Undergraduate Courses 2019

Engineering
Welcome to UTS Engineering

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Faculty snapshot
10,233 total students
6707 undergraduate
2747 postgraduate
779 research

UTS at a glance
44,753 students
14,148 international students
31,893 undergraduate students
10,853 postgraduate coursework
2007 higher degree research students
3632 staff

UTS student diversity
49% female students
51% male students
32% are 25 or older
48% also speak a language other than English

Please note the above numbers are approximate as of November 2017.

Connect with us
UTSEIT
UTSEIT
UTSEIT

Acknowledgement of Country
UTS acknowledges the Gadigal People of the Eora Nation and the Boorooberongal People of the Dharug Nation upon whose ancestral lands our campuses stand. We would also like to pay to the respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge and technology for these Lands.
Why engineering at UTS?

Experience the UTS difference.

INDUSTRY FOCUSED LEARNING
Nothing prepares you better than real industry experience. That’s why we offer hands-on, practice-based learning that cultivates exceptional engineers. And you couldn’t study in a better location with 40% of Australia’s tech start-up head offices calling our neighbourhood home.

FUTURE-READY
Theory is great, but hands-on experience will make sure you’re future ready. Our industry partnerships enable us to offer you working knowledge throughout your degree. And you’ll study in world-class, purpose-built teaching spaces and laboratories.

CONNECTIONS THAT COUNT
Would access to more than 1,000 companies help your career to boom? Of course it would. UTS also has its internship team to help you turn access into valuable work experience. It’s this type of know-how that sets you apart from your peers when you graduate.

THE WORLD IS WATCHING
Put yourself in the right place from day one. We may be young, but we’re making our mark quickly. Among universities under the age of 50, UTS is already the No. 1 ranked university in Australia and No. 8 in the world.

EXPAND YOUR HORIZONS
Every door in the world is open to you right now and we want you to keep it that way. Use our Global Exchange, International Studies course or Beyond UTS International Leadership Development (BUiLD) program with its overseas volunteering placements, to lay down the foundations for a global career.

DO IT YOUR WAY
We get it, you can’t hit ‘pause’ on life when you start university. Find the timetable that suits you with our day/evening classes, summer school and part-time study options.
UTS ranked Australia's #1 young* uni


UTS ranked World's Top 100 most international universities

Times Higher Education World University Rankings 2015

5 star rated for excellence

UTS was awarded 5 stars in all 8 categories by QS World University Rankings

UTS Engineering Research

Rated world standard or above

Excellence in Research Australia by the Australian Research Council in the 2015
World-class facilities

The building is a living, breathing laboratory, embedded with revolutionary technology and purpose-built to spark creativity and collaboration. Everything you need to take on tomorrow is right here, all under one roof.

ENGINEERING AND IT BUILDING
Every space in the building is designed to turn traditional learning on its head to embed technology and enhance creativity, entrepreneurship and collaboration. Digitally equipped classrooms, collaborative theatres and study spaces adapt to support group work, technology-enabled activities and practice-based learning.

UTS DATA ARENA
Data comes to life in the building’s interactive 3D UTS Data Arena. It is a 3D data visualisation arena showcasing the latest in immersive technology. It enables a unique method for the exploration and visualisation of data. The facility allows researchers to observe interrelationships, patterns and anomalies not normally seen in 2D format.

LABORATORIES
Whatever engineering field you’ve got your eye on, we’ve got fully specced-up lab spaces to hone your skills. The building contains civil, electrical, information and communication technology, and mechanical laboratories, where you can gain hands-on, practical experience.

LEARNING PRECINCT
In between classes, you can study or conduct group work in the FEIT Learning Precinct, where you can also access teachers for support, get your hands on reference material and other resources.
SOFTWARE DEVELOPMENT STUDIO
A rich environment to become professionally competent via a collaborative industry software development experience.

UTS LIBRARY
The library has expanded to include an underground storage system that uses robots to retrieve books, freeing library space for student collaboration and quiet study. This upgrade is part of the UTS City Campus Master Plan, a $1 billion investment to re-develop UTS.

UTS HATCHERY
The Hatchery pre-incubator is a new, distinctive UTS entrepreneurship program designed to give you start-up skills and provide you with access to resources that help launch the entrepreneurs of the future. The program is 15–30 weeks, up to 4 hours per week. Learn more at hatchery.uts.edu.au
To enhance your employability, UTS Engineering courses are offered in conjunction with the Diploma in Professional Engineering Practice. You graduate with practical, hands-on experience, to give you a competitive edge when you finish uni.

**BE JOB READY**
You’ll complete preparation subjects before your internships. Preparation subjects help you find an internship and learn how to learn from experience.

These modules are developed in collaboration with leading industry practitioners, and cover topics such as professionalism, career pathways and the development of an online portfolio. The portfolio highlights competencies and is useful for securing future employment with an application for chartered status.

**FINANCIAL BENEFITS**
Pay can vary a great deal as students directly negotiate their internship conditions. In 2016, the average salary for UTS Engineering students on their first placement was approximately $680 per week, and $796 per week while on their second placement.

**NETWORKING OPPORTUNITIES**
Scope out your potential future employer at industry networking events. These take place throughout the year, on campus and on site at partner offices. These opportunities can be found on the faculty events page, through Careers Hub and Women in Engineering & IT (WiEIT) events.

Build the foundations for a successful career

Our 1000+ industry partners will drive employment in the technology industry for years to come. Their feedback reveals that they are looking for students with relevant skills and work experience who show they can adapt to a workplace and deliver on projects.
Internship FAQs

We’ve covered your top questions on the Diploma in Professional Engineering Practice.

Q. WHAT IS THE DIPLOMA IN PROFESSIONAL ENGINEERING PRACTICE?
It is a 48-week structured Practice Program, consisting of two six-month internships during their engineering course. It’s a compulsory component for all domestic students enrolled in a single professional engineering course.

Q. OTHER UNIVERSITIES REQUIRE STUDENTS TO COMPLETE THREE MONTHS EXPERIENCE, ISN’T THAT ENOUGH?
Developing complex engineering expertise can take a long time, typically 3-4 years post-graduation. The longer your internship, the greater exposure you’ll have to the realities of the engineering world and the measures taken to tackle complex projects.

You’ll complete two internships, one as early as second year and the other in fourth year, a total of 12 months, which will give you a distinct advantage at a job interview (if you haven’t already stitched up employment in your second internship).

Q. WHAT SUPPORT DO I HAVE SECURING AN INTERNSHIP?
The careers team are available to assist you with your job search. We maintain links with more than 1000 organisations offering both scholarships and internships, the latter being advertised on our in-house jobs portal, CareerHub. We also offer opportunities to find mentors, meet contacts, and build networks that will prove invaluable in your career.

Q. HOW MANY HOURS SHOULD I COMMIT TO MY INTERNSHIP?
An internship is similar to a full-time job. You’ll be expected to commit to the contracted hours of employment during this time. Don’t worry, there are no other compulsory classes during this time so you can solely focus on your work placement.

Q. DO I GET PAID FOR AN INTERNSHIP?
Most students get paid during their internship, however this is at the discretion of the employer. In 2016, the average weekly salary for UTS Engineering students on their first placement was approximately $680, and $796 while on their second placement.

Q. I ALREADY HAVE WORK EXPERIENCE. DO I NEED TO COMPLETE AN INTERNSHIP?
Yes, as part of the Diploma in Professional Engineering Practice you must complete an internship.

If your current role meets the requirements of the Diploma in Professional Engineering Practice then you can register the internship via CareerHub. CareerHub is our very own job board dedicated to jobs for students.

Q. WHAT EMPLOYERS WILL I WORK WITH?
We partner with a range of companies across industry, who employ UTS engineering students. They advertise available internships via CareerHub. You can also look for internships with other employers who are not current partners. This jobs can be found via SEEK or other national job boards.

“I chose UTS because they had a really good internship program, and I wanted to get that practical experience. All engineers do have to do a 60-day placement, but with UTS, it’s embedded in two six-month blocks. I knew that would be valuable.”

MD INTISARUL HOQUE
Graduate, Electrical Engineering
Are you up for the challenge?

WHAT IS ENGINEERING?
Engineering is all around us. From the infrastructure of our cities to robotics, personal electronics, renewable energy, Opal Card system and medical devices.

Today, engineers are pioneering solutions to global challenges in the areas of energy, water, food, the environment, technology, transport, housing, as well as aging populations.

WHAT SKILLS ARE NEEDED?
Engineers are true problem solvers. They are creative, logical and have strong attention to detail. This attention to detail is supported by strong mathematical skills, including mathematical modelling.

