Engineering

**Faculty of
Engineering and IT**

Postgraduate
Courses
2022

Entrepreneurial.
Creative.

Authentic.
Vibrant. Dynamic.

Contents

Faculty snapshot

11,439	Total number of enrolments
8029	Undergraduate enrolments
2373	Postgraduate coursework enrolments
1037	Higher Degree Research enrolments

UTS at a glance

2289	Higher degree research
10,223	Postgraduate coursework
33,806	Undergraduate, enabling and non-award

UTS student diversity

29%	are 25 or older
49%	are female
48%	were born outside of Australia

Please note the above numbers are approximate as of November 2020.

Contact us

Domestic students

Tel: 1300 ASK UTS (1300 275 887)
Online inquiry: ask.uts.edu.au
Email: FEIT@uts.edu.au

International students

Tel: 1800 774 816 (free call within Australia)
Tel: +61 3 9627 4816 (for international calls)
Web: international.uts.edu.au
Email: international@uts.edu.au

Connect with us

- UTSFEIT
- UTSengineeringandIT
- UTSFEIT
- UTSInternationalstudents
- UTSINT

Acknowledgement of Country

UTS acknowledges the Gadigal People of the Eora Nation, the Boorooberongal people of the Dharug Nation, the Bidiagal people and the Gamaygal people upon whose ancestral lands our university stands. We would also like to pay respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these lands.

Why Engineering at UTS?

The role of an engineering professional is evolving.

You're expected to guide new possibilities, drive strategy and innovation all whilst delivering improvements and end-to-end customer experience.

Join the future of Engineering at UTS.

BE AMONG THE BEST

We're ranked in the top 200 universities globally placing us in the top 1%. We're also the no.1 young university in Australia.

JOIN THE GLOBAL KNOWLEDGE ECONOMY

We have over 1000 industry partners and together we are advancing and exploring future technologies to benefit our world. Join this network of experts and go beyond the expected to deliver the next generation of innovation.

BECOME THE INTRAPRENEUR

Do you have what it takes to lead and innovate? We need intrapreneurs to take business to the next level and keep our economy competitive on a global scale. We challenge you to build your IT skills in a business context, giving you the knowledge and practice-oriented skills to do so.

COLLABORATIVE ECOSYSTEM

Our building is an incubator for creativity, knowledge and innovation. Its design facilitates agile project work and integrates of latest technology systems allowing students to collaborate, ideate and innovate, all based on the CBD fringe.

CERTIFIED CISCO ACADEMY

CISCO certifications confirm your ability to use the best networking and business communication systems, giving you a competitive edge. UTS is equipped with five networking labs, using the latest CISCO Systems to ensure you have hands-on experience with routing, switching, security, wireless and VoIP.

ANNE GARDNER – ASSOCIATE DEAN, LEARNING & TEACHING

"UTS offers transformative learning experiences. We prepare students for their future careers through practical, real-world experience. For example, our students engage with industry and researchers in studio learning and practical projects, define problems and develop solutions through design thinking, have internship opportunities, and showcase their skills and capabilities through industry networking, career and award events.

Our facilities have undergone a one billion dollar redevelopment to offer one of the most dynamic, interconnected and student-focused spaces in the world. The UTS Software Studio, 3D Data Arena and ProtoSpace 3D printing facility are giving students real experience that promotes innovation and collaboration.

At UTS, we're preparing students for the future of work."

NO.1

in Australia for Computer Science & Engineering*

Academic Ranking of World Universities (ARWU) 2021

62nd

Globally for graduate employability and **5th** in Australia

QS Graduate Employability Rankings 2022

Top 100

universities globally

Engineering/Technology & Computer Science

Academic Ranking of World Universities (ARWU) 2021

5stars

for excellence across 7 categories

★ ★ ★ ★ ★

(QS Stars Rating 2018–2021).

NO.1

UTS ranked Australia's #1 young* uni

*Times Higher Education 150 Under 50 rankings, 2015 - 2018. QS World University Rankings Top 50 Under 50, 2016–2021

UTS ranked 1st in Australia and 9th globally in the Times Young University Rankings.

2021 global rankings

Almost 80%

of UTS's assessed research areas rated as having a "high" impact beyond academia (the highest proportion in the country)

2018 Engagement and Impact Assessment (EIA).

16th

globally

in Telecommunications Engineering

Academic Ranking of World Universities (ARWU) 2021

Your questions answered

DO I NEED A BACHELOR'S DEGREE TO DO A MASTER'S DEGREE?

The traditional path to postgraduate study is via a completed bachelor's degree, but if you have other qualifications and professional experience, you may be eligible to enter a graduate certificate.

Graduate certificates set you on the path to postgraduate study, and you finish with a respected qualification after only 4 subjects. They make up the first four subjects of a master's, so if you complete the graduate certificate at the required level you can continue your studies in the related master's course.

HOW MUCH WILL IT COST?

Postgraduate study is an investment in your future, not just financially, but in time as well. Tuition fees are determined by the course in which you are enrolled and the credit point value of the subjects.

You can calculate an approximate course fee using the UTS Course Fee Calculator.

uts.edu.au/future-students/ postgraduate/essential-info/what-will- it-cost

IS THERE A STUDENT LOAN SYSTEM FOR POSTGRADUATE STUDENTS?

Yes. Domestic coursework students may qualify for FEE-HELP, a government loan scheme. FEE-HELP allows eligible students to defer payment of some or all of their tuition fees. The loan is repaid through the taxation system.

www.studyassist.gov.au/help-loans/ fee-help

Alternatively, if what you are studying is directly related to your current job and you pay your fees up front, you may also be able to claim your fees and other study related expenses as a tax deduction. See the ATO website for more details.

CAN I STUDY PART-TIME?

Yes. All postgraduate courses are available part-time to domestic students. UTS class times are designed with busy professionals in mind, with day and evening options available. Part-time students undertake less than 18 credit points per session and have the option to vary their study load each session to suit their schedule. You can view the timetable at:

timetable.uts.edu.au

AM I ELIGIBLE FOR RECOGNITION OF PRIOR LEARNING (CREDIT)?

All applicants are assessed individually based on relevant tertiary qualifications. If you have a recent tertiary qualification in engineering or a related field, you may be eligible for up to 24 credit points that cover the basics you already know.

Credit cannot be applied to combined degrees.

uts.edu.au/future-students/ engineering/essential-information/ recognition-prior-learning

CAN I TRANSFER BETWEEN A GRADUATE CERTIFICATE AND A MASTER'S DEGREE?

Yes. The majority of our courses are articulated, meaning you can begin with a 24 credit point (4-subject) graduate certificate and apply to have your subjects credited towards an appropriate Master's course. Alternatively, if you successfully complete the first 24 credit points of the Master's and choose not to continue on with your studies, you may still graduate with a graduate certificate[†]. See articulation chart on page 8.

[†] International students may have visa restrictions that prevent course articulation

HOW CAN I APPLY?

Please refer to page 49 for full details on the application process.

Please contact:

Email: feit@uts.edu.au

Phone: +61 2 9514 2666

Program articulation

Our postgraduate programs are offered in a range of formats that provide alternative entry paths and study durations.

They are linked qualifications, meaning th ey can be combined towards a higher qualification if you decide to continue your studies.

GRADUATE CERTIFICATE
Duration: 1 session (full time),
1 year (part time)

Start with a graduate certificate and study the first four subjects of a master's. These courses will help you put the foundations in place before you pursue advanced studies in a master's.

GRADUATE DIPLOMA
Duration: 1 year (full time),
2 years (part time)

You can choose to exit a master's degree early with a graduate diploma.

MASTER'S
Duration: 1.5–2 years (full time),
3 years (part time)

Theoretical knowledge, practical application: a master's degree combines both in perfect balance. You'll gain a professional level skillset, thorough theoretical foundations, and an understanding of how to apply them in your chosen field. Depending on the discipline you study, you might also gain recognition or qualifications from associated professional organisations.

MASTER'S EXTENSION
Duration: 2 years (full time),
4 years (part time)

Take your knowledge one step further with an extension master's. This qualification provides depth and expertise in your area of interest, beyond the conventional master's structure. You'll benefit from flexible subject choices and a specialist qualification that sets you apart.

Graduate Certificate	4 Subjects **24 CP**			
Graduate Diploma	4 Subjects **24 CP**	4 Subjects **24 CP**		
Master's	4 Subjects **24 CP**	4 Subjects **24 CP**	4 Subjects **24 CP**	
Master's Extension	4 Subjects **24 CP**	4 Subjects **24 CP**	4 Subjects **24 CP**	4 Subjects **24 CP**

- Credit points can vary across courses. See credit points listed for a specific course.
- Academic requirements must be achieved to transfer to the next stage.
- Applications are assessed on academic merit and work experience.

Engineering precinct

There is no better place to see your future from.

TECH LAB
Tech Lab is an engineering and IT facility inspiring innovation and collaboration between expert researchers, industry partners and government.

The multi-functional site features 9000 square meters of office and laboratory space dedicated to technology innovation.

PROTOSPACE
ProtoSpace is our purpose-built additive manufacturing facility, incorporating 3D printing designed to bring prototype testing and product manufacture within the reach of UTS students.

SOFTWARE DEVELOPMENT STUDIO
A rich environment for you to become professionally competent via an industry collaborative software development experience throughout your degree.

IN-BUILT RESEARCH SENSORS
The building itself is a living, breathing laboratory embedded with wireless sensors to monitor temperature, air quality, noise and dust particles.

LEARNING PRECINCT

In between classes, you can study or conduct group work in the FEIT Learning Precinct. This student space is where you can access teachers for individual and small group support, as well as reference material and software and hardware resources.

