 – 60 days)
- Student projects – Industry or Community projects (practical assessments)
- Final year Capstone Projects
- Site visits and fields visits
- Hands-on classes delivered in labs and workshops
- Access to innovative, dynamic and interactive facilities
- In class exposure to industry leaders and real-world case studies
- Career advice, support and training
- Industry networking and information sessions
- Mentoring schemes
- Leadership and development programs
- Deans Scholars program
- Student clubs - projects, challenges and industry exposure
- International experiences including overseas internships



# Work placements

- **Karl - double degree Mechatronics and Mathematics student.** He spent 6 months undertaking an internship as a Project Engineer with VDL Nedcar in the Netherlands to develop an automated line balancing system. Now a Software Intern at Deswik.
- **Caitlin - double degree Electrical Engineering and Statistical Science graduate.** She spent one year working with Energex analysing data and using algorithms to identify power outage tweets. Now works at Energy QLD as a Graduate Engineer





# Industry, Community and Capstone Projects

- Mathematics students in our Capstone Operations Research unit partnered with Seqwater to provide water to off-grid QLD communities during times of drought.
- The Bachelor of Games and Interactive Environments final year capstone project gives students the opportunity to produce, test, publish and market a game of their own.
- A team of final-year IT students spent a year with QSuper and developed a working prototype of a gamified approach to sell and educate the market on superannuation.
- A team of mechanical engineering students spent time working with Team Arrow Racing Association to improve various aspects of the design and operation efficiency of a solar car.



**Join students as they showcase  
their games at our annual Games  
Capstone Showcase**



# Site and field visits

- Physics students were the first in Australia to participate in world-first 'Floating Classroom' on CSIRO's research ship, the RV Investigator.
- Marine Geoscience students visit Cleveland Point on a practical trip to review a once thriving coral reef system.
- Earth Science students undertake a 3 day field trip to the North Burnett Region, where they are required to examine, describe and map volcanic rocks.
- Students studying the 'Natural Hazard' unit visit to the QLD State Disaster Coordination Centre and undertake disaster management training exercise.





# Access to facilities

*Examples...*

- **QUT Science Superlab**
- **Medical Engineering Laboratory**
- **Launchpad**
- **Samford Ecological Research Facility**
- **Esports**
- Electrical Laboratory
- Robotics Laboratory
- Air Quality Laboratory
- Design and Manufacturing Centre
- Plant Sciences Laboratory
- Visible Laser Laboratory
- Marine Laboratory
- Biodiversity Laboratory
- Microgrid Facility
- DaVinci Precinct – Indoor flying laboratory
- QUT Digital Observatory
- Power Engineering Laboratory





# Leadership programs

- Leadership and Development Program
- Science and Engineering Faculty Dean's Scholars Program
- College of Excellence
- QUT Student Leadership Conference

'STEM International  
students have attended

**600**

Leadership and Development  
workshops since 2019'