Communication, leadership and interpersonal skills are also vital as they are need to influence lots of other people to adopt their ideas and work towards a shared vision.

*The Maths Readiness Survey determines which maths subjects you should take in first year.

MATHS AND ENGINEERING
You don’t have to be top of the class in maths to be an engineer, but it is important to have a strong foundation in maths.

All engineering students take a ‘maths readiness test’. This helps to identify those who need additional maths support, and ensure they are successful in moving through their program with additional math tutorials.

Students also have access to mentor programs with other students, tutors and academics to assist with maths or other engineering subjects.

NOT SURE WHICH MAJOR TO CHOOSE?
It can be a tough decision to choose a major when you’ve yet to experience core engineering subjects. The flexible engineering major allows you to mix and match subjects from any major.

You can combine complementary fields of engineering, or create your own unique skillset. If you change your mind, you could transfer to one major in second year, provided you meet academic requirements.

WHAT’S HAPPENING IN THE INDUSTRY?
Engineering is one of the fastest growing, most exciting fields of today. New tech innovations, artificial intelligence, demand from growing populations and need for sustainability is increasing the range of jobs for engineers and global demand for skilled engineers. Career opportunities are endless.

To ‘engineer’ literally means to ‘make things happen’.

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Undergraduate Courses 2019
Careers

Engineering is your passport to success. Start your career journey at UTS.

From the infrastructure of our cities to robotics, green vehicles, recycled water systems, mobile phones and renewable energy, engineering is all around us.

Today’s engineers are pioneering solutions to global challenges in the areas of energy, water, food, environment, technology, transport, housing and the ageing population. It’s this blend of engineering and technology that will be an in-demand combination across all industries around the world for years to come.

**BE IN DEMAND**
With the ever-increasing demand for new solutions, your degree in engineering will be the starting point for an exciting and valuable career. Job Outlook provides market information to help you decide on your future career, giving trends and predictions in growth.

- The engineering industry has grown by 7% over the last 5 years
- Engineering Managers - 32.8%
- Civil Engineering Professionals - 10.9%
- Mechanical, Industrial and Production Engineers - 26.2%
- Electrical Engineers - 7.4%
- ICT Business and Systems Analysts - 7.3%, ICT Managers - 60%, ICT Support & Test Engineers - 43.2%
- ‘Other Engineering Professionals’ - 9.6% (includes Biomedical and Environmental Engineers)

joboutlook.gov.au

**HOW MUCH DO ENGINEERS EARN?**
There is big earning potential for experienced engineers. It’s a unique skillset, applicable across industry and in demand globally.

According to the Professional Engineers Employment and Remuneration Report 2017, the median base salary for engineering graduates in the public sector was $67,000 and $62,400 in the private sector.

For salary information specific to discipline see professionalengineers.org.au

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86%
employment rate of UTS Bachelor of Engineering, Diploma in Professional Engineering Practice graduates

UTS Performance Analysis 2015.
UTS Kpi - Graduate Workplace Success 2015

76.4%
of students were in full-time employment four months after graduation

Engineering Professions, Australia, 2017 Department of Employment, Australian Government
Prepare for the future

Engineers are playing a critical role in the technology revolution. Futurists predict six key areas of discovery which will influence future career pathways for graduates.

**ROBOTICS**
Blending mechanical engineering, electrical engineering and computer science, intelligent systems will play an important role in business and in day-to-day life. By 2019, 30% of leading organisations will have a Chief Robotics Officer.

**ARTIFICIAL INTELLIGENCE (AI)**
AI is a part of our everyday lives. Google’s search algorithms, facial recognition tools, virtual personal assistants like Siri or Cortana and video games such as Call of Duty are all examples of AI. By using data from the past we can make almost accurate predictions about the future.

**INTERNET OF THINGS (IoT)**
IoT includes networks of physical devices embedded with electronics, sensors, software and network connectivity that is allowing devices to connect and exchange data. IoT will shape the future of farming and many other industries, allowing for smarter decision making, improved monitoring of operations and output, and improved offering to customers.

**AUTONOMOUS VEHICLES**
Self-driving cars will be the biggest disruption in transport history! Harnessing tech advances in machine learning, IoT and the cloud, we can expect to see a widespread uptake in autonomous vehicles in 10–15 years.

**3D PRINT**
Additive manufacturing turns 3D digital models into solid objects which are built up in layers. Using various types of material 3D printing has the potential to radically transform the manufacturing industry, medical industry and architecture. UTS has its own 3D print facility, the ProtoSpace.

**DATA SCIENCE**
Data scientists use automated methods to extract knowledge or insights from structured or unstructured data to improve decision-making. We can see this in our day-to-day via predictive text, suggested Netflix shows based on viewing history, and facial recognition on social media.

Associate Professor Paul Kennedy is using data science to improve treatments for kids with cancer. Working with The Children’s Hospital at Westmead, his research informs tailored treatments to help clinicians make better decisions.

30% of leading organisations will have a Chief Robotics Officer by 2019.

Bachelor of Engineering (Honours), Diploma in Professional Engineering Practice

Take charge of your future at UTS.

This program provides you with the in-depth preparation you need to enter the world of engineering. You’ll learn to engage with stakeholders to solve complex human problems and to manage projects using appropriate and emerging technologies.

**CHOOSE A MAJOR**
- Flexible
- Biomedical**
- Civil, including specialisations in Construction and Structures
- Civil and Environmental^*  
- Data
- Electrical
- Electronic
- Mechanical
- Mechanical and Mechatronic^*  
- Mechatronic
- Software

See pages 14-23 for an explanation of these majors.

**Not available with combined degrees, except for Business and Creative Intelligence and Innovation

^-Not available with combined degrees

Typical course structure for a single major

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>Session 2</td>
<td>Internship 1</td>
<td>Session 2</td>
<td>Session 1</td>
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<tr>
<td>Core</td>
<td>Core</td>
<td>Engineering Professional Experience 1</td>
<td>Core</td>
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<td>Major</td>
<td>Major</td>
<td>Engineering Practice Preparation 1</td>
<td>Work Integrated Learning 1</td>
<td>Engineering Practice Reflection 1</td>
</tr>
</tbody>
</table>

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
ACCREDITATION
This course is accredited by Engineers Australia. Once completed, you will be eligible for graduate membership of Engineers Australia and your qualification will also be recognised by all signatories to the Washington Accord, which ensures global mobility for engineering professionals.

For more information visit ieagreements.org/accords/washington/

After you complete a year of industry experience, you might only need another two years of work experience to apply for Chartered Professional Engineer (CPEng) status within Engineers Australia.

COMBINED DEGREES
You can combine your degree with Business, Science, Medical Science, International Studies, Law, and Creative Intelligeance and Innovation (see pages 24–29) except for double majors: Civil and Environmental, and Mechanical and Mechatronic.

The Diploma in Professional Engineering Practice is not a required element of a combined degree. You do have the option later of adding the Diploma in Professional Engineering Practice with the exception of a combined Law degree, which does not include internships. If you combine your degree with Science, you will also have the option to take on an additional honours year in Science.

International students also have the option of completing the Bachelor of Engineering (Honours) without the Diploma in Professional Engineering Practice. See courses for international students on page 31.

COURSE STRUCTURE
You can change your major to suit your changing interests, even after you’ve started your degree. If you’re not sure which major you would like to pursue, why not start with the Flexible major? This lets you decide which major to specialise in after your first year, or you can choose to continue with the Flexible major (more about this major on page 14).

Core subjects are common subjects throughout your course and will give you the foundation skills and knowledge every engineer needs, regardless of your field of practice.

Core subjects include:
- Physical Modelling
- Mathematical Modelling 1
- Mathematical Modelling 2
- Engineering Communication
- Design and Innovation Fundamentals
- Engineering Economics and Finance
- Entrepreneurship and Commercialisation
- Engineering Project Management

You’ll also learn how to use engineering processes to design, build, troubleshoot and manage projects. Plus, you will develop skills to identify and analyse problems, find creative solutions, and work with other students on technical, problem-based projects that help prepare you for working in a range of engineering roles.

As part of the Diploma in Professional Engineering Practice, you will complete two six-month internships in industry to give you a competitive edge.

ENGINEERING INTERNSHIPS
As part of the Diploma in Professional Engineering Practice, you will work for an employer(s) of your choice for two periods of 6 months, generally in your second and fourth years. See page 6–7 for more information on internships.

ENGINEERING PRACTICE AND WORK INTEGRATED LEARNING SUBJECTS
These help you get the most out of your internships. You’ll take these subjects before, during and after your two internships.