DATA ARENA

This 3D data visualisation arena aids researchers to visually present and interact with complex data sets and 3D-spatial modules. It utilises projectors and stimulates weather such as wind and lightning to provide the experience of being immersed in a huge 3D virtual reality experience.
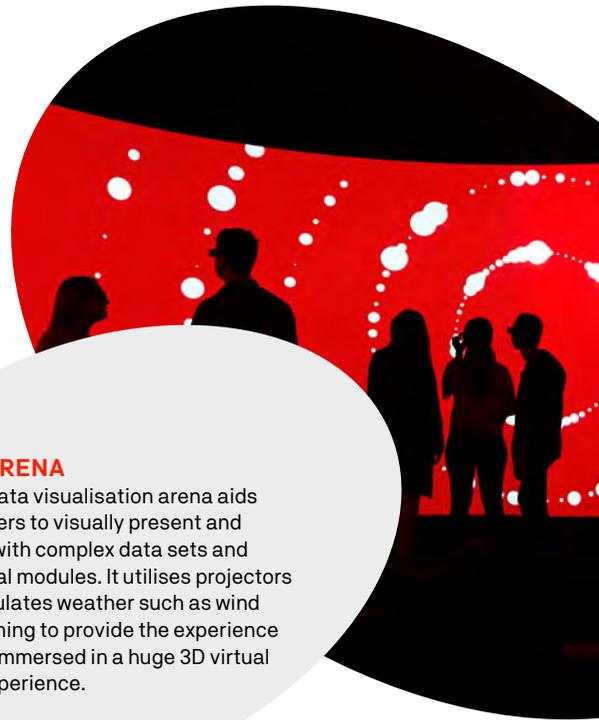
UTS LIBRARY

The UTS Library has expanded to include an underground storage system that uses robotic cranes for the retrieval of less- demanded books, making borrowing faster and simpler. This library upgrade is part of the larger UTS City Campus Master Plan, a $1 billion investment to redevelop UTS.

DATA LOUNGE

Equipped with a next-generation multi-user, multi-touch interactive LCD video wall and host for virtual applications, UTS Data Lounge is part of a broad suite of offerings aimed at democratising access and knowledge to new technologies for industry and UTS community.

Academic leaders

In the Faculty of Engineering and IT we teach from experience.

Professor Sarath Kodagoda, School of Mechanical and Mechatronic Engineering

Sarath is the Program Coordinator for Mechatronic Engineering. He is a recipient of two teaching awards from Office for Learning and Teaching at UTS and five research awards from the International Water Association, Australian Water Association, NSW Water Association, UTS Vice-Chancellor's Award for Research Excellence and B/HERT Award. His research interests include robotics, data analytics and machine learning.

uts.edu.au/staff/sarath.kodagoda

Professor Joanne Tipper, School of Biomedical Engineering

Joanne is the Head of School for Biomedical Engineering. Leading a team of world-renowned academics, her teaching areas include biomaterials, joint replacement technology and tissue engineering. With over 80 peer reviewed publications, her work has contributed to the understanding of implant failure and the development of longer lasting, more reliable devices.

uts.edu.au/staff/joanne.tipper

Dr Priyadarsi Nanda, School of Electrical and Data Engineering

Priyadarsi is a core research member of the Centre for Real-time Information Networks and the Research Centre for Innovation in IT Services and Applications. He has expanded his research activities to include; Cyber Security, IoT Security, network Quality of Service, assisted health care using sensor networks and wireless sensor networks.

uts.edu.au/staff/priyadarsi.nanda
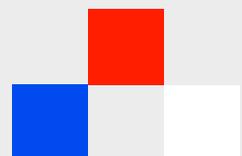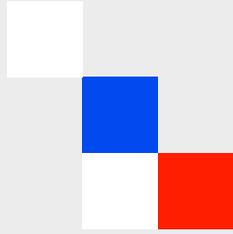
Engineering

**Professor Francesca Iacopi, School
of Electrical and Data Engineering**

Francesca is a materials scientist and
nanoelectronics expert with nearly 20
years' industry and academic experience.
Among her accolades is a Global Innovation
Award at the 2014 TechConnect World
Summit in Washington DC, for discovering
new graphene fabrication processes.

Her research interests involve designing
nanodevices with ultra-low energy
consumption and minimal loss that
contribute to a sustainable future.
Francesca's teaching areas include IoT
components and technologies, micro and
nanofabrication, materials science and
semiconductor technology.

Collaborating, among others, with partners
from Intel, AMD, Samsung and Texas
Instruments on electronics miniaturisation,
Francesca enabled the use of nanoporous
insulators in modern semiconductors.

uts.edu.au/staff/francesca.iacopi

**Associate Professor Guang Hong
School of Mechanical and
Mechatronic Engineering**

Guang is an expert in internal combustion
engines and lectures in the subjects of
Thermodynamics, Air Conditioning and
Internal Combustion Engines.

Her research is presently focused
on developing new techniques for
using renewable fuels more effectively and
efficiently.

"I believe the practice-based learning
model supported by advanced facilities
in the new Engineering and IT building
is what sets UTS apart from other
universities."

uts.edu.au/staff/guang.hong

Distinguished Professor Jie Lu

Jie is the Director of Decision Systems &
e-Service Intelligence Lab in the Centre
for Quantum Computing and Information
Systems. Her main research interests lie
in the area of decision support systems,
recommender systems, knowledge-based
prediction and warning systems, fuzzy
and uncertain information processing
and e-Service intelligence. She has won
seven Australian Research Council (ARC)
Discovery Project grants and 10 other
research grants. She received the first UTS
Research Excellence Medal for Teaching
and Research Integration in 2010. In 2019
she received the Australian Laureate
Fellowship.

uts.edu.au/staff/jie.lu

Scholarships

uts.edu.au/scholarships

UTS is making a big investment in high-achieving international students. We've dedicated A$30 million in grants and scholarship support over a five-year period.

As part of our ongoing commitment to educating the world's future leaders, we're recognising students from around the globe who've put in the hard work and perseverance to excel in their chosen field.

Through offering scholarships to deserving students, we're sharing our passion for education, equity and innovation.

We want our international students to return home equipped with specialised knowledge, technological innovation and global perspectives so they can contribute to their home country's future.

Faculty scholarships

uts.edu.au/scholarships

Many UTS faculties offer international scholarships to reward achievement and recognise motivation to succeed.

As these scholarships are always evolving visit our website for current information.

Postgraduate scholarships and grants

uts.edu.au/scholarships

Our scholarships are for top performers. These highly competitive scholarships and grants are open to international students and are awarded on the basis of academic achievement. To be eligible, you must meet the selection criteria and have been admitted to, or are eligible for admission to, a course at UTS.

Note: several UTS scholarships, including full tuition scholarships, also require a personal written statement.

Australian Government scholarships

dfat.gov.au/people-to-people/ australia-awards/pages/australia- awards-scholarships.aspx

The prestigious Australia Awards International Scholarships and Fellowships offer the next generation of global leaders an opportunity to undertake study, research and professional development in Australia.

Funded by the Australian Government's Department of Foreign Affairs and Trade, the awards help international students gain qualifications that will allow them to contribute to development success back home.

Home country sponsored scholarships

A number of countries offer scholarships or sponsorship opportunities to citizens who wish to study in Australia:

– **Brazil**: Program for Institutional Internationalisation of the Higher Education Institutions and Research Institutions of Brazil (PrInt)
– **Colombia**: Fundación para el Futuro de Colombia (COLFUTURO) scholarship program
– **China**: China Scholarship Council and Dr Chau Chak Wing Scholarships and China Scholarship Council
– **Ecuador**: Secretaría de Educación Superior, Ciencia, Tecnología e Innovación (SENESCYT) Program
– **Guatemala**: Guatafuturo - loans and scholarships program for Guatemalan citizens who want to study a Master, PhD or Graduate diploma overseas.
– **Indonesia** – Direktorat Jenderal Pendidikan Tinggi (DIKTI) and Lembaga Pengelola Dana Pendidikan (LPDP)
– **Mexico**: Fondo para el Desarrollo de Recursos Humanos (FIDERH)
– **Peru**: Programa Nacional de Becas y Crédito Educativo (PRONABEC)
– **Vietnam**: Vietnam International Education Development (VIED)

Check with your home government for current information.

Alumni advantage

alumni.uts.edu.au/advantage

UTS graduates who are thinking of pursuing further study could be eligible for a 10 per cent saving on their tuition fees through the Alumni Advantage Program. This discount applies to full-fee-paying courses and will be applied automatically when you enrol.

Financial aid and loans

If you're from Canada, Denmark, Germany, Norway, Sweden or the USA, you may be eligible for financial aid to support your studies at UTS. Check with your government for requirements.

Short courses
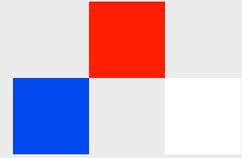
Stay up to date with emerging trends via UTS short courses and microdentials.

Technology is at the core of the current digital revolution. As a working professionals you are challenged to stay up to date with emerging trends, understand the latest technology, integrate opportunities into business practice and importantly, drive innovation.

A short course is a step in the right direction to discover these new areas of innovation, and how exactly you can apply it to your business.

Choose a half-day, one-day or five-day program that aligns with your individual learning goals, career aspirations or business strategy. Topics range from 5G through to AI & ML, Industry 4.0, quantum software and IoT.

Microcredentials blend high-touch live teaching with flexible self-study to fit real world schedules. They can be taken as stand-alone courses which can also contribute to future award study.

open.uts.edu.au

GLOBAL EXPERTS
Through collaborative partnerships with industry and government sectors, UTS experts design and deliver short courses on trending topics in the technology industry.

These topics meet industry demand and future predictions on key areas of innovation.

PRACTICAL TAKE-AWAYS
Apply your learning outcomes to business strategy and develop and an action plan that creates new opportunities for business transformation.

FLEXIBILITY
Choose a half-day, one-day or five-day program that aligns with your learning goals. Programs run multiple times during the year giving you options that allow for your current work and family commitments.