## Recently Bookmarked

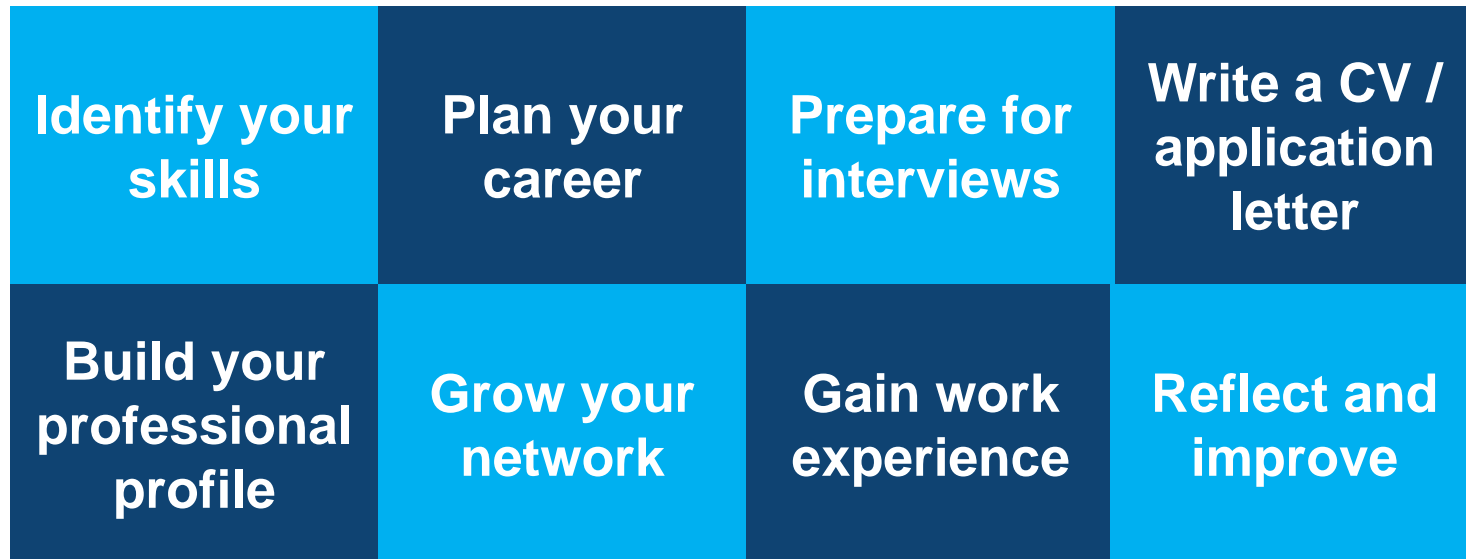
Leadership Foundations - Event	30 Apr 2020, 3:09 pm
Practicing Community Development: Advanced Skills - online - Event	30 Apr 2020, 3:09 pm
Being The Difference: Understanding Your Pathway As A Changemaker - online - Event	30 Apr 2020, 3:02 pm
Pushing Back On Procrastination - online - Event	30 Apr 2020, 3:02 pm





# Career and employability development

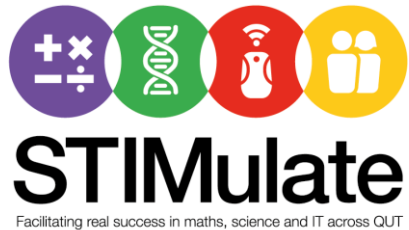
- STEM Industry Connect event
- STEM International Kick Start Your Career event
- STEM Career Pathways Fair
- QUT Career Masterclass
- Employ Your Ability modules
- Themed Career Chats
- Exposure to industry through networking events, guest lectures and industry set case studies



Recently Bookmarked	
Kicking Your Career Goals - Employ Your Ability - Event	1 May 2020, 1:31 pm
Jobs? What jobs? Hiding in plain sight: accessing the hidden job market - Event	1 May 2020, 1:31 pm
Application Review workshop (online) - Event	1 May 2020, 1:30 pm
My career, now and into the future: adapting to 2020 - Event	1 May 2020, 1:30 pm
Science and Engineering Career Chats - Event	1 May 2020, 1:30 pm

# Student support for success

- STIMulate, support for students studying mathematics, science and information technology
- Science and Engineering Assessment support
- Science and Engineering Writing Group workshops
- Language workshops – Speakeasy, Grammar Matters
- Facilitated writing drop-in sessions
- Peer programs (Unit based peer mentoring, peer learning communities, peer career ambassadors)





# Undergraduate STEM courses at QUT

- Bachelor of Engineering (Honours) (EN01)
- Bachelor of Information Technology (IN01)
- Bachelor of Urban Development (Honours) (UD01)
- Bachelor of Games and Interactive Environments (IN01)
- Bachelor of Science (ST01)
- Bachelor of Mathematics (MS01)



[View detailed course information online via this link](#)