MAJOR SUBJECTS
Will give you the essential technical knowledge specific to your major. Major subjects include a Capstone Project, which is an in-depth research study on a topic of your choice. Some students work on their Capstone Project with one of their internship companies, while others work within the Faculty’s research centres.

ELECTIVES
These are subjects you select based on your career interests as well as the knowledge and skills that you wish to add to your degree. Choose electives from other engineering disciplines, postgraduate engineering subjects, or take subjects from other UTS faculties. You could also use your electives to study at one of our overseas partner universities as part of the UTS Global Exchange program or BUILD (see page 34–35).

STUDIOS
Provide students with project opportunities to develop a range of professional skills. This includes using design processes to solve complex problems and develop new product opportunities.

^If you have chosen a specialisation, some of your electives will be restricted to your field of study. Also, electives are not available in combined degrees or in the Civil and Environmental and Mechanical and Mechatronic double majors.
Majors

The major you choose will typically influence the career path you take. We have 11 majors to choose from, all leading to a wide range of career options.

Flexible

2018 Selection Rank*: 78.60
UAC Code: 603105

Explore the world of engineering.

If you’re not ready to choose, then you can select the Flexible major. This covers core subjects in Year 1 and gives you insights into the majors available for you to choose. Select a major in Year 2, or continue to study a blend of compatible majors.

Alternatively, if you’ve already had some experience of engineering and you see a particular niche that covers two or more majors, you can negotiate your own specialist area of study.

CAREER OPTIONS

Your technical, analytical and practical engineering skills, along with your logical thinking will become your graduate attributes. Add to this an ability to identify problems, focus on solutions, work in teams and manage projects and people, and you’ll be sought after in a wide range of areas once you graduate.

Career opportunities include:

- state and federal government agencies such as Transport for NSW or local councils
- water and catchment authorities
- development contractors and consultancies
- rail and road operators and their construction contractors
- banks and financial institutions
- planning, research and regulatory bodies research institutions, such as the CSIRO
- energy companies such as TransGrid
- defence agencies and their contractors
- vehicle, train and aircraft manufacturers and their contractors
- private engineering consultancies

MICHELLE QUAGLIA
Major: Flexible Engineering

“Opting for the flexible major allowed me to tailor my engineering studies to focus on the exact subjects that would develop my skills in line with my career objectives. As I progressed through my engineering degree and after focusing on innovation and electronics, I realised I wanted to deepen my knowledge and understanding of software and software practice. I was able to achieve this by adding 5 software subjects to my flexible major - providing a suitable depth of understanding in software practice, Python, Java and Android development. At the end of my degree, I have come out with a palette of engineering skills and knowledge, brought from the electrical, innovation and software engineering streams. I’ve found the flexible major has provided me with very relevant exposure to skills which I now use as a graduate engineer in my day to day work.”

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
**Biomedical**

*2018 Selection Rank*: 78.95  
*UAC Code*: 603130

**Break new ground in healthcare.**  
From improvements in healthcare delivery to extending the quality and longevity of human life,

Biomedical engineers design and develop medical-related products and systems. Many specialise in selecting, operating and maintaining the very complex engineering infrastructure in our major hospitals.

In this program, you'll learn the basics of biology, information technology, and electrical and mechanical engineering. You will also be able to select subjects based on your particular areas of interest such as biomedical instrumentation, bioinformatics, biomechatronics, neuroscience, and biomedical applications of artificial intelligence.

**CAREER OPTIONS**  
When you graduate, you’ll be ready to work with other engineers, IT professionals, medical staff and researchers thanks to this multidisciplinary field. As a biomedical engineer working in the biomedical and health industries, you’ll find opportunities in:

- bioinstrumentation and biomedical device companies  
- biotechnology and biomechanics manufacturing companies  
- medical research centres or hospitals in Australia or abroad  
- medical imaging  
- rehabilitation engineering  
- biomedical engineering research

You’re also likely to work closely with electrical, mechatronic and ICT engineers, and will find opportunities in many of the areas suggested for those majors.

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“*It allowed me to test run a career field that I was interested in.*”

**CONNIE LAND**  
**Major: Biomedical Engineering**

“I worked with NSW Ambulance as a Medical Equipment Management Intern during my first internship. I conducted preventative maintenance, repaired defective equipment, ran safety tests and ensured standard compliance on medical devices. I also contributed to the design of the new fleet of ambulances. It allowed me to test run a career field that I was interested in. It also gave me a greater sense of professionalism. I could observe the workplace culture and see what environment I thought suited my working style. It aided my professional development in terms of how to present myself as well as how I communicate with others with varying levels of seniority.”
Civil

2018 Selection Rank*: 78.60
UAC Code: 603015

Build tomorrow’s future.
Civil engineers are problem solvers and visionaries who plan, design, construct and maintain the infrastructure of our country. These include buildings, stadiums, roads, bridges, tunnels, railways, mines, dams, water supply, wastewater treatment as well as the physical infrastructure of electrical and telecommunication systems.

In this civil engineering program, you will learn all the key skills you need to become a professional civil engineer, plus skills in construction, project management, design and surveying. You’ll also learn about the properties and use of concrete, steel, timber and soil, plus the physics and mechanics of large and small structures. You will also gain expertise in water supply systems, flood protection, sanitation, hydraulics and waste disposal.

CAREER OPTIONS
Civil engineers work in office-based jobs in planning, consulting or design as well as outside on construction sites, managing and supervising projects. You will be able to work in any of the areas suggested for the Flexible major, as well as finding a range of civil engineering opportunities with:

- major development and design firms such as Aurecon, Brookfield Multiplex, Lend Lease, Mirvac, Arup or Landcom
- government agencies and their contractors
- local councils
- local and suburban engineering consultancies specialising in private, residential or commercial developments, water and flood management, road and rail infrastructure, or project management

Civil (Construction)

2018 Selection Rank*: 80.45
UAC Code: 603095

Meet the demands of a growing city.
Civil construction engineers specialise in the construction of large projects such as high-rise apartments or office blocks. They require high-level skills in scheduling and the management of subcontractors.

You’ll learn all the key skills you need to become a professional civil engineer, as well as gain an understanding of human resources, finance and environmental planning and law. This includes development applications and environmental impact assessments. With cross-faculty subjects, you’ll also learn the details of building services such as lifts, air conditioning, cabling, IT and telecommunications.

CAREER OPTIONS
You can work in any of the areas suggested for the Civil major, and find opportunities with:

- Major developers
- Private commercial developers and consultancies

This specialisation is also ideal if you want to work as a private developer or consultant, as you’ll have all the skills you need to run an entire construction project from start to finish.

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.

MATHEW DA SILVA
Major: Civil Engineering

“As an intern with Sydney Trains, I was involved in major projects, such as rail inspection projects or major re-railing projects. I was introduced to the maintenance world, where I was analysing data, validating it on site, risk assessing the defects and eventually scoping the work and packaging it out.

I was also introduced to the project management side of engineering as I was given a rail testing project where I was tasked with budgeting, scoping, planning, resourcing and executing works. It was a great exposure to the industry and I had always been keen to move into the project management area.”
Civil and Environmental

2018 Selection Rank*: 85
UAC Code: 603005

Join the global environmental movement.

Civil and Environmental engineers are key to a sustainable future with an expertise that’s in demand to help safeguard our planet. They are experts in assessing environmental impact and design of green buildings, transport, waste and other engineered systems. Civil and Environmental engineers specialise in the efficient use of energy, protecting soil and water from contamination and design waste, pollution control and resource recovery systems. They are involved in impact assessment, treatment of contaminated sites, as well as management and design concepts across engineering disciplines.

In this program, you’ll learn all the key skills needed to become a professional Civil and Environmental engineer. You’ll also gain expertise in biotechnology, environmental analysis, ecology and physico-chemical processes, plus an understanding of the social, political and legal aspects of environmental planning and management.

You’ll learn to design environmentally sustainable strategies and develop solutions for environmental topics including air, water, soil, noise, climate change and energy in your community.

CAREER OPTIONS
You can work in any of the areas suggested for the Flexible major, plus find opportunities with:

– environmental consultants
– water, waste, soil and energy industries
– local councils and government agencies
– catchment management authorities
– international development organisations
– non-government organisations such as the Australian Conservation Foundation or Greenpeace

Civil (Structures)

2018 Selection Rank*: 77.65
UAC Code: 603018

Build the world around you.

Structural engineers specialise in the analysis and design of structures, ranging from small to large complex ones. They use advanced design and modelling techniques to design efficient, long-lasting structures and to understand the traditional and advanced materials available for their construction.

In this program, you’ll learn all the key skills you need to become a professional civil engineer, plus gain an advanced understanding of the behaviour of structures under stresses due to extreme weather, earthquakes or explosions.