TAILORED COURSES
Does your team need something more specific? We can tailor the course to meet your learning objectives and specific organisational goals.

FACE-TO-FACE AND ONLINE LEARNING
Located on the CBD fringe, the UTS Faculty of Engineering and IT offers face-to-face and online courses. This includes access to next generation visualisation and collaboration technologies.

HAVE A QUESTION?
Contact
e: FEITshortcourses@uts.edu.au

Choose your program

ENGINEERING	→	– Master of Engineering – Master of Engineering Master of Engineering Management – Master of Engineering (Extension) – Master of Engineering (Advanced) – Graduate Certificate in Engineering
ENGINEERING MANAGEMENT	→	– Master of Engineering Management – Master of Engineering Management Master of Business Administration – Graduate Certificate in Engineering Management
ENVIRONMENTAL ENGINEERING MANAGEMENT	→	– Master of Environmental Engineering Management – Graduate Certificate in Environmental Engineering Management
HIGHER DEGREES BY RESEARCH	→	– Doctor of Philosophy – Master of Engineering (Research)
PROFESSIONAL ENGINEERING	→	– Master of Professional Engineering – Graduate Certificate in Engineering Studies
PROFESSIONAL PRACTICE	→	– Master of Professional Practice – Graduate Diploma in Professional Practice – Graduate Certificate in Professional Practice
TECHNOLOGY	→	– Master of Technology – Graduate Diploma in Technology – Graduate Certificate in Technology

Engineering

Biomedical Engineering | Civil Engineering | Computer Control Engineering | Cyber Security Engineering | Electrical Energy Systems | Environmental Engineering | Geotechnical Engineering | Manufacturing Engineering and Management | Operations | Robotics | Software Systems Engineering | Structural Engineering | Telecommunications and Electronics | Water Engineering

The engineering profession is evolving. Stay up-to-date with the latest technical knowledge and key leadership skills so you can gain a competitive edge with employers. Work with global experts in state-of-the-art facilities and revolutionise the future you.

FLEXIBLE WORK–LIFE BALANCE
We understand there's more to life than study. Schedule classes for day or night around your other life commitments.

BE AMONG THE BEST
We're ranked in the top 200 universities globally placing us in the top 1%. We're also the no. 1 young university in Australia.

PIONEERS IN RESEARCH
Our research centres are recognised as world leading by our partners and industry.

INNOVATION HUB
UTS is located in an innovation precinct surrounded by 40% of Australia's top startup firms.

INTERNATIONAL PERSPECTIVES
Address global challenges through interdisciplinary connections with international universities, researchers and industry partners.

PIYUSH SOMVANSHI
Master of Engineering in Manufacturing Engineering and Management

Piyush Somvanshi had spent three years in his industry after completing his Bachelor of Engineering in Mumbai before deciding to pursue his master's in Australia.

"From my work experience, I knew that initially, in 5-10 years I would be working as a technical person, and then I would be promoted to a manager's position. So I wanted to learn both sides right now, so that I got a solid lead on the others," says Piyush.

Piyush's time at UTS has opened up a raft of work opportunities such as being a Student Promotional Representative for the Faculty of Engineering, working for Access UTS to assist Japanese students, and joining the Peer Network. He's also completed both the Accomplish Award and Soul Award.

These experiences have taught Piyush many lessons about securing the ideal industry position.

"You have to actually make contacts in industry. Go to networking events, socialize with people don't stick to your own group. You have to know people to get your foot in the door and get an interview," he says.

"Be active at university. Being active in university gets you university jobs."

What are his plans after finishing his degree?

"I would rather learn from here and try to implement those things back home. Down the lane I want to start my own business and into consulting," Piyush says.

His advice for international students looking to study at UTS is simple.

"Explore, make new friends, and if you are scared, don't hesitate to ask for help, everyone is here to help!"

Read more student profiles
uts.edu.au/eng-student-profiles

Management courses

Take charge of your future, today.

Engineers are pushing the boundaries on innovation, integrating technology and advancing business processes.

Keep pace with the latest advances in engineering, technology and business practices with a postgraduate program in engineering management.

Tailor your subject choices to best suit your career journey and accelerate into a leadership role.

Graduate Certificate in Engineering Management

Course code:	C11239
CRICOS code:	081085G
Duration:	**Domestic** 0.5 year full-time 1 year part-time
	International 0.5 year full-time
Study load:	24 credit points (4 subjects)
Study mode:	Standard mode (weekly attendance with some evening classes)
Available intakes:	Autumn (February) / Spring (August)
How to apply:	See page 49
English language requirements:	See page 49
Course structure:	See page 20

Admission requirements:

A UTS recognised bachelor's degree, or an equivalent or higher qualification, with no more than 25 percent of subjects failed.

Master of Engineering Management

Course code:	C04275
CRICOS code:	081088E
Duration:	**Domestic** 1–1.5 years full-time 2–3 years part-time
	International 1–1.5 years full-time
Study load:	72 credit points (12 subjects)
Study mode:	Standard mode (weekly attendance with some evening classes)
Available intakes:	Autumn (February) / Spring (August)
How to apply:	See page 49
English language requirements:	See page 49
Course structure:	See page 20

Admission requirements:

A UTS recognised bachelor's degree, or an equivalent or higher qualification, with no more than 25 percent of subjects failed.

NATALIE JOSEFSEN
Master of Engineering Management

With a five-year integrated master's degree in Chemical Engineering complete, Natalie was keen to ensure her management skills were in line with her strong technical knowledge.

"I wanted to see the bigger view of engineering so I decided to pursue a career in management. I'm currently taking a subject in risk management which is really interesting. We're re-creating situations or scenarios that take place in industry and suggesting re-engineered solutions to increase safety and prevent future risks."

Through the UTS learning.futures model, Natalie is putting theory into practice through weekly team projects and working with her industry mentor through the Lucy Mentoring Program.

"I'm learning key leadership skills in class and applying them in group projects and in industry. The most important thing I'm learning is the importance of good communication. This seems so obvious but it's critical to making it a success. When you're working within a team you must first understand what people are good at. You must also make people comfortable and include everyone in the process to ensure the best output. This requires strong communication which is needed in every industry. It can be a challenge of course, but you learn a lot about yourself and good business practice."

Read more student profiles
uts.edu.au/eng-student-profiles

COURSE STRUCTURE

Subjects	Graduate Certificate in Engineering Management	Master of Engineering Management
Professional Engineering Stream	Choose 1 of the following:	Choose 2 of the following:
Advanced Project Management	●	●
Judgment and Decision Making	●	●
Managing Projects	●	●
Risk Management in Engineering	●	●
Systems Engineering for Managers	●	●
Major Stream	Choose 2 of the following:	Choose 6 of the following:
Advanced Project Management	●	●
Applied Financial Management	●	●
Economic Evaluation	●	●
Judgment and Decision Making	●	●
Leadership and Responsibility	●	●
Quality Planning and Analysis	●	●
Risk Management in Engineering	●	●
Systems Engineering for Managers	●	●
Value Chain Engineering Systems	●	●
Electives[†]	Choose 1 elective	Choose 2 electives
Project Stream	N/A	Complete 2 subjects
Engineering Project Preparation		●
Engineering Graduate Project		●

[†] See the Handbook **www.handbook.uts.edu.au/eng** for details.

Please note: Elective subjects are taken from postgraduate-level Faculty subjects and may need prior approval.
You may also need pre-requisite knowledge for some electives.

Graduate Certificate in Environmental Engineering Management

Course code: C11237

CRICOS code: 081086G

Duration:
Domestic
0.5 year full-time
1 year part-time

International
0.5 year full-time

Study load: 24 credit points (4 subjects)

Study mode: Standard mode (weekly attendance with some evening classes)

Available intakes: Autumn (February) / Spring (August)

How to apply: See page 49

English language requirements: See page 49

Course structure: See page 23

Admission requirements:

A UTS recognised bachelor's degree in engineering or the natural and physical sciences, or an equivalent or higher qualification, with no more than 25 percent of subjects failed.

Join the global environmental movement.

Environmental engineers are key to a sustainable future with the expertise needed to safeguard our planet.

The Environmental Engineering Management program develops leadership skills in environmental management, addressing issues that are high on political and professional agendas.

This course is relevant to practising professionals in engineering and the natural and physical sciences.
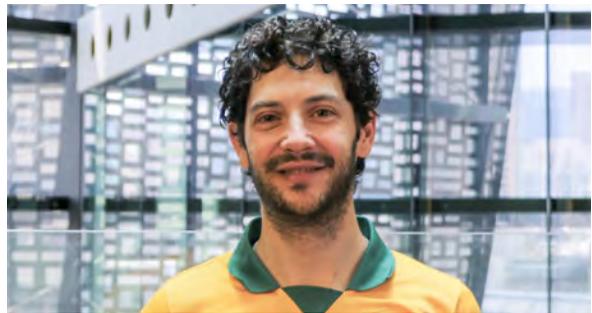
RONNY SCHNAPP
Graduate Certificate in Engineering Management

For Ronny Schnapp, the challenge of undertaking a postgraduate degree while working full-time pales in comparison to his experience as an undergraduate student.

"I actually struggled through my bachelor's degree, probably because I was very young and not really psychologically prepared for the experience," he says.

"But having done a lot of learning in other environments since I graduated, returning to uni as a postgraduate student has been more enjoyable. I've realised [that] as a mature-age student, I've got more grasp on how to learn."

Ronny, a power systems analyst, studies two subjects a session, and completes his assignments after work and on weekends. He is now planning to extend his graduate certificate into a Master of Engineering.

His goal is to start moving through the ranks of the engineering profession to work in management.

"What we need more of in Australia are engineers with sound management qualifications and abilities," he says.

"I'm confident that my studies have given me the abilities and knowledge to be a good leader."