# Postgraduate STEM courses at QUT

## NB: New courses or new majors

- Graduate Certificate in Business Analysis (IN14)
- Graduate Certificate in Computer Science (IN15)
- Graduate Certificate in Cyber Security & Networks (IN16)
- Graduate Certificate in Data Analytics (IN26)
- Graduate Certificate in Information Technology (IN18)
- Graduate Certificate in Project Management (PM15)
- Graduate Diploma in Information Technology (IN19)
- Graduate Diploma in Applied Science (PH71)  
(Medical Physics)
- Master of Information Technology (IN20) \*New Majors
- Master of Data Analytics (IN27)
- Master of Professional Engineering (EN55) \*New Majors
- Master of Engineering Management (BN87)
- Master of Engineering (EN50)
- Master of Project Management (PM20)
- Master of Business Process Management (IN23)
- Master of Applied Science (PH80) (Medical Physics)

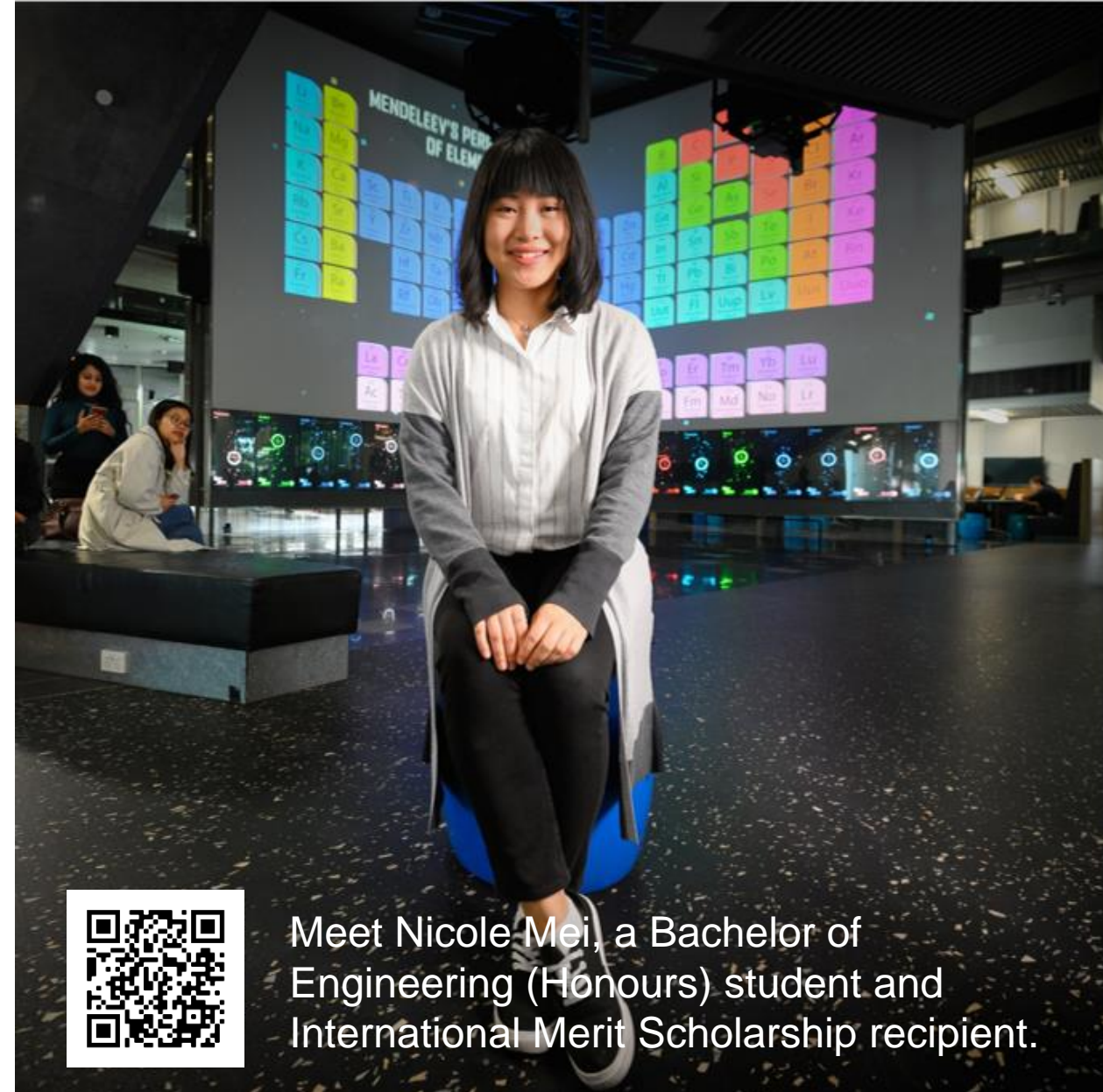


[View detailed course information online via this link](#)



# International Merit Scholarship

- **25% tuition fee scholarship** for the first year and an ongoing scholarship if a minimum grade point average (GPA) of 5.5 on a QUT's 7-point scale is maintained.
- Unlimited number of scholarships available for eligible international students.
- Access to many other opportunities at QUT including professional development and elite leadership programs.
- [View eligibility requirements online](#)



Meet Nicole Mei, a Bachelor of Engineering (Honours) student and International Merit Scholarship recipient.

# What skills are our students graduating with?

- Cross-cultural competence