Using leading-edge computer software to model, analyse and design structures, you’ll also develop skills in assessing structural damage. This includes practical expertise in assessing and improving the safety of older structures that maybe subject to loads and conditions they weren’t originally designed to withstand.

CAREER OPTIONS
You can work in any of the areas suggested for the Civil major as well as finding opportunities with:

– major commercial developers
– government agencies and their contractors
– engineering consultancies, particularly those that specialise in designing and building large structures or assessing existing structures

JESSICA MASSIH
Major: Civil and Environmental Engineering

“My dream job would be in humanitarian engineering – and I have so many great opportunities at UTS to help me get relevant experience. Engineers Without Borders is a great organisation for students to be involved with, and there are so many opportunities for overseas study trips and scholarships to work in developing communities.”
Electrical

2018 Selection Rank*: 80.20
UAC Code: 503035

Be at the forefront of powering innovation.

Electrical engineers deal with the generation and application of electricity, from small circuitry to high-voltage power generation and supply networks. With traditional power generation at the centre of global warming issues, electrical engineers are now at the forefront of developing renewable energy systems and superefficient electrical devices that aim to reduce our energy demands.

In this program, you’ll learn all about circuits, electronic design, microprocessors, power generation, analogue and digital intelligent control (such as on-board computers in cars, aircraft or trains), ‘fuzzy logic’ systems, and instrumentation (such as digital temperature and pressure gauges). You’ll graduate with practical skills in hardware and software that enable you to design and build electronics systems.

CAREER OPTIONS
You can work in any of the areas suggested for the Flexible major, as well as finding opportunities with:

- car, aircraft and train manufacturers
- defence agencies and military hardware manufacturers
- energy companies, including sustainable energy providers
- biomedical and health engineering companies
- electronic component manufacturers for consumer products such as mobiles, PDAs or household appliances

You’re also likely to work closely with mechanical, mechatronic and ICT engineers, and will find opportunities in many of the areas suggested for those majors.

KULSOOM HUSSAIN
Major: Electrical Engineering

“I developed an interest in renewable energy when I was studying physics at high school and I really wanted to do more in the area of photovoltaics, and to work with communities, especially in remote areas, to help them access sustainable and reliable power.

I choose UTS because I also wanted to combine it with international studies and UTS was the only place I could do this. I spent a year in China studying Mandarin which was one of the best experiences of my life!

The other reason I chose to study at UTS is the internship component. The internships really give you a lot of valuable experience; a whole year in industry puts you in a better position than other graduates from other universities. UTS also has great industry partnerships and connections which benefit students.

As I am about to leave uni, I am feeling pretty good about my situation – I have enough experience to help me find the right opportunity that aligns with what I want to do.”

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Electronic devices are driving tech advances across global industries. Components are becoming smaller, faster, lighter and more power efficient, allowing for revolutions in computation and communication technologies.

As an electronic engineer, you combine engineering techniques and maths to design and build electronic hardware found inside smart devices. These devices include smartphones, smart watches, smart health monitoring devices and many more.

In this program, you’ll learn about digital systems, sensing, electronic analysis and design with a choice of sub-majors in Internet of Things (IoT). Graduate with practical skills in hardware and software that enable you to design and build electronics systems giving you options to move into a range of global high-tech industries.

CAREER OPTIONS
You can work in any of the areas suggested for the Flexible major, plus find opportunities in the following industries:
- Aerospace
- Automotive
- Construction
- Defence
- Marine
- Oil & gas
- Pharmaceutical
- Power generation
- Rail
- Telecoms

You’re also likely to work closely with mechanical, mechatronic and ICT engineers, and will find opportunities in many of the areas suggested for those majors.

“IT is hard to identify nowadays a sphere of our lives that is not influenced or even dictated by Electronics. In fact, each of us would be carrying on us at least 10 sensors at any given time and this will increase as the Internet of Everything comes of age. We’re challenged to make these technologies ever more precise, powerful, reliable, less power consuming, biocompatible, safe and of low environmental impact. This challenge will be in the hands of tomorrow’s Electronic Engineers.”

PROFESSOR FRANCESCA IACOPI
School of Electrical and Data Engineering

Electronic devices are driving tech advances across global industries.
Data

2018 Selection Rank*: 81.50
UAC Code: 603060

**Data engineers will lead the biggest disruption to this revolution.**

Data Engineers create and manage secure cyber-physical systems and infrastructure to service the ever-growing demands of our computer-driven data-centric society. These secure software and hardware systems enable organisations to innovate and optimise their services using broadband networking and powerful computing.

You’ll learn professional engineering skills and the entrepreneurial values required to build and manage secure and reliable data platforms. You will also develop skills in advanced practice, gain in-depth knowledge in one or more areas of specialisation, and learn to embrace innovation in order to achieve excellence in your engineering future.

Current specialisations include Cybersecurity, Networks, Real-time systems (internet of things), Data Analytics, and Image Processing, Multimedia and Pattern Recognition. This major also utilises project-oriented studios with participation from industry mentors.

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**GREG ELLIS**
Executive Director Ticketing & Concession
Transport NSW

“There really won’t be enough data engineers out there, so I think the opportunities are going to be fairly limitless. The idea of being able to deal with data as a whole is going to be extremely important going forward. It’s already important now, and it’ll become much more important as time goes on. There’ll be vast opportunities for those who come out with a degree in data engineering.”

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*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Software

2018 Selection Rank*: 77.90
UAC Code: 603085

Future proof your career.
Software engineering is the application of engineering principles to the design, development and maintenance of software. The discipline of software engineering is comparatively young, created to ensure that software is built systematically, rigorously, measurably, on time, on budget, and within specification.

As software systems become rapidly larger, more complex, more critical, more tightly interwoven into our daily lives presenting bigger challenges to the software engineering discipline, this major is made up of core engineering and foundation subjects and specialist software subjects.

You’ll learn the scientific principles and mathematical methods used to solve critical problems in this discipline, as well as the trends and innovations shaping the international software industry. You will also develop skills in design and innovation, project management, economics and finance and commercialisation and entrepreneurship.

“I hope to work in consultancy and these are the skills that are in demand.”

MIKHAIL FEDULOV
Major: Software Engineering
Vice president of the Cybersecurity Society

“Last year I completed five hackathons in five different areas – including the Ericsson Challenge. I enjoy working with other people, and being part of a hack team is a great way to learn technical skills, acquire knowledge of tools, and develop in team and project management. I hope to work in consultancy and these are the skills that are in demand.”
Mechanical

2018 Selection Rank*: 82.00
UAC Code: 603055

At the forefront of technology innovation.

Mechanical engineering is the broadest of all the engineering disciplines. Mechanical engineers design, build and maintain anything that moves — from microscale sensors to jet plane engines, robots, biomedical devices, spacecraft, wind turbines and heavy industrial machinery.

In this major, you’ll study dynamics and learn to calculate and control the movement and interaction of solid objects, fluids, heat and power. You’ll also study some electrical engineering subjects and will apply your learning through hands-on projects that help you build the confidence and ingenuity needed to push the boundaries of machine-based technology.

CAREER OPTIONS
You can work in any of the areas suggested for the Flexible major, plus find opportunities within:
– aerospace companies
– automotive companies
– biomedical and health companies
– chemical industry
– defence agencies
– electronics industry
– pharmaceutical industry
– robotics and industry

You’re also likely to work closely with electrical, mechatronic and ICT engineers, and will find opportunities in many of the areas suggested for those majors.

DAVID EAGER
Acting Head of School, Mechanical and Mechatronic Engineering

“Mechanical and Mechatronic Engineers solve problems, resolve conflict, manage projects and work in diverse teams that include other professionals such as architects, lawyers, doctors and accountants. They make change happen while adding benefits of society. They ask the question, “is there a better way?” and they have a willingness to take reasonable risks with a view to making a significant positive impact.”
Mechanical and Mechatronic

2018 Selection Rank*: 77.90
UAC Code: 603115

Open up a world of high-performance opportunities.

This major brings together mechanical and mechatronic engineering subjects so that you gain an understanding at both specialisations. You’ll study dynamics (the science of moving things) and learn to calculate and control the movement and interaction of solid objects, fluids, heat and electricity. You will also learn to design, build and manage automated and autonomous mechanical systems, with an emphasis on robots, smart machines, intelligent control systems, and biomedical devices.

CAREER OPTIONS
You can work in any of the areas suggested for the Mechanical and Mechatronic majors.

Mechatronic

2018 Selection Rank*: 83.25
UAC Code: 603120

Engineering for an autonomous future.