Read more student profiles
uts.edu.au/eng-student-profiles

Master of Environmental Engineering Management

Course code: C04272

CRICOS code: 081089D

Duration:

Domestic
1–1.5 years full-time
2–3 years part-time

International
1–1.5 years full-time

Study load: 72 credit points
(12 subjects)

Study mode: Standard mode
(weekly attendance with
some evening classes)

Available intakes: Autumn (February) /
Spring (August)

How to apply: See page 49

English language requirements: See page 49

Course structure: See page 23

Admission requirements:

A UTS recognised bachelor's degree in engineering or the natural and physical sciences, or an equivalent or higher qualification, with no more than 25 percent of subjects failed.

COURSE STRUCTURE

Subjects	Graduate Certificate in Environmental Engineering Management	Master of Environmental Engineering Management
Professional Engineering Stream	Choose 1 of the following:	Choose 2 of the following:
Advanced Project Management	●	●
Managing Projects	●	●
Judgment and Decision Making	●	●
Risk Management in Engineering	●	●
Systems Engineering for Managers	●	●
		Choose 1 of the following:
Applied Financial Management		●
Economic Evaluation		●
Leadership and Responsibility		●
Quality Planning and Analysis		●
Technology and Innovation Mangement		●
Value Chain Engineering Systems		●
Ecology and Sustainability	Compulsory Subject	
Core Subjects (Environmental Engineering Management)	Choose 1 of the following:	Choose 5 of the following:
Advanced Water and Wastewater Treatment		●
Air and Noise Pollution	●	●
Contaminated Site and Waste Remediation	●	●
Decentralised Environmental Systems	●	●
Ecology and Sustainability		●
Energy Demand Analysis and Forecasting	●	●
Environmental Policy for Energy Systems	●	
Environmental Risk Assessment	●	●
Geographic Information Systems	●	●
Green Technologies: Water-Waste-Energy Nexus		●
Policy and Planning of Energy Conservation	●	●
Sustainable Energy Resources	●	●
Waste and Pollution Management	●	●
Electives	Choose 1 elective	Choose 2 electives
Project stream		Complete the following subjects:
Engineering Project Preparation		●
Engineering Graduate Project		●

† See the Handbook **www.handbook.uts.edu.au/eng** for details.

Please note: Elective subjects are taken from postgraduate-level Faculty subjects and may need prior approval. You may also need pre-requisite knowledge for some electives.

Technical courses

Stay ahead of the game.

We live in a time of great change, driven by new knowledge and rapidly evolving technology.

The UTS postgraduate engineering program is designed for professional engineers who want to explore complex engineering issues.

Access to real-world industry and research projects will develop your skills in problem solving, application of theory, design, creativity and stakeholder communication. All crucial skills to a successful career in industry.

The program gives you the flexibility to choose from 14 majors, a graduate project* and a choice of electives.

*The graduate project is only available at Master's level.

ROJAN SHRESTHA
Graduate Certificate in Engineering

For Rojan Shrestha, gaining a job with Vertical Telecoms was directly related to his UTS studies. In particular, the company was looking for someone with demonstrated experience working with Nokia routers and switches. As part of the university's commitment to industry-relevant course content, UTS had existing relationships with a range of companies in the telecommunications field, including Nokia and Cisco.

"While I was studying at UTS, I took some subjects that were based on UTS's collaboration with Nokia." Rojan says.

"UTS has developed a work-based learning approach that I liked very much. When I started working, I didn't need much technical training. I just went there, understood the company and got started straight away"

"When employers look for their prospective employees, they look for people who they need to use less resources for the training. I believe the time I spent with UTS not only helped me with my technical skills but also developed a can do attitude which will help me for my future career."

Read more student profiles
uts.edu.au/eng-student-profiles

Graduate Certificate in Engineering

Course code:	C11236
CRICOS code:	081083K
Duration:	**Domestic** 0.5 year full-time 1 year part-time
	International 0.5 year full-time
Study load:	24 credit points (4 subjects)
Study mode:	Standard mode (weekly attendance with some evening classes)
Available intakes:	Autumn (February) / Spring (August)
How to apply:	See page 49
English language requirements:	See page 49

Admission requirements:

A UTS recognised bachelor's degree in engineering, or an equivalent or higher qualification, with no more than 25 percent of subjects failed. The applicant's proposed stream must be in the same field of practice undertaken at the undergraduate level.

Master of Engineering

Course code: C04271

CRICOS code: 081087F

Duration:
Domestic
1–1.5 years full-time
2–3 years part-time

International
1–1.5 years full-time

Study load: 72 credit points
(12 subjects)

Study mode: Standard mode
(weekly attendance with
some evening classes)

Available intakes: Autumn (February) /
Spring (August)

How to apply: See page 49

**English language
requirements:** See page 49

Course structure: See page 26

Admission requirements:

A UTS recognised bachelor's degree in engineering, or an equivalent or higher qualification, with no more than 25 percent of subjects failed. The applicant's proposed major must be in the same field of practice undertaken at the undergraduate level.

MAJORS

– Biomedical Engineering
– Civil Engineering
– Computer Control Engineering
– Cyber Security Engineering
– Electrical Energy Systems
– Environmental Engineering
– Geotechnical Engineering
– Manufacturing Engineering and Management
– Operations
– Software Systems Engineering
– Structural Engineering
– Telecommunications and Electronics
– Water Engineering
– No Specified Major

Be at the cutting-edge of engineering with a postgraduate qualification at UTS.

As our workforce changes and new technologies are introduced, we are increasingly reminded of the importance of technical skills. Formalise your knowledge and enhance your skill-set with a globally recognised qualification.

COURSE STRUCTURE

Subjects	Graduate Certificate in Engineering	Master of Engineering	Master of Engineering (Extension)
Professional Engineering Stream	Choose 1 of following:	Choose 2 of the following:	Choose 2 of the following:
Advanced Project Management	●	●	●
Judgment and Decision Making	●	●	●
Managing Projects	●	●	●
Risk Management in Engineering	●	●	●
Systems Engineering for Managers	●	●	●
		Choose 1 of the following:	Choose 1 of the following:
Applied Financial Management		●	●
Economic Evaluation		●	●
Leadership and Responsibility		●	●
Quality Planning and Analysis		●	●
Technology and Innovation Mangement		●	●
Value Chain Engineering Systems		●	●
Major Choice (see page 20 for the list of majors available)	Choose 2 subjects from your chosen stream	Choose 5 subjects from your chosen major	Choose 5 subjects from your chosen major
Sub-Major (Advanced Choice) (see page 27 for the list of sub-majors available)	N/A	N/A	Choose 4 subjects from your chosen sub-major
Electives[*]	Choose 1 elective	Choose 2 electives	Choose 2 electives
Project stream	N/A	Complete 2 subjects	Complete 2 subjects
Engineering Project Preparation		●	●
Engineering Graduate Project		●	●

[*] See the Handbook **www.handbook.uts.edu.au/eng** for details.

Please note: Elective subjects are taken from postgraduate-level faculty subjects and may need prior approval. You may also need pre-requisite knowledge for some electives.

Master of Engineering (Extension)

Course code: C04277

CRICOS code: 081094G

Duration:
Domestic
1.5-2 years full-time
3-4 years part-time

International
1.5-2 years full-time

Study load: 96 credit points (16 subjects)

Study mode: Standard mode (weekly attendance with some evening classes)

Available intakes: Autumn (February) / Spring (August)

How to apply: See page 49

English language requirements: See page 49

Course structure: See page 26

Admission requirements:

A UTS recognised bachelor's degree in engineering, or an equivalent or higher qualification, with no more than 25 percent of subjects failed. The applicant's proposed major must be in the same field of practice undertaken at the undergraduate level.

Go a step further.

In addition to the course structure of the Master of Engineering, this extension course includes a sub-major worth 24 credit points.

Note: the sub-major must be in a different field of engineering to the major.

You can either start in this course or progress into it after completing at least one session of the Master of Engineering. You can also sample this course by completing the Graduate Certificate in Engineering and having those subjects credited towards the Master of Engineering (Extension).

SUB MAJORS
You will choose 24 credit points (4 subjects in most cases) as part of your sub-major (advanced choice).

– Biomedical Engineering
– Civil Engineering
– Computer Control Engineering
– Cyber Security Engineering
– Electrical Energy Systems
– Environmental Engineering
– Geotechnical Engineering
– Manufacturing Engineering and Management
– Operations
– Software Systems Engineering
– Structural Engineering
– Telecommunications and Electronics
– Water Engineering
– No specified sub major

HARDEEP SINGH
Master of Engineering (Extension)

As a Bachelor of Technology graduate, Hardeep Singh was looking for a postgraduate qualification that would further develop his skills.

"I was looking for a course that was relevant – I wanted the management and technical experience, and I also wanted a vibrant university," says Hardeep, a Master of Engineering (Extension) student, majoring in manufacturing.

"UTS is affordable, the teaching methods are awesome and my course is absorbing. You study, undertake extensive training and gain lots of practical knowledge."

"Here, you do group work in each subject, and you work on projects in groups and on your own," he says.

"You have to apply all your knowledge into something constructive, so the output is really massive. That's what I like most about UTS."

Despite keeping up a hectic schedule of study and work, Hardeep still manages to squeeze in a healthy social life, getting to know his adopted city of Sydney and its surrounds.

"In the city, the ambience is awesome," he says.

Read more student profiles
uts.edu.au/eng-student-profiles

Master of Engineering (Advanced)

Course code:	C04278
CRICOS code:	081093G
Duration:	**Domestic** 2 years full-time 4 years part-time
	International 2 years full-time
Study load:	96 credit points (16 subjects)
Study mode:	Standard mode (weekly attendance with some evening classes)
Available intakes:	Autumn (February) / Spring (August)
How to apply:	Internal Course Transfer
English language requirements:	See page 49

Admission requirements:

Applicants are required to have: (i) completed 48 credit points in the Master of Engineering (C04271) or Master of Engineering (Extension) (C04277); and (ii) received approval of a member of academic staff to act as their research project supervisor.