- Self-management
- Virtual collaboration
- Teamwork
- Communication
- Social-intelligence
- Computational thinking
- New media literacy
- Initiative
- Novel and adaptive thinking
- Cognitive load management
- Time management
- Problem-solving

## The Skills Companies Need Most in 2020

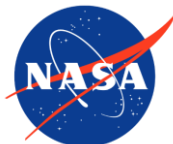




# Where are our graduates now?

amazon

BOEING



Deloitte.

Google



Microsoft

pwc

IBM

QANTAS

SHANGRI-LA  
HOTELS and RESORTS

accenture



lendlease



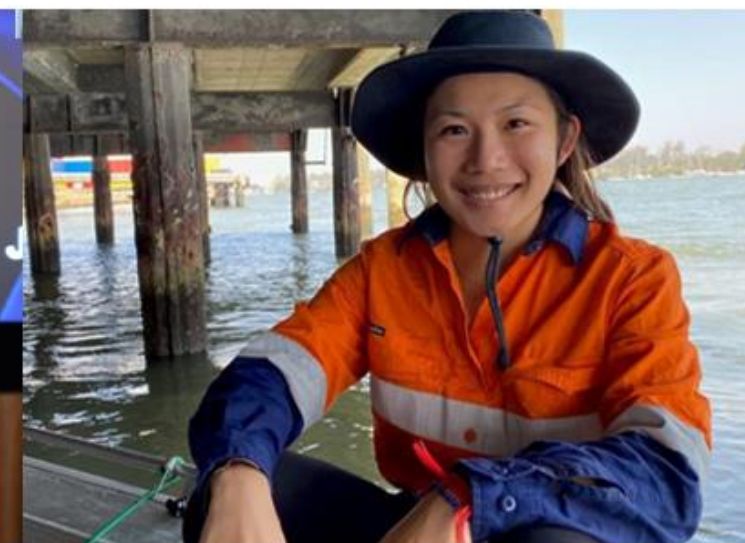
**Hiran Doolwela,**  
Bachelor of Engineering (Honours).  
Mechanical Engineer at Aurecon



**Stephy Chye**  
Bachelor of Urban Development (Honours).  
Quantity Surveyor at Ernst & Young



**Halilu Makintami**  
Master of IT. Information Security  
Analyst at Workcover Qld



**Pamela Wong**  
Bachelor of Engineering (Honours).  
Coastal Engineer at BMT Group

# The “STEM workforce” is extensive and critical to innovation and competitiveness.

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**75 %**

of future jobs will  
require STEM skills  
and knowledge

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A 1% increase in people  
choosing STEM careers  
can contribute

**\$50 Billion**

to the Australian economy

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**44%**



of STEM graduates earning  
in the top income bracket  
(AU\$104,000 or above)

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# Thank you

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