Mechatronic Engineering work on all aspects of the smart machine, from design and testing to manufacturing. They use a combination of mechanical, electronics, computer systems and software engineering to design and build mechanical systems and their controllers, software and hardware, plus electronic processes and the networks that link them.

In this program, you’ll study dynamics (the science of moving things) and learn to calculate and control the movement and interaction of solid objects and electricity. You’ll also learn to design, build and manage automated and autonomous mechanical systems, with an emphasis on robots, smart machines, intelligent control systems, and biomedical devices.

CAREER OPTIONS
You can work in any of the areas suggested for the Flexible major, plus find opportunities with:
– advanced machinery and robotics manufacturers
– manufacturing and mining industries
– research groups in nanotechnology, robotics and other developing fields
You’re also likely to work closely with electrical, mechanical and ICT engineers, and will find opportunities in many of the areas suggested for those majors.

ADAM CHENG
Major: Mechanical and Mechatronic

“My internships were with Toshiba International Corporation in the power industry. The practical experiences of being on site at a power station gave me an insight into the practical roles of an engineer. I also had the chance to put my studies into practice through machine performance analysis and project management. It really gave me a greater appreciation of how my studies are put into real-world practice.”

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Combined degrees

Why settle for one specialisation? Create your niche by combining your areas of interest.

Bachelor of Engineering (Honours), Bachelor of Science

2018 Selection Rank*: 80.00
Duration: 5 years full-time (part-time available for domestic students)
Add an extra year if undertaking the Diploma in Professional Engineering Practice
Add an extra year if undertaking Science Honours

UAC code: 609360
UTS course code: C09072
CRICOS code: 084093F

There are lots of reasons to do a combined course.

With a combined engineering and science degree, you’ll gain the technological expertise to determine scientific problems plus the practical engineering skills needed to implement effective solutions. Add to this cutting-edge practical laboratory skills as well as an understanding of intellectual property and the ethical issues related to science research.

You’ll need to choose a single engineering major for the Bachelor of Engineering (Honours) and a single science major for the Bachelor of Science.

Areas in which you can develop skills include DNA-centred technologies and applications, microbiology and biochemistry, therapeutic products (such as vaccines and drugs), scientific research and analysis, energy and resource exploration, urban ecology, and environmental biotechnology and sustainability.

ENGINEERING MAJORS
Flexible, Civil, Data, Electrical, Electronic, Mechanical, Mechatronic, Software.

SCIENCE MAJORS
Applied Chemistry, Applied Physics, Biomedical Science, Biotechnology, Environmental Science, Mathematics, Medical Science, Nanotechnology.

CAREER OPTIONS
You can work in any of the areas suggested for your chosen engineering major, plus find opportunities in:
- medical technology and instrumentation
- biotechnology and bioengineering
- nanotechnology and molecular biology
- mining, agriculture and fisheries
- environmental science
- food and drink, product design, pest control or pharmaceuticals

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Bachelor of Engineering (Honours), Bachelor of Medical Science

2018 Selection Rank*: 86.55
Duration: 5 years full-time (part-time available for domestic students)

Add an extra year if undertaking the Diploma in Professional Engineering Practice
Add an extra year if undertaking Science Honours

UAC code: 609370
UTS course code: C09074
CRICOS code: 084095D
CRICOS code: 084093F

With a combined engineering and medical science degree, you’ll go far.

Not only do you get to develop professional engineering skills via your chosen engineering major, but you will also gain an in-depth understanding of medical science.

In the medical science side of your degree, you will explore the fields of chemistry, biology, anatomy, biochemistry, microbiology, physiology, neuroscience, pharmacology and medical devices. If you’re interested in medical science, the scientific basis of engineering and technology, plus technology itself, then this course is for you!

As well as your engineering major, you’ll need to complete 13 core Medical Science subjects. For the full list of subjects see the relevant course information at handbook.uts.edu.au/eng

ENGINEERING MAJORS
Flexible, Civil, Data, Electrical, Electronic, Mechanical, Mechatronic, Software.

CAREER OPTIONS
You can work in any of the areas suggested for your chosen engineering major, plus find opportunities in:
– medical technology and instrumentation
– biotechnology and bioengineering
– nanotechnology and molecular biology
– mining, agriculture and fisheries
– environmental science
– food and drink, product design, pest control or pharmaceuticals
Bachelor of Engineering (Honours), Bachelor of Arts in International Studies

2018 Selection Rank*: 79.90
Duration: 5 years full-time (part-time available for domestic students)
Add an extra year if undertaking the Diploma in Professional Engineering Practice
UAC code: 609032
UTS course code: 009068
CRICOS code: 084089B

Open up a whole world of opportunities.

With a combined engineering and international studies degree you’ll not only develop professional engineering skills from your chosen engineering major, you’ll also open up a whole world of opportunities. The international studies component of this course gives you the rare chance to immerse yourself in another language and culture, develop an international perspective on your studies, and broaden your thinking. The international studies component of your degree also involves a year abroad in one of the 14 countries that you can choose to study in the degree.

ENGINEERING MAJORS
Flexible, Civil, Data, Electrical, Electronic, Mechanical, Mechatronic, Software.

COUNTRIES
Argentina, Canada, Chile, China, Colombia, Costa Rica, France, Germany, Italy, Japan, USA, Mexico, Spain, Switzerland.

CAREER OPTIONS
You can work in any of the areas suggested for your chosen engineering major, within Australia or in another country. Engineering is an international discipline, and bilingual, global-thinking engineers are able to problem-solve anywhere in the world they are needed.

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Bachelor of Engineering Science^, Bachelor of Laws

2018 Selection Rank*: 96.30
Duration: 5.5 years full-time
UAC code: 609050
UTS course code: C10136
CRICOS code: 040713B

^Not accredited by Engineers Australia

A blend of technical knowledge and legal skills.

With a combined engineering science and law degree, you’ll gain a blend of technical knowledge and legal skills, that enable you to become a legal practitioner in New South Wales.

As well as the engineering skills you’ll develop via your chosen engineering major, you’ll gain an overview of the legal system, technology legislation, technology-specific criminal law, contract law and environmental law.

If you wish to obtain full recognition as a graduate lawyer, you have the option of completing the Practical Legal Training Program. With a year of further study, you also have the option of graduating as a professional engineer.

ENGINEERING MAJORS
Flexible, Civil, Data, Electrical, Electronic, Mechanical, Mechatronic, Software.

CAREER OPTIONS
You can work in any of the areas suggested for your chosen engineering major, plus find opportunities as a:
– legal advisor
– manager or consultant

You can work in engineering, law firms, or both. Law firms need lawyers with technical expertise and the engineering industry needs technical specialists with legal knowledge. Demand for these skills is high. In fact, this combined course was developed in response to this very demand.
Bachelor of Engineering (Honours), Bachelor of Business

2018 Selection Rank*: 79.55

Duration: 5 years full-time (part-time available for domestic students)
Add an extra year for the Diploma in Professional Engineering Practice

UAC code: 609350
UTS course code: C09070
CRICOS code: 084091G

Develop the skills to succeed in both engineering and business environments.

With a combined engineering and business degree, you’ll develop the ability to succeed in both engineering and business environments.

As well as the professional engineering skills you’ll develop in your chosen engineering major, you’ll gain valuable and highly sought-after business skills from your business major. You’ll graduate with the ability to use your engineering problem-solving skills in relation to people management, business management, finance, marketing or international business.

ENGINEERING MAJORS
Flexible, Biomedical, Civil, Data, Electrical, Electronic, Mechanical, Mechatronic, Software.

BUSINESS MAJORS

CAREER OPTIONS
You can work in any of the areas suggested for your chosen Engineering major, plus find opportunities in:
- banking
- accounting and economics
- marketing
- any commercial or business sector

Your engineering skills will enable you to understand and develop products so you may find yourself particularly sought after by manufacturing businesses. Your business skills will ensure the product is financed, developed to meet consumer needs and marketed effectively. You’ll also be ideally suited to the financial sector, running your own engineering business or senior management in an engineering setting.

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Bachelor of Engineering (Honours), Bachelor of Creative Intelligence and Innovation

2018 Selection Rank*: 83.55
Duration: 5 years full-time
UAC code: 609560
UTS course code: 009076
CRICOS code: 084097B

A blend of technical knowledge underpinned by a philosophy of innovation and creativity.

With a combined engineering and creative intelligence and innovation degree, you’ll gain a blend of technical knowledge underpinned by a philosophy of innovation and creativity that will help you turn ideas into reality. The creative intelligence competencies you’ll pick up should enable you to navigate a rapidly accelerating world of change.