Explore an in-depth research study in a major field of engineering.

This program involves undertaking substantial research study in a major field of engineering. This course will put you at an advantage should you apply for a higher degree by research program such as a PhD.

You will complete two professional engineering subjects, six subjects as part of your major and either a research project (over a period of 1 year) or a research project with a combination of electives.

Note: you must find a research supervisor before transferring into this course.

Become a graduate Engineer in Australia

This course enables students to deepen knowledge and practical expertise in their field, and be ready to enter the engineering profession.

Majors are currently available in:
– Biomedical Engineering
– Civil Engineering
– Cyber Security Engineering
– Electrical Energy Systems
– Mechanical Engineering
– Robotics
- Telecommunications and Electronics

This course allows students to choose a program of study that deepens the body of knowledge acquired in their first degree, affords them an opportunity to undertake a 12-week professional experience, or equivalent (as required by Engineers Australia).

Master of Professional Engineering

Course code:	C04309
CRICOS code:	088084G
Duration:	**Domestic**
	2 years full-time
	4 years part-time
	International
	2 years full-time
Study load:	96 credit points
Study mode:	Standard mode (weekly attendance with some evening classes)
Available intakes:	Autumn (February) / Spring (August)
How to apply:	See page 49
English language requirements:	See page 49
Course structure:	See page 30

Admission requirements:

A UTS recognised bachelor's degree in engineering, engineering science or technology, or an equivalent or higher qualification, with no more than 25 percent of subjects failed. The applicant's proposed major must be in the same field of practice undertaken at the undergraduate level.

Professional recognition:

The Master of Professional Engineering (Civil and Mechanical majors) is accredited by Engineers Australia at the Graduate Professional Engineer level, and is recognised internationally by signatories to the Washington Accord. The Biomedical and Cyber Security majors are provisionally accredited, pending full accreditation. UTS is currently seeking accreditation of the Electrical Energy Systems, Robotics, and Telecommunications and Electronics majors.

Graduate Certificate in Engineering Studies

Course code:	C11238
CRICOS code:	081084J
Duration:	**Domestic**
	0.5 year full-time
	1 year part-time
	International
	0.5 year full-time
Study load:	24 credit points (4 subjects)
Study mode:	Standard mode (weekly attendance with some evening classes)
Available intakes:	Autumn (February) / Spring (August)
How to apply:	See page 49
English language requirements:	See page 49
Course structure:	See page 30

Admission requirements:

A UTS recognised bachelor's degree in a non-cognate engineering field, or an equivalent or higher qualification.

COURSE STRUCTURE

Subjects	Graduate Certificate in Engineering Studies	Master of Professional Engineering
Choice (Professional Engineering) (12cp)	Choose 1 of the following:	Choose 2 of the following:
Advanced Project Management	●	●
Judgment and Decision Making	●	●
Managing Projects	●	●
Risk Management in Engineering	●	●
Systems Engineering for Managers	●	●
Choice (Professional Engineering) (6cp)		Choose 1 of the following:
Applied Financial Management	N/A	●
Economic Evaluation	N/A	●
Leadership and Responsibility	N/A	●
Quality Planning and Analysis	N/A	●
Technology and Innovation Management	N/A	●
Value Chain Engineering Systems	N/A	●
Design and Innovation Fundamentals	N/A	Compulsory subject
	Complete the following subjects:	Complete the below subject
Engineering Review 1	●	●
Engineering Review 2	●	
Electives (12cp)	Choose 1 elective	Choose 2 electives
Major (54cp)	N/A	Complete 5 subjects from your chosen major
Project (18cp)	N/A	Complete the following subjects:
Engineering Project Preparation		●
Engineering Graduate Project Part 1		●
Engineering Graduate Project Part 2		●
Engineering Practice Stream (6cp)	N/A	Complete 1 of the following:
Engineering Practice Preparation 1		●
Engineering Practice in an Australian Context		●
Engineering Work Experience		Compulsory subject
Engineering Workplace Reflection		Compulsory subject

Double degrees

Do your career goals span multiple disciplines?

This combined degree links two of UTS's world-leading programs to bridge the gap between engineering and business for emerging leaders.

Strengthen your skills in project management, decision-making and risk management as well as finance, marketing, accounting and strategic management.

This unique degree is for students with a bachelor's in engineering who want to take the next step in their management career.

JUAN FELIPE MENDEZ DIAZ
Master of Engineering Management Master of Business Administration

When technology consultant Juan Felipe Mendez Diaz found himself getting involved in the business side of projects, negotiations started to become complicated.

"I'm an engineer, so I don't have a business background," he says. Originally from Colombia, Juan Felipe knew exactly what to focus on when undertaking a postgraduate degree. "I decided to go more for the management and MBA side."

On choosing UTS, Juan Felipe says: "It's the only uni that offers a mix between business and engineering. That was perfect for me in terms of what I wanted to do, and how I wanted to build my career."

He found UTS's modern learning environment engaging. "It's group-focused, a more up-to-date way of teaching. The spaces are different—you can tell just by looking at the buildings. The classrooms are designed to how the subjects should be taught."

The diversity of students was another appeal. "I'm always trying to learn from different cultures and interact with different people."

Juan Felipe says the degree is broadening his business expertise in preparation for the future. "It helps me bridge the gap that I had."

Read more student profiles
uts.edu.au/eng-student-profiles

Master of Engineering Management

Master of Business Administration

Course code:	C04274
CRICOS code:	081096E
Duration:	**Domestic** 2 years full-time 4 years part-time
	International 2 years full-time
Study load:	96 credit points
Study mode:	Standard mode (weekly attendance with some evening classes)
Available intakes:	Autumn (February) / Spring (August)
How to apply:	See page 49
English language requirements:	See page 49
Course structure:	See page 32

Admission requirements:

A UTS recognised bachelor's degree in engineering and one of the following:

– a minimum grade point average (GPA) of 2.75 out of 4 and less than 10 per cent fail grades; or

– a Graduate Management Admission Test (GMAT) minimum overall score of 550, with verbal 25, quantitative 35 and AWA 4.0; or

– a minimum of four years' (full-time equivalent) engineering-related work experience.

COURSE STRUCTURE

Subjects	Master of Engineering Management, Master of Business Administration
Professional Engineering Stream Complete the following subjects:	24cp
Managing Projects	
Judgment and Decision Making	
Risk Management in Engineering	
Systems Engineering for Managers	
Core Subjects (MEM) Choose 2 subjects from the following:	24cp
Advanced Project Management	
Managing Information Technology in Engineering	
Quality and Operations Management Systems	
Quality Planning and Analysis	
Technology and Innovation Management	
Value Chain Engineering Systems	
Complete the following subjects as part of the Project stream:	
Engineering Project Preparation	
Engineering Graduate Project	
Core Subjects (MBA) Complete the following subjects as part of the MBA:	48cp
Understanding Accounting and Financial Reports	
Economics for Management	
Financial Management	
Leading People and Change	
Marketing Decision Making	
Electives (12cp)	
Strategic Management	
Total Credit Points	96cp

Master of Engineering

Master of Engineering Management

Course code: C04273

CRICOS code: 081095F

Duration:

Domestic
2 years full-time
4 years part-time

International
2 years full-time

Study load: 96 credit points (16 subjects)

Available intakes: Autumn (February) / Spring (August)

How to apply: See page 49

English language requirements: See page 49

Course structure: See page 34

Admission requirements:

A UTS recognised bachelor's degree in engineering, or an equivalent or higher qualification, with no more than 25 percent of subjects failed. The applicant's proposed major must be in the same field of practice undertaken at the undergraduate level.

Redefine your technical understanding whilst developing advanced leadership skills with a combined engineering program.

Choose from a variety of management and leadership subjects including advanced project management, judgment and decision-making, risk management and people management.

By following the course structure, you can complete the two degrees concurrently in only two years, rather than three years individually.

FREYJA IVORIE MIGUEL
Master of Engineering Master of Engineering Management

Inspired by her engineer parents, Freyja says studying engineering was a childhood dream. She discovered UTS at an education fair and immediately knew it had the right degree for her. "I found the course really interesting—the double degree," she says.

She relished the opportunity of moving from the Philippines to study in Australia. "I wanted to broaden my perspectives. I think that coming to a different country helped me grow a lot as a person."

"I like how open the campus is, the program, and the diversity of the students," she comments about starting at UTS. During her studies Freyja has joined a hackathon and explored the world of startups. A recent project involved brain-computer interface—turning signals from the brain into movement.

She also participated in the UTS Accomplish Award. The year-long program helps students develop skills and gain industry experience for employability success.

But it's not just about engineering. The double degree enabled Freyja to diversify her skills and gain experience in management as well. "I'm interested in electronics and engineering, as well as the business side of things."

Learn more about the Women in Engineering and IT community and the opportunities available for postgraduate students. **wieit.uts.edu.au**

COURSE STRUCTURE

Subjects	Master of Engineering, Master of Engineering Management
Professional Engineering Stream Choose 5 of the below subjects:	42cp
Applied Financial Management	
Economic Evaluation	
Leadership and Responsibility	
Quality Planning and Analysis	
Technology and Innovation Management	
Value Chain Engineering Systems	
Choose 2 subjects from the following:	
Advanced Project Management	
Judgment and Decision Making	
Managing Projects	
Risk Management in Engineering	
Systems Engineering for Managers	
ME major choice Complete 5 subjects in your chosen major	30cp
Project Stream Complete the following 2 subjects:	12cp
Engineering Project Preparation	
Engineering Graduate Project	
Electives* Choose 2 electives	12cp

* See the Handbook **www.handbook.uts.edu.au/eng** for details.

Please note: Elective subjects are taken from postgraduate-level faculty subjects and may need prior approval. You may also need pre-requisite knowledge for some electives.

Majors

The following is an overview of subjects available in each major. For detailed course structures and requirements visit the UTS engineering handbook at **handbook.uts.edu.au/eng**

Within each major, a project component is incorporated comprising two subjects (12 credit points):

– Engineering Project Preparation
– Engineering Graduate Project

Biomedical Engineering

Core – 2 compulsory subjects

Introduction to Biomedical Engineering

Biomedical Industry Frameworks

Choice – choose 1 of the below streams:

Bio-Instrumentation stream

Biomedical Instrumentation

Neural Networks and Fuzzy Logic

Biomedical Signal Processing

Genomics and Bioinformatics stream

Molecular Biology 1

Healthomics and Molecular Diagnostics

Bioinformatics

Microfluidics and 3D Bioprinting stream

Additive Manufacturing for Medical Innovations

Biomedical Polymers

Microfluids in Biology and Medicine

Civil Engineering

Core – choose 2 subjects from the following:

Road Engineering Practice

Catchment Modelling

Concrete Technology and Practice

Geographic Information Systems

Choice – choose 3 subjects from the following:

Advanced Soil Mechanics and Foundation Design

Applied Geotechnics

Contaminated Site and Waste Remediation

Design for Durability

Flood Estimation

Pavement Analysis and Design

Traffic and Transportation

Urban Stormwater Design

Computer Control Engineering

Core – 2 compulsory subjects

Advanced Robotics

Neural Networks and Fuzzy Logic

Choice – choose 3 subjects from the following:

Biomedical Instrumentation

Fundamentals of Software Development

Systems Quality Management

Wireless Access Networking Technologies

Wireless Sensor Networks

Cyber Security Engineering

Core – 2 compulsory subjects

Cybersecurity

Unix Systems Programming

Choice – choose 3 subjects from the following:

Cloud Security

Cloud Computing and Software as a Service

Communication Protocols

Cyber Security for Mobile Platforms

Digital Forensics

Infrastructure for Cloud Computing

IoT Security

Cryptography

Electrical Energy Systems

Core – 5 compulsory subjects

Electrical Power and Energy Systems Studio A

Electrical Power and Energy Systems Studio B

Advanced Energy Conversion Systems

Advanced Power Electronics

Introduction to Sustainable Microgrids

Environmental Engineering

Core – 2 compulsory subjects

Advanced Water and Wastewater Treatment

Green Technologies: Water-Waste-Energy Nexus

Choice – choose 3 subjects from the following:

Air and Noise Pollution

Contaminated Site and Waste Remediation

Decentralised Environmental Systems

Geographic Information Systems

Industrial Water Pollution Control Engineering

Sustainable Energy Resources

Waste and Pollution Management

Geotechnical Engineering

Core – choose 2 subjects from the following:

Advanced Soil Mechanics and Foundation Design

Applied Geotechnics

Pavement Analysis and Design

Problematic Soils and Ground Improvement Techniques

Choice – choose 3 subjects from the following:

Contaminated Site and Waste Remediation

Geographic Information Systems

Road Engineering Practice

Traffic and Transportation

Manufacturing Engineering and Management

Core – 2 compulsory subjects

Computer-aided Mechanical Design

Design Optimisation for Manufacturing

Choice – choose 3 subjects from the following:

Advanced Flow Modelling

Air and Noise Pollution

Airconditioning

Control of Mechatronic Systems

Internal Combustion Engines

Managing Projects

Materials Handling

Turbomachines

Operations

Core – 2 compulsory subjects

Operations Engineering

Quality and Operations Management Systems

Choice – choose 3 subjects from the following:

Quality Planning and Analysis

Technology and Innovation Management

Value Chain Engineering Systems

Software Systems Engineering

Core – 2 subjects

- UNIX Systems Programming (compulsory)
- Advanced Internet Programming (choose one)
- .NET Application Development (choose one)
- iOS Application Development (choose one)
- iOS Application Development (choose one)

Choice – choose 3 subjects from the following:

- Cloud Computing and Software as a Service
- Enterprise Architecture Practice
- Enterprise Software Testing
- iOS Application Development
- Wireless Sensor Networks

Structural Engineering

Core – choose 2 subjects from the following:

- Bridge Design
- Finite Element Analysis
- Steel and Composite Design
- Prestressed Concrete Design

Choice – choose 3 subjects from the following:

- Advanced Soil Mechanics and Foundation Design
- Application of Timber in Engineering Structures
- Concrete Technology and Practice
- Design for Durability
- Facade Engineering
- Structural Dynamics and Earthquake Engineering

Telecommunications & Electronics

Core – 2 compulsory subjects

- Communication Protocols
- Wireless Sensor Networks

Choice – choose 3 subjects from the following:

- 4G/5G Mobile Technologies
- Adaptive Signal Processing and Applications
- Cybersecurity
- IoT Components and Fabrication
- Mobile Communications and Computing
- MPLS and Services Architecture
- Network Management
- Software Defined Networks
- Telecommunications and Electronics Studio
- Transmission Systems
- Wireless Access Network Technologies

Water Engineering

Core – 2 compulsory subjects

- Catchment Modelling
- Urban Stormwater Design

Choice – choose 3 subjects from the following:

- Contaminated Site and Waste Remediation
- Decentralised Environmental Systems
- Flood Estimation
- Floodplain Risk Management

No Specified Major

See the Handbook for course structure at

handbook.uts.edu.au/eng/pg

For a list of subjects available to students undertaking
no specified major, visit

handbook.uts.edu.au/directory/cbk90968

Disclaimer: not all subjects listed are offered every session or year

Major in Telecommunications and Electronics

Today we live in a connected world and Telecommunications and Electronics have therefore become inherent parts of our lives.

This has made Telecommunications and Electronics engineering an essential profession to current and future industry.

The major in Telecommunications and Electronics allows students to experience the possibilities that arise through the convergence of telecommunications and electronic systems. 5G networking, the Internet of Things (IoT), photonic and advanced transmission systems as well as advanced signal processing techniques enable new models of communication that far exceed previous capabilities. All of these areas are underpinned by recent developments in microelectronics and an increasing emphasis on cybersecurity.

In this major, students start with a foundation of communication protocols and wireless sensor networks (for IoT). From there, they can choose from a range of subjects including next generation cellular networks, software defined networks, cybersecurity, adaptive signal processing and fabrication of sensors and components for IoT networks.

	Masters	Masters Extension	Masters Advanced	Master of Professional Engineering	Graduate Diploma in Engineering
Credit Points Required for Major*	30 + Project	30 + Project	30 + Project	36 + Project	18
Core Subjects (12 credit points)	Wireless Sensor Networks Communication Protocols				Select 1 subject
Major choice subjects (6 credit points each) Select 18 credit point**	4G/5G Mobile Technologies Adaptive Signal Processing and Applications Cybersecurity IoT Components and Fabrication MPLS and Services Architecture Mobile Communications and Computing Network Management Software Defined Networks Telecommunications and Electronics Studio Transmission Systems Wireless Access Network Technologies				Select 2 subjects
Course code	C04271	C04277	C04278	C04309	C06108
Minimum course duration: Full-time years	1.5	2	2	2	1

*   Completion of the named degrees requires additional subjects beyond just the major. Credit points and subjects shown here only reflect the major within each degree.

** Subjects available to choose may change from year to year and not all subjects are available every session. The UTS timetable shows which subjects are offered each year.

Multidisciplinary courses

Master of Technology

GAIN MULTIDISCIPLINARY SKILLS TO INNOVATE AND LEAD

Industries and organisations are being transformed by technology. This degree will give you the multidisciplinary skills to lead change in this rapidly changing world by developing a set of capabilities, in technology and other areas, that will enable you to succeed in digitally disrupted organisations and industries.

FLEXIBLE, INDIVIDUALISED LEARNING

The Master of Technology combines practice-based subjects, called Studios, with subjects from across the university, to adapt the degree to your individual needs.

You will engage in peer and professional career coaching in the core studios to hone skills tailored to your career – problem solving, mindful collaboration, adaptive leadership, communication, research, critical thinking - equipping you with social and reflective competencies for our rapidly changing, digitally disrupted and technology enriched enterprises and communities.

THE PLACE TO BE FOR TECHNOLOGY LEADERS

As a graduate, you will become a decision maker and innovator tackling complex problems requiring a diverse skillset.

Graduate Certificate

Course code: C11301
Course duration: 0.5 years
CRICOS code: 0101142

Graduate Diploma

Course code: C06137
Course duration: 1 year
CRICOS code: 0101143

Master's

Course code: C04406
Course duration: 1.5 years
CRICOS code: 0101144

ADMISSION REQUIREMENTS

Applicants must have completed a UTS recognised bachelor's degree, or an equivalent or higher qualification, or submitted other evidence of general and professional qualifications that demonstrates potential to pursue graduate studies.

Special requirements apply – see **handbook.uts.edu.au/courses/c04406** for details.

CAREERS

Whether you want to thrive in a large organisation or create a start-up, the Master of Technology will provide the expertise to help you get there.

The flexible course structure allows you to choose up to two sub-majors, including sub-majors which may be individually configured and named to suit your unique requirements and study plans.

COURSE STRUCTURE

Subjects	Graduate Certificate in Technology	Graduate Diploma in Technology	Master of Technology
Core Studio Stream (each 6 credit points)			
Technology Disruptors Studio	●	●	●
Capstone Studio	N/A	N/A	●
		choose one of the following:	choose two of the following:
Global Technology Issues Studio	N/A	●	●
Innovation and Entrepreneurship Studio	N/A	●	●
Prototyping Design and Systems Studio	N/A	●	●
Technology and Communities-focused			
Technology/Scientific Thinking-focused choice	12 credit points	12 credit points	24 credit points
Communities of Practice-focused choice	6 credit points	24 credit points	24 credit points
Specialisations (Sub-majors)			up to two specialisations (including personally configured sub-majors) may be selected
Total Credit Points	24	48	72
Minimum course duration: Full-time years	0.5	1	1.5

Master of Professional Practice

Graduate Certificate

Course code:	C11298
Course duration:	0.5 years
CRICOS code:	0101146

Graduate Diploma

Course code:	C06136
Course duration:	1 year
CRICOS code:	0101147

Master's

Course code:	C04404
Course duration:	1.5 years
CRICOS code:	0101148

BECOME AN AGILE LEADER WITH MULTIDISCIPLINARY SKILLS

The course aims to initiate, develop and showcase your professional skills in an individual, career-focused e-portfolio spanning the course.