As well as the professional engineering skills you’ll develop via your chosen engineering major, you’ll gain proficient skills in critical, inventive and creative thinking, future scenario building, business analysis, entrepreneurism, problem solving, teamwork and communication. You’ll also develop the ability to work on your own, as well as across and between other disciplines.

ENGINEERING MAJORS
Flexible, Biomedical, Civil, Data, Electrical, Electronic, Mechanical, Mechatronic. Software.

CAREER OPTIONS
You can work in any of the areas suggested for your chosen engineering major and will be well-suited for a career within a fast-paced, innovative engineering environment. Your combined degree will equip you with skills that are particularly useful for positions involving:
– product planning, strategy and design within a solutions focused environment

These skills can also be used to start and market your own business.
Degree add-ons

Stand out from the crowd with a Diploma in Innovation or a Diploma in Languages.

Some people watch the world go by. Others change it. Become a future-shaper with the Diploma in Innovation.

+ ADD THE DIPLOMA IN INNOVATION

Rather than building the skills for a specific career, the Diploma in Innovation is about preparing for the future of work. In fact, it responds directly to industry demand for graduates who can demonstrate interdisciplinary and transdisciplinary approaches in their professional practice. There’s an emphasis on entrepreneurial thinking, too; by the time you graduate, you’ll be ready to be an entrepreneur, serve entrepreneurial clients, or integrate entrepreneurial processes into your day-to-day work.

Our course content embraces the unlimited possibilities of the new world of work. Subjects include extensive studios on innovation and entrepreneurship, explorations of complexity and sustainability, and deep dives into concepts of frame innovation and futures thinking.

Interested? You can add the diploma to any UTS bachelor’s degree (excluding the BTI or BCI). What’s more, all your diploma subjects will be offered as winter and summer school intensives, so even though you’re adding an extra qualification, you’ll still graduate on time.

Gain a global outlook.

+ ADD THE DIPLOMA IN LANGUAGES

Bring the world to your doorstep with a Diploma in Languages. Add this one-year diploma to your UTS degree to gain language and cultural skills, build your professional identity, and graduate with a range of capabilities that will prepare you for an international career. Language options include Chinese, French, German, Italian, Japanese and Spanish.

No need to apply just yet – the diploma is available to students already studying an undergraduate or postgraduate coursework degree program at UTS, so sign up when you enrol. No matter what you study, the diploma can give your qualification an international edge.
Additional courses for international students

Bachelor of Engineering (Honours)

Direct entry open to international students only
Duration: 4 years (full-time only)
UTS course code: C09066
CRICOS code: 084098A
Professional Recognition: Accredited by Engineers Australia

If you’re an international student, you have the option of completing the Bachelor of Engineering (Honours) with or without the Diploma in Professional Engineering Practice (see pages 12 for details). Should you choose to enrol in the course without the Diploma, you will still obtain the necessary exposure to professional engineering life - with at least 12 weeks' work experience (preferably outside the university environment).

You will also complete the Engineering Practice Preparation and Engineering Practice Reflection subjects to fulfil the professional practice component of the course, as well as having the chance to specialise with an engineering major. See the full list of engineering majors on pages 14–23.

Bachelor of Engineering Science*

Direct entry open to international students only
Duration: 3 years (full-time only)
UTS course code: 010066
CRICOS code: 0339090

If you’re an international student looking for technologist-level studies, this course is for you. You won’t receive professional engineering status, but you will gain graduate attributes similar to those gained in the Bachelor of Engineering (Honours). These will allow you to work with professional engineers.

ENGINEERING MAJORS
Flexible, Civil, Data, Electrical, Electronic, Mechanical, Mechatronic, Software

*Not accredited by Engineers Australia
The Women in Engineering and IT (WiEIT) Program at UTS began in 1981 and is the longest running such initiative in Australia. It fosters a network of passionate females and males who are actively involved in the development of our next generation of young engineering and IT professionals. WiEIT supports current students with connections that count.

**LUCY MENTORING PROGRAM**
Pair with an industry mentor and work together on an agreed project for 35 hours between May and October. This is a great opportunity to work closely with an industry mentor who can guide and prepare you for your own journey into the workforce. Open to female students in second year or above.

**WOMEN IN ENGINEERING AND IT SESSION LUNCHES**
Network with WiEIT members, staff and industry partners and hear about upcoming opportunities through the WiEIT program.

**ZONTA WOMEN IN ENGINEERING AND IT AWARD**
Zonta International is a leading global organisation of professionals empowering women worldwide through service and advocacy. Today, Zonta International has up to 30,000 members in over 1200 clubs in 67 countries. A $1,000 award is given to a student who continually engages with and inspires young women.

**SYDNEY WOMEN IN ENGINEERING AND IT SPEAKERS PROGRAM (SWIEIT)**
Join the WiEIT volunteers to become a SWIEIT speaker and encourage other young females to consider a future in Engineering or IT. Share why you decided to pursue engineering or IT and the extracurricular activities you have participated in throughout your time at university.

**SUPPORT, REFERRAL AND INFORMATION**
The WiEIT team are on hand to give you support, information and referrals to assist you on your journey. Drop into the WiEIT offices on Level 5 and meet the team.

wieit.uts.edu.au
“If we have more women in engineering, we'll get more of a diverse output that truly represents the community.”

ASHWINI RANJITHABALAN
Graduate, Bachelor of Engineering (Civil and Environmental)
Winner: Engineers Australia Women in Engineering Scholarship

“I chose to major in Civil and Environmental Engineering - civil because I really liked infrastructure, and environmental because I think it's important to consider not just what you're building but how it impacts the environment.” says Ashwini Ranjithabalan, a graduate of the UTS Bachelor of Engineering.

Now a graduate engineer at WSP Parsons Brinkerhoff, Ashwini undertook two internships with construction company John Holland over the course of her degree. She worked as an environmental coordinator during one internship, and a design manager in the other — two distinctly different roles that dramatically expanded her knowledge of the engineering world.

“UTS is very practice-based so when I learnt something in the classroom, I was able to apply it to my internship, and vice versa. It's a real—world-based degree, which I like.” she says.

“Walking out of university, I’d had more of a year of experience in the industry — that helped tremendously when it came to getting my current job.”

Beyond her studies, Ashwini was heavily involved with the UTS Women in Engineering and IT (WiEIT) program, which engages and supports young women undertaking technical degrees.

She initially joined WiEIT as a way of meeting other young women in her field - “there's not many in engineering, and I went to an all-girls school, so when I came to engineering l was like 'whoa! There's a lot of guys here!'” she says — but quickly found herself involved in the Lucy Mentoring Program and a range of WiEIT outreach initiatives.

“It’s important to get more women in the industry. The things I’m doing and a lot of other engineers are doing is developing how the future looks. If we have more women in engineering, we’ll get more of a diverse output that truly represents the community,” she says.

Scholarships

The Women in Engineering and IT Cooperative Scholarship is proudly sponsored by industry to increase the participation of women in engineering and IT. This is a 4-year scholarship valued at $66,000 which includes industry work placements.

The Faculty of Engineering and IT Women in Engineering and IT Scholarship is available for incoming female students. This scholarship is valued at $10,000 over 1 year.

Eligibility criteria apply.

See uts.edu.au/scholarships for information.
University life

There’s no one size fits all approach to university life!

Anyone who has ever been a uni student will tell you that getting involved in clubs societies makes the whole ride pretty incredible.

We have over 100 clubs and societies on campus, along with bars, cafes and a range of sporting facilities. To ensure you feel confident and supported, we offer help with housing, money, making friends, health, cultural issues and career development.

ENGINEERS WITHOUT BORDERS
Build your leadership and sustainability skills and apply theory to humanitarian engineering projects. Opportunities include doing an internship overseas or participating in an overseas volunteering experience through UTS BUiLD.

[ewb.org.au/explore/chapters/nsw/uts](ewb.org.au/explore/chapters/nsw/uts)

UTS MOTORSPORTS
Showcase your ingenuity by building and racing an open-wheel race car. The motorsports club has represented UTS in the Formula SAE Australasia competition for 10 years, and raced an electric car in the event for the first time in 2015.

[utsmotorsports.com](utsmotorsports.com)

UTS ROBOTICS SOCIETY
Discover everything robotics, from servos to software, and connect with likeminded students. Gain access to equipment, participate in robot building competitions, and receive support from industry. You can learn new skills, get help with projects or simply meet like-minded students in a social and engaging environment. With projects ranging from fully autonomous robotic systems to candy dispensers, they provide you with the opportunity to combine creativity and technology to form new ways of interacting with the world around us.

[utroboticssociety.org](utroboticssociety.org)

“The UTS Motorsports Society has given me the opportunity to both experience all the fun & social aspects of uni life, while also practically applying myself in real life engineering situations.”