Technology, Industry 4.0, climate actions, globalisation and more: we live and work in a time of unprecedented change that affects the ways we live and work, This degree with give you a multidisciplinary advantage to lead in your organisation and the wider community.

The Master of Professional Practice course structure allows for the engagement with postgraduate subjects across the spectrum of disciplines. The core studios focus critical reflections on situating the learner in their professional and global context. The Master of Professional Practice core studios are professional practice and people oriented and afford open-ended opportunity to explore challenges.

THE PLACE TO BE FOR INNOVATIVE LEADERS

As a graduate, you will become an agile decision maker and persuasive communicator who adaptively leads people in tackling complex problems.

Whether you want to thrive in a large private or public organisation, the Master of Professional Practice will provide the expertise to get you there.

ADMISSION REQUIREMENTS

Applicants must have completed a UTS recognised bachelor's degree, or an equivalent or higher qualification, or submitted other evidence of general and professional qualifications that demonstrates potential to pursue graduate studies.

Special requirements apply – see **handbook.uts.edu.au/courses/ c04404** for details.

COURSE STRUCTURE

Subjects	Graduate Certificate in Professional Practice	Graduate Diploma in Professional Practice	Master of Professional Practice
Core Studio Stream (each 6 credit points)			
Professional Learning Studio	●	●	●
Capstone Studio	N/A	N/A	●
		choose one of the following:	choose two of the following:
Global Issues Studio	N/A	●	●
Human-centred Design and Systems Studio	N/A	●	●
Innovation and Entrepreneurship Studio	N/A	●	●
Professional-focused			
Professional-focused choice	18 credit points	36 credit points	48 credit points
Specialisations (Sub-majors)			up to two specialisations (including personally configured sub-majors) may be selected
Total Credit Points	24	48	72
Minimum course duration: Full-time years	0.5	1	1.5

Research at UTS

When you choose a Master of Engineering (Research) or PhD at UTS you will be part of a lively and rigorous research culture.

Our researchers are recognised leaders in their fields with a reputation for driving innovation and creating solutions with real world impact.

UTS is a major force in a range of specialisations including:

> intelligent mechatronic systems

> quantum computation and intelligent systems

> innovation in IT services and applications

> health technologies

> green energy vehicle innovation

> real-time information networks

> built infrastructure

> technology in water and wastewater

> advanced analytics

> electrical machines and power electronics

> human-centred technology design

MEREDITH HILL
PhD Candidate in the School of Biomedical Engineering

Fascinated by science since high school, Meredith's interest in the causes of disease emerged while studying a Bachelor of Forensic Biology in Biomedical Science at UTS. After graduating, it led to her undertaking a PhD at the School of Biomedical Engineering on head and neck cancer diagnosis and treatment and her interest in microRNA regulation.

It is the sixth most common cancer in the world.

Pursuing a postgraduate degree at UTS is a direct pathway to her career goals, she says. As well as publishing four papers, Meredith represented the school at a research showcase and travelled to Portugal to work with researchers. In the future, she hopes to complete a postdoctoral, and further establish herself as a researcher.

Day-to-day, Meredith is based in the school's Tran Lab, collaborating with peers and doing a mix of computer and lab-based work. She encourages women considering a degree in science or engineering to pursue their interests.

"Go for it. More women are going into science and engineering, and there are so many support structures in place for women—particularly in engineering."

Read more student profiles
uts.edu.au/eng-student-profiles
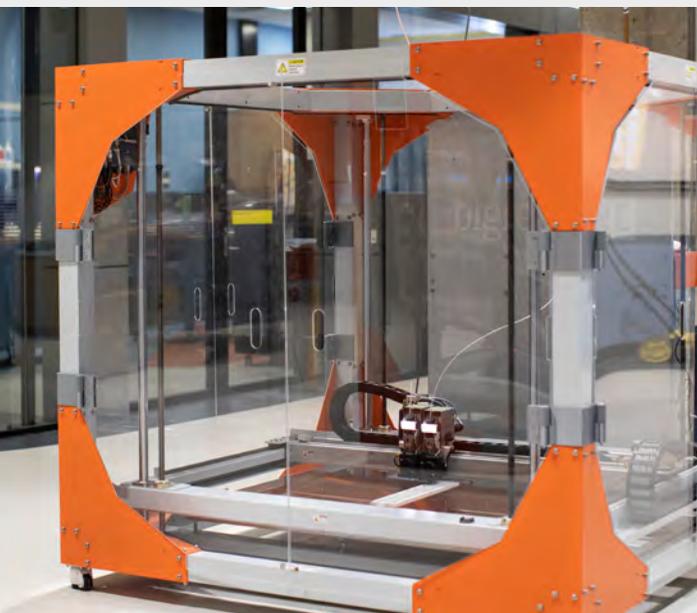
Research centres and institutes

The Faculty of Engineering and Information Technology hosts a growing number of research centres and institutes that are hives of research activity and have international standing within their respective discipline areas.

– **Australian Artificial Intelligence Institute (AAII):** computational intelligence, business intelligence, computer vision, data science, machine learning, brain computer interface, social robotics and information systems.

– **UTS Robotics Institute (UTS:RI):** field robotics sensing, perception and control; human-centred robotiocs.

– **Data Science Institute (DSI):** big data, data sciences and data analytics

– **Centre for Health Technologies (CHT):** medical devices, translational biotherapeutics and transcriptome research.

– **Global Big Data Technologies Centre (GBDTC):** international centre of excellence, technologies for big data science, analytics and communications.

– **Centre for Quantum Software and Information (CQSI):** quantum computer software, information processing capabilities for quantum technologies.

– **Centre for Technology in Water and Wastewater (CTWW):** alternative water sources for urban, rural and regional environments.

– Centre for Advanced Manufacturing (CAM)
– Centre for Advanced Modelling and Geospatial Information Systems (CAMGIS)
– Centre for Audio, Acoustics and Vibration (CAAV)
– Centre for Built Infrastructure Research (CBIR)
– Centre for Indigenous Technology Research & Development (CITRD)
– Centre on Persuasive Systems for Wise Adaptive Living (PERSWADE)
– Cyber Security and Privacy (CSandP)
– Centre for Green Technology (CGT)

For more information about research at UTS including areas of specialisation and academic supervision please visit **feit.uts.edu.au** or email **feit.hdr@uts.edu.au**

Research facilities

TECH LAB

UTS Tech Lab is a new-generation facility that disrupts traditional university approaches to research. The first of its type in Australia, Tech Lab is a 9000 m2 facility that is designed to bring university and industry together to innovate. Tech Lab represents a significant investment in new cutting-edge research facilities in order to support collaborative applied research that will enhance impact and contribute to the growth of the local and national economy.

Working together under one roof, Tech Lab academics, researchers, technical staff and students support innovation and technological development by working with industry partners and their supply chains. Its design facilitates innovative transdisciplinary research on a large scale, focusing on digital transformation, the Internet of Things, smart cities, industry 4.0 and advanced manufacturing.

Tech Lab is the only facility in Australia that co-locates large engineering infrastructure with laboratories dedicated to communications, sensor development, and the computer sciences, including data analytics and artificial intelligence. Cutting-edge technology is available in every lab including equipment which is unique to Australia or the Asia-Pacific region.

This allows industry partners to undertake full-scale testing, linking the technologies underpinning digital transformation within the one facility. The same facility provides access to academic expertise to help shape the project vision and oversee its execution, plus access to talent including interns, PhD students and recent graduates.
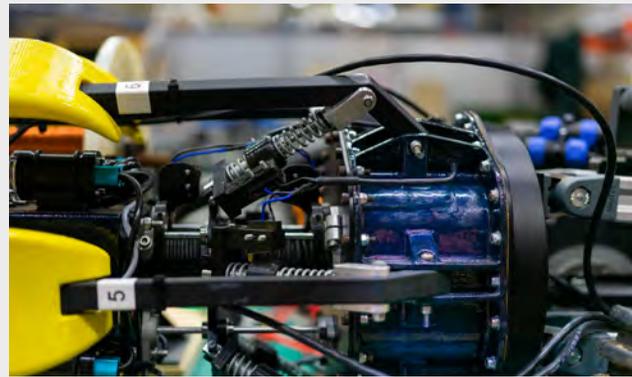
PROTOSPACE
Research Case Studies

Sydney Water mains pipe inspection robot

In collaboration with Sydney Water, UTS Centre for Autonomous Systems developed a pipe inspection robot for critical water mains. The 3d printed housing (in blue) is a key element to this system and mechanisms and the use of 3D printing has been fundamental to its development.

ProtoSpace facilities greatly reduced manufacturing lead time and cost for the project. The housing would not have been possible to manufacture using traditional techniques due to the complexity and intricacy of the design, and the speed and versatility of AM has proved opportunity to experiment with multiple materials, allowing for optimisation for strength and weight.

Multiple other 3d printed parts include sensors housings, various electronics enclosures, and mechanical members.

PROTOSPACE

ProtoSpace spans an impressive 900m2 and is buried below ground in building 7, across the hallway from the Super Lab. Led by the Faculty of Engineering and IT, it's a collaborative space that will be open to industry and external partners, as well as UTS staff, students and researchers.

UTS has invested in state-of-the-art printing machines with a broad range of functionality, which means ProtoSpace can offer new opportunities for cutting edge applications of 3D printing, also known as 'additive manufacturing'.