CHRIS WESTON
Member, UTS Motorsports Society
UTS ENGINEERING SOCIETY
Hang out with your cohort and get involved in social events, industry events and networking opportunities with one of the largest clubs on campus.
utsengsoc.com.au

We encourage you to check out the full list of clubs and societies at:
activateuts.com.au/social/clubs

UTS CYBER SECURITY SOCIETY
Boost your programming knowledge with exclusive workshops and study help sessions and learn how to defend against attacks through the techniques that attackers use. The Cyber Security Society aims to encourage personal and professional development and offers guidance and support to anyone with the interest to learn!

UTS GLOBAL EXCHANGE*
Study overseas at a UTS partner university. Most of our partners teach engineering courses in English, but you can also study the local language.
uts.ac/UTSExchange

*Some International students may not be eligible to participate in this program. International students cannot go on exchange to their home country.

UTS BUILD
Beyond UTS International Leadership Development (BUILD), provides opportunities to build leadership potential and participate in overseas volunteering. BUILD takes you beyond your degree, providing the chance to explore social enterprise, sustainability and social justice. The BUILD program will appear on your Australian Higher Education Graduation Statement (AHEGS).
build.uts.edu.au

HELPS
Higher Education Language and Presentation Support (HELPS) provides non-credited English language and academic literacy support to UTS students. Enhance your learning experience with individual and group support in a friendly and respectful environment.
uts.ac/HELPSProgram

“At the Robotics Society we can give you an introduction to the field of robotics, provide you with the equipment and resources needed to design and build these robots and importantly introduce you to like-minded people. You have the chance to convert your imagination into a real thing which you can see and interact with!”

JACOB VARTANIAN
President, Robotics Society
Scholarships

UTS rewards achievement and recognises those with motivation to succeed.

Submit your application to one, or more, of the below scholarships and let us help you on your way.

UTS offers a large range of scholarships for commencing and current students to help support your career aspirations in Engineering and Information Technology.

For information on all scholarships and how to apply, please visit: uts.edu.au/scholarships

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<thead>
<tr>
<th>Scholarship name</th>
<th>Awarded to</th>
<th>Student type</th>
<th>Course type</th>
<th>Benefit</th>
<th>Duration</th>
<th>Selection Rank*</th>
<th>Other</th>
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<tr>
<td>WOMEN IN ENGINEERING AND IT COOPERATIVE SCHOLARSHIP</td>
<td>High achieving female students that have a passion and interest to pursue a career in Engineering. Industry sponsored. Multiple scholarships available.</td>
<td>Commencing</td>
<td>UG</td>
<td>$66,000 over 4 years + 3 industry placements</td>
<td>4 years</td>
<td>85+</td>
<td>Applicants are required to attend an interview at UTS as part of the selection process.</td>
</tr>
<tr>
<td>FEIT WOMEN IN ENGINEERING AND IT SCHOLARSHIP</td>
<td>High achieving female students that have a passion and interest to pursue a career in Engineering. Faculty sponsored. Multiple scholarships available.</td>
<td>Commencing</td>
<td>UG</td>
<td>$10,000</td>
<td>1 year</td>
<td>85+</td>
<td>Applicants are required to attend an interview at UTS as part of the selection process.</td>
</tr>
<tr>
<td>ENGINEERING AND IT DEAN’S SCHOLARSHIP</td>
<td>High achieving commencing students with the top Selection Rank* enrolled in a UTS Faculty of Engineering &amp; Information Technology undergraduate degree. More than one available.</td>
<td>Commencing</td>
<td>UG</td>
<td>$10,000 per year</td>
<td>2 years</td>
<td>95+</td>
<td>Merit</td>
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<tr>
<td>WESTPAC YOUNG TECHNOLOGIST SCHOLARSHIP</td>
<td>High achieving school leavers with a passion to bring about change through cutting-edge technology and innovation. Students must be enrolled in Bachelor of Engineering (Hons), with a major in Software or Data Engineering.</td>
<td>Commencing</td>
<td>UG</td>
<td>$5,000 per year</td>
<td>4 or 5 years</td>
<td>80+</td>
<td>Merit Preferred</td>
</tr>
<tr>
<td>LINDEN LITTLE ENGINEERING EQUITY SCHOLARSHIP</td>
<td>Current school leavers experiencing financial need and other educational disadvantage which can make it difficult to access and succeed in tertiary education. Available to commencing students in the Bachelor of Engineering (Honours), Diploma in Professional Engineering Practice in any major.</td>
<td>Commencing</td>
<td>UG</td>
<td>$15,000 per year</td>
<td>2 years</td>
<td>80+</td>
<td>Equity</td>
</tr>
</tbody>
</table>
## FOR COMMENCING STUDENTS (DOMESTIC)

<table>
<thead>
<tr>
<th>Scholarship name</th>
<th>Awarded to</th>
<th>Student type</th>
<th>Course type</th>
<th>Benefit</th>
<th>Duration</th>
<th>Selection Rank*</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE ELEANOR DUNN SCHOLARSHIP IN ENGINEERING</td>
<td>Applicants who have the personal potential and commitment to study Electrical, Mechanical, Mechatronic, Software or Data Engineering — major/ double major, and are from a financially disadvantaged background or experiencing other educational barriers.</td>
<td>Commencing</td>
<td>UG</td>
<td>$5,000 per year</td>
<td>5 years</td>
<td>N.A.</td>
<td>Equity preferred</td>
</tr>
<tr>
<td>WJ &amp; LM SINCLAIR SCHOLARSHIP IN ENGINEERING</td>
<td>Applicants who have the personal potential and commitment to study engineering, are of Aboriginal or Torres Strait Islander descent and/or are from financially disadvantaged background. Up to two student scholarships may be offered enrolled in any major of Bachelor of Engineering (Honours), Diploma in Professional Engineering Practice.</td>
<td>Commencing</td>
<td>UG</td>
<td>$10,000-$20,000 per year</td>
<td>5 years</td>
<td>69+ or 80+</td>
<td>Equity</td>
</tr>
<tr>
<td>WOMEN IN ENGINEERING EQUITY SCHOLARSHIP</td>
<td>Students commencing in any major of the Bachelor of Engineering (Honours), Diploma in Professional Engineering Practice. Preference is given to applicants experiencing financial and/or other educational barriers. It is also open to non-current school leavers.</td>
<td>Commencing</td>
<td>UG</td>
<td>$14,000</td>
<td>1 year</td>
<td>80+</td>
<td>Equity</td>
</tr>
<tr>
<td>INTECH BANK SCHOLARSHIP IN INFORMATION TECHNOLOGY</td>
<td>Students commencing specific undergraduate degrees in Information Technology or Engineering (Software or Data) degrees. It is also open to non-current school leavers.</td>
<td>Commencing</td>
<td>UG</td>
<td>$5,000</td>
<td>1 year</td>
<td>80+</td>
<td>Equity</td>
</tr>
<tr>
<td>RICHARD CROOKES CONSTRUCTION ELITE ATHLETE SCHOLARSHIP</td>
<td>Elite and emerging UTS athletes in a field of study relevant to the construction business. In addition, the recipient will be invited to undertake a paid work placement opportunity at Richard Crookes Construction.</td>
<td>Both</td>
<td>UG &amp; PG</td>
<td>$20,000 + Work Placement</td>
<td>1 year</td>
<td>N.A.</td>
<td>Athlete, work placement</td>
</tr>
</tbody>
</table>

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Current student scholarships

Once you start your course there are even more scholarships to choose from.

As a current student, you can apply for scholarships with:
- John Hughes Memorial Scholarship
- Broad spectrum
- Bouygues Construction
- Ericsson
- John Holland
- DELL EMC
- NSW Government — DAC
- Richard Crookes
- Canon Medical Systems
- Thales
- Western Earthmoving
- And more!

Visit uts.edu.au/scholarships to see all scholarships offered at UTS Engineering and IT.

- Selection Rank* score excludes adjustments
- Please refer to the Conditions of Award to confirm the Equity eligibility criteria for each applicable scholarship
- Co-op scholarships combine opportunities for practical work experience with sponsor organisations, in addition to financial support
- Application deadlines vary, with some scholarships for commencing students closing as early as June in the year before the study commences. Ensure you check the UTS website for closing dates.

UNIVERSITY-WIDE SCHOLARSHIPS
UTS offers a range of scholarships to high achieving students and to assist students in need of financial assistance. Check online for more details at uts.edu.au/future-students/scholarships

SCHOLARSHIPS FOR INTERNATIONAL STUDENTS

<table>
<thead>
<tr>
<th>About</th>
<th>Value</th>
<th>Application deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two scholarships per year are awarded to high achieving international students commencing the Bachelor of Engineering (Honours) or Bachelor of Engineering (Honours), Diploma in Professional Engineering Practice.</td>
<td>35% contribution to tuition fees for one session of full-time study.</td>
<td>For further information including eligibility criteria and application deadlines, please check online.</td>
</tr>
</tbody>
</table>

*Selection Ranks: published ranks indicate the lowest ATAR, including any adjustments applied through eligible admissions schemes, to which an offer was made to current school leavers as of 12 January 2018. Please refer to the UTS website for more info on selection ranks, ATARs and student profiles.
Fees, scholarships and financial assistance

TUITION FEES
Most domestic students will be studying in a Commonwealth Supported Place which means the Australian Government makes a contribution to the cost of your study while you pay a student contribution. If eligible, you can elect to pay your student contribution upfront or defer payment of your student contribution using HECS-HELP visit fees.uts.edu.au for more info.

For information on fees for international students visit uts.edu.au/international

STUDENT SERVICES AND AMENITIES FEE
Students are required to pay a Student Services and Amenities Fee. This fee funds services and amenities at UTS such as social and cultural clubs, services for developing students study skills, UTS food, beverage and retail outlets [including a 10% discount for students], and the second-hand bookstore. If you’re an Australian citizen or on a humanitarian visa, this fee may be deferred through a new government loan scheme called SAHELP. fees.uts.edu.au

SCHOLARSHIPS
UTS is proud to award a large number of scholarships to its students every year. Through providing scholarships, the university endeavours to reward achievement and recognise motivation to succeed. UTS is also committed to providing support to students experiencing financial hardship and/or other educational disadvantages. See page 36 for Scholarships specific to the Faculty of Engineering and IT. uts.edu.au/scholarships

FINANCIAL ASSISTANCE
The UTS Financial Assistance Service can help students with practical and financial aspects of life at university. Domestic UTS students with ongoing and long-term low income can approach our financial assistance service for support with advocacy to Centrelink, information on HECS and FEE-HELP, loans and equity based scholarships and grants, and advice on budgeting. As a UTS student you may be eligible for an interest free student loan from UTS of up to $500 to assist with bills, rent, one-off living expenses and other costs, such as medical costs. ssu.uts.edu.au/fassist

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UTS ranked Australia’s #1 young* uni

Applying to UTS

If you’re thinking about coming to study with us, here are a few things you’ll need to keep in mind.

**ARE YOU A DOMESTIC STUDENT?**
If you’re applying for an undergraduate degree at UTS, you’ll need to submit an online application through the Universities Admissions Centre (UAC) uac.edu.au

For domestic students, UAC applications open in August each year. On-time applications close at the end of September. You can still apply after this date, but remember that you will be charged a late fee.

If you’re an international student we recommend that you visit UTS International for information specific to international students applying to UTS. international.uts.edu.au

**ELIGIBILITY**
To be eligible to study at UTS, you’ll need to satisfy at least one of our minimum admission requirements. This means you must:
- have attained a full NSW HSC or equivalent with a Selection Rank* of 69 (excluding adjustments), or
- have completed TAFE TPC, Associate Diploma, AQF Diploma or Advanced Diploma, or
- have completed one year of tertiary studies (must be full time)

Check out the UTS website for full admission requirements.uts.edu.au

**CURRENT SCHOOL LEAVERS**
If you’re just finishing Year 12, entry into an undergraduate program at UTS will be based on your Selection Rank* or IB results. If you’re completing your IB in a country other than Australia, you may be required to demonstrate your English language proficiency.

**NON-CURRENT SCHOOL LEAVERS**
If you’re not currently completing Year 12, we’ll consider your Selection Rank* or equivalent interstate rank, and any other tertiary studies you’ve done since you finished high school. In some cases, you might be eligible for credit recognition for those studies if they’re related to the UTS course you’re applying for. You can find out more about credit recognition by visiting uts.edu.au/credit-recognition

**INDIGENOUS AUSTRALIANS**
At UTS, we’re committed to increasing access to education for Aboriginal and Torres Strait Islander Australians. And we’ve got great support systems in place to help you get here. These systems include: The Jumbunna Indigenous House of Learning which can provide you with specialised assistance with the UTS application process, or with getting into the Jumbunna Direct Entry Program or UNISTART pathway programs. These programs lead directly into undergraduate study at UTS, and they’ll help you build skills and confidence. For more information, visit uts.edu.au/future-students/indigenous

**ENTRY SCHEMES**
Need a boost to get into your chosen course? With a UTS entry scheme, you’re more than just a number. These schemes let us consider your circumstances beyond your Selection Rank* to increase your chances of success. Here’s how:

**ENGINEERING AND IT QUESTIONNAIRE**
Did you know you can support your UAC application with the Engineering & IT Questionnaire? If you fall short of the Selection Rank* by 1-3 points, we will still consider your application if you complete the questionnaire and demonstrate a strong motivation to study engineering or IT. Spend 20 minutes completing the Engineering & IT Questionnaire, and give yourself the best chance to get into your preferred course at UTS. eng-questionnaire.uts.edu.au

**YEAR 12 SUBJECT ADJUSTMENTS**
If you’ve just completed high school and you’ve performed well in HSC subjects that relate to your chosen UTS degree, you could be eligible for extra points to be considered in addition to your Selection Rank*.

**INPUTS EDUCATIONAL ACCESS SCHEME (EAS)**
Educational disadvantage doesn’t have to be the end of your uni dream – in fact, it can be the beginning. inpUTS is for current school leavers or students with existing tertiary qualifications who have experienced – or are experiencing – difficult family, personal or financial circumstances. You can get a 10-point concession on the entry cut-off for any UTS course, provided you meet the minimum eligibility requirements (listed above) – this includes a minimum Selection Rank* of 69 (80 for law).

**SCHOOLS RECOMMENDATION SCHEME (SRS)**
At UTS, we value potential. This scheme is for students who’ve got what it takes to succeed at uni, but might not receive an offer based on Selection Rank* or inpUTS alone. To be considered, you’ll have to demonstrate financial hardship or school environment (SOT1 or SOTC), and achieve a minimum Selection Rank* of 69 (80 for Law). You’ll also have to submit both an EAS application for financial hardship and an SRS application via UAC.

**ELITE ATHLETES AND PERFORMERS SPECIAL ADMISSIONS SCHEME**
Elite-level performance can impact your studies – which is why we’ve created a special admissions scheme for athletes and entertainers. If you’ve competed in sport at a national level, or you’ve been involved in extensive or significant productions in Australia or overseas, you may be eligible to receive adjustments.

For more information on UTS entry schemes, visit undergraduate.uts.edu.au/entryschemes

*Your Selection Rank is your ATAR plus any adjustment points that you may qualify for through a UTS admission scheme.
ENGLISH LANGUAGE REQUIREMENTS
If your prior education was not conducted in English, you must have successfully completed one of the following English language tests or programs within the last two years. Please see table below:

<table>
<thead>
<tr>
<th>Test</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>IELTS (Academic)</td>
<td>6.0 overall with a writing score of 6.0</td>
</tr>
<tr>
<td>TOEFL iBT</td>
<td>60-78 overall with a writing score of 21</td>
</tr>
<tr>
<td>AE5/AE6 (PASS)</td>
<td>AE5</td>
</tr>
<tr>
<td>PTE (Academic)</td>
<td>50-57</td>
</tr>
<tr>
<td>CAE</td>
<td>169-175</td>
</tr>
</tbody>
</table>

MATHS AND PHYSICS PREPARATION
If you don’t have the assumed knowledge but have a strong interest in engineering, there are bridging courses, transition subjects, and student support services available. These will enable you to complete the course within the standard course duration.

For more information visit uts.edu.au/science-bridging-courses

CONTACT US
Domestic Students
Phone: 1300 ASK UTS (1300 275 887)
Online inquiry: ask.uts.edu.au
Email: feit@uts.edu.au
Web: eng.uts.edu.au/future

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

Student Centre
235 Jones Street,
Building 10, Level 2
PO Box 123
Broadway NSW 2007
Australia


Check out our reinvented campus and discover why we’re ranked Australia’s #1 young* uni

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DISCLAIMER: The information in this brochure is correct as at February 2018. Changes in circumstances after this date might alter the accuracy or currency of the information. UTS reserves the right to alter any content described in this brochure without notice. Readers are responsible for verifying information that pertains to them by contacting the University.

UTS Open Day
Saturday 25 August 2018
9am – 4pm
Register at openday.uts.edu.au

CONNECT WITH US


Note, this guide is for domestic students. International students should refer to the International Course Guide or uts.edu.au/international