In fact, some of the uses for the space aren't even known yet. It will all come down to new ideas, innovations and inspiration.

"It's very unique in the region, and even internationally, purely because of the scope of the machines that have been brought together," says ProtoSpace manager Jon O'Neill.

The ProtoSpace set-up allows ideas to be trialled and refined, for possible commercial manufacturing or bespoke applications. Innovations that emerge from a lab of this calibre have real-world uses across a range of industries, from medicine to manufacturing, engineering and design to architecture.

The facility includes Australia's largest collection of additive manufacturing technologies. This range of additive and advanced manufacturing technologies, software and expertise, places NSW at the forefront of manufacturing innovation in the local region. Through industry and academic engagement with ProtoSpace, we are transforming supply chains, introducing new business models and actively creating the next generation of manufacturing opportunities for Australia.

The lab supports all aspects of the additive and advanced manufacturing process, from component design, manufacturing investigations and prototyping all the way through to final product research and development. More broadly, it's supporting digital transformation in the NSW manufacturing sector to inspire a new generation of thinkers, inventors, designers and innovators.

WHAT DOES PROTOSPACE OFFER?

– Advanced manufacturing opportunities from desktop to full-size industrial technologies

– Access to advanced 3D printing technology, software and expertise

– Opportunity to explore new ideas in materials, process, design, manufacturing and production

– Pursue early-stage R&D and testing

– Rapid prototyping and design iteration

– Direct support from our additive manufacturing specialists and highly trained technical staff

– Short courses and up-skilling opportunities for industry

DATA ARENA

The UTS Data Arena is a 360-degree interactive data visualisation facility set to change the way we view and interact with data.

Viewers stand in the middle of a large cylindrical screen, four metres high and ten metres in diameter. A high performance computer graphics system drives six 3D-stereo video projectors, edge-blended to create a seamless three-dimensional panorama.

Picture clarity is made possible from an image that's 20,000 x 1200 pixels. Each user wears Active-Shutter Glasses, which present separate left/right views to achieve a stereo-visual effect. To complement the visual experience, a 16-channel audio system surrounds the Arena. Speakers fitted behind the perforated screen allow sound to be positioned in 3D space.

It's a powerful immersive facility which can help business, government, and research simplify complex information. Users in the Arena can surround themselves in data to observe, explore, refine, improve, discover and learn.

Research courses

Master of Engineering (Research)

Course code: C03017

CRICOS code: 009468B

Duration: **Domestic**
2 years full-time
4 years part-time

International
2 years full-time

Available intakes: Autumn (February) /
Spring (August)

OUR RESEARCH COURSES

As a Master of Engineering (Research) or PhD student, you must find an academic with expertise in your chosen field to supervise your research. As we focus on industry collaboration, proposals that involve direct working relationships with industry professionals are strongly encouraged.

Applicants must secure the agreement of a supervisor prior to lodging an application.

For more information on Research in the Faculty of Engineering and Information Technology, including research areas and academic supervisors, visit

feit.uts.edu.au or email **feit.hdr@uts.edu.au**

RESEARCH SUPPORT

The Graduate Research School provides support to research students, supervisors and early and mid-career researchers at UTS.

They offer development through research education programs, policy development, advice and scholarships.

For more information visit

gradschool.uts.edu.au or contact:

UTS Graduate Research School

Tel: +61 2 9514 1336

Email: grs@uts.edu.au

RESEARCH SCHOLARSHIPS

UTS offers a range of scholarships for research students.

For more information visit

uts.edu.au/future-students/scholarships

HOW TO APPLY
Please refer to page 49.

Doctor of Philosophy

Course code: C02018

CRICOS code: 036570B

Duration: **Domestic**
4 years full-time
8 years part-time

International
4 years full-time

Available intakes: Autumn (February) /
Spring (August)

A PhD involves an intense period of supervised study and research, culminating in the submission of a thesis. You must, through original investigation, make a distinct and significant contribution to the knowledge of your field of specialisation.

Student services

ORIENTATION
orientation.uts.edu.au

The UTS orientation program welcomes you to university life and helps you to get the most out of your student experience.

Discover the services available, find out course and subject information, tips on living in Sydney and meet new friends.

All students are expected to attend orientation activities and orientation is compulsory for international students.

PEER NETWORK
uts.edu.au/peer-network

Peer Networkers are student volunteers who are there to help new students when they first arrive on campus and throughout each session.

The Peer Network also encourages students to connect with others from Australia and around the world through the weekly Peer Network Café.

UTS INTERNATIONAL
uts.edu.au/international

The UTS International Student Centre, provides international students with face-to-face contact to answer your enquiries regarding studies, administrative issues and living in Sydney.

AN OPEN AND RESPECTFUL ENVIRONMENT
uts.edu.au/current-students/support

UTS is a diverse community, welcoming many different cultures and faiths.

There is a chaplaincy service, which includes Baha'i, Buddhist, Christian, Jewish and Islamic chaplains, as well as clubs and societies offering spiritual support.

HIGHER EDUCATION LANGUAGE AND PRESENTATION SUPPORT (HELPS)
uts.edu.au/helps

UTS provides free English language and academic literacy skills assistance to students. Services include weekly study, reading and speaking skills workshops, writing clinics and daily drop in consultation. Practise speaking English with staff and student volunteers through the daily Conversations@UTS sessions.

PEER LEARNING – U:PASS
uts.edu.au/upass

U:PASS is a study group facilitated by senior students who have done well in a subject, tutoring more junior students. Within a session, you may review lecture notes, participate in problem solving activities or prepare for exams.

KICKSTART@UTS

The KickStart@UTS program introduces new international research degree students to the various sources of support available to assist you in preparing for research study.

CAREER SUCCESS
careers.uts.edu.au

Your career is in your hands: preparation for graduate success can start from your first months at university as you begin building your professional network. UTS offers resources and tools to guide you on the path to your professional career.

How to apply

THE ACADEMIC YEAR

There are three main teaching sessions at UTS:

– Autumn Session: February to June
– Spring Session: August to November
– Summer Session: December to February

A limited number of subjects are run during Summer Session, but it's a great way to get ahead or reduce your study load during Autumn and Spring sessions. Visit **summer.uts.edu.au** for details.

APPLICATION CLOSING DATES

Closing dates vary according to the session of commencement, the type of course, and your residency status (domestic or international). Check online for the date applicable to your circumstances.

DOMESTIC APPLICANTS: COURSEWORK

Submit your application:

– through the UTS Online Application system at **uts.edu.au/pg-admissions**; or
– at one of our Postgraduate Expos or postgraduate information sessions. Find out everything you need to know about upcoming information sessions at **uts.edu.au/events**

RESEARCH APPLICANTS

Before you submit your application, you'll need to consider what you want to research, write a research proposal and find a supervisor. When you've done that, submit your application to the UTS Graduate Research School.

Visit **uts.ac/apply-for-research** to find out more about the application process and to apply.

INTERNATIONAL APPLICANTS: COURSEWORK

If you're an international student, head to **uts.edu.au/international** to find the course information, fees and application details relevant to you.

NON-AWARD STUDY

Do you want to study a single subject without committing to a full degree? You can! It's called non-award study and it's a great way to upgrade your skills or just learn more about something you enjoy. What's even more exciting is that any subjects you complete may be recognised in future study. To apply, visit **uts.ac/non-award-study**

OFFERS

Offers of admission are made on a rolling basis.

FEES

If you're studying a postgraduate coursework course, you'll need to pay tuition fees. You can find out more about what your degree will cost at **uts.edu.au/tuition-fee-calculator**

For postgraduate research degrees, you will need to either pay a fee or, if you're eligible for the Research Training Program, the Australian Government will cover the cost for you. To find out more visit **uts.edu.au/domestic-hd-fees**

If you do have to pay a fee and you're a domestic student, you may be eligible for FEE-HELP, an Australian Government loan scheme. Using FEE-HELP means you don't have to pay your tuition fees upfront. More information can be found at **uts.edu.au/government-help-schemes**

You can choose to repay your FEE-HELP loan simply by notifying your employer who will then withhold your payments through the PAYG tax system. You can also make payments directly to the Australian Taxation Office (ATO).

ALUMNI ADVANTAGE

If you've already completed a degree at UTS then you're eligible for the Alumni Advantage program, which offers a 10% saving on full fee paying degree programs. Find out if you're eligible for Alumni Advantage at **alumni.uts.edu.au/advantage**

10% Alumni Advantage

TIMETABLE INFORMATION

Do you like to plan ahead? Then check out the UTS Timetable Planner. The online tool lets you see the timetable for the current academic year, so you can get an idea about when the subjects for your course may be scheduled. The PG 2022 timetable will be released at the end of November. Visit **timetable.uts.edu.au**

CONTACT US

UTS Student Centre

Let's talk! Make an enquiry with our friendly team.

Phone: 1300 ASK UTS (1300 275 887)

Online enquiry: ask.uts.edu.au

Web: eng.uts.edu.au

INFORMATION EVENING

Attend an upcoming Postgraduate Information Evening to meet course coordinators and academics and explore state-of-the-art facilities. **uts.edu.au/feit-events**

ENGLISH LANGUAGE PROFICIENCY

There are English language proficiency requirements for all courses. These requirements may apply to you, even if you are not an international student.

Visit **uts.edu.au/english-language-requirements** to find out more.

TYPE OF STUDY PROGRAM	IELTS (ACADEMIC)	TOEFL iBT	PTE	CAE
Postgraduate coursework and research	6.5 overall with a writing score of 6.0	79-93 overall with a writing score of 21	58-64	176 overall with a writing score of 169

A postgraduate degree at UTS gives you the skills to advance your career in engineering and meet the evolving demands of industry.

eng.uts.edu.au

Connect with us

For advice or information
go to **ask.uts.edu.au**
or call **1300 ASK UTS**