



UNIVERSITY OF
TECHNOLOGY SYDNEY

UTS: ENGINEERING

UNDERGRADUATE COURSES GUIDE 2013

WELCOME TO UTS:ENGINEERING

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ASK US QUESTIONS

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Front cover:
The iRobot Packbot used for
research in mobile rescue at
the UTS Centre for Intelligent
Mechatronic Systems.

WHY ENGINEERING AT UTS?

PRACTICE-BASED DEGREES

Learning the theory is important, but the real value lies in knowing how to apply it. UTS is a firm believer in hands-on, practical experience. Unlike any other course in NSW, UTS: Engineering degrees offer two six-month periods of internship in industry, working with professional engineers as a trainee engineer. These internships offer hands-on experience and the opportunity to develop and build on applied knowledge. In most cases your internship will be paid work. That is why UTS: Engineering is Australia's leader in practice-based engineering education.

QUALITY TEACHING

UTS is a recognised leader in teaching and learning. In 2011, we received a five star rating from QS, in recognition of world-class achievements across a broad range of areas, internationally renowned research and teaching, and cutting edge facilities.

We pride ourselves on having skilled lecturers who are not only passionate about their areas of expertise, but always up to date on new developments and knowledge in their field. Teaching you to think constructively in an environment that is interactive, with group work and discussions that give you a taste of being out in the workplace.

INDUSTRY NETWORKS

Fostering links with industry and other organisations is important to us. The Faculty of Engineering and Information Technology has links with over 800 companies and has its own Industry Partnering Unit which assists students in securing internships. Expand your network through ours and make valuable contacts for your future career.

LOCATION AND STUDENT LIFE

Within easy walking distance of Central Station and the Sydney CBD, our City campus is easily accessible by bus and train. Close to cosmopolitan inner-city suburbs and is surrounded by places to shop, eat and just hang out. A great university experience also relies on being part of a social and supportive community. UTS has over 100 clubs and societies, (the UTS Engineering Society being the largest), along with bars, cafes and a range of sporting facilities, including a gym. We offer academic support services and services to help with housing, money, making friends, health, cultural issues and career development.

FLEXIBLE STUDY OPTIONS

UTS offers flexible timetabling, enabling you to schedule your study to suit your lifestyle and commitments. Courses are offered full time and part time, subjects have a mix of day and evening sessions available when possible, as well as Summer school or block mode offerings. We also encourage you to think outside your discipline and undertake a combined degree to broaden your career opportunities, or choose electives outside your field of study to keep you inspired by subjects that interest you.

CUTTING EDGE FACILITIES

Our vision is to create a world-class interconnected campus – a place where students can study, socialise and connect. In 2014, the Faculty of Engineering and IT will move into a new world-class at least 5 star green rating building.

UTS's commitment to innovative teaching and learning is reflected through our state-of-the-art technologies and information-rich environment. An example is the world leading Engineering Remote Laboratory where students are able to use state of the art equipment from anywhere at any time. UTS is also world leading in the field of intelligent mechatronic systems.

GRADUATE SUCCESS

As a graduate of UTS: Engineering, you can look forward to excellent employment prospects. In 2011, our graduates enjoyed average starting salaries of over \$61,000 and 84% were employed full-time before graduation. These figures are significantly higher than the national average.*

INTERNATIONAL OPPORTUNITIES

The personal, social and professional development, you gain through an international study experience will add excitement and value to your degree, and broaden your career options. You can study overseas as part of our global exchange program, combine your degree with international studies or even do one of your internships overseas. Other opportunities for international engagement include our popular BUiLD program, which offers overseas volunteering opportunities.

* According to the Graduate Destination Survey 2011 conducted by Graduate Careers Australia.

WORLD CLASS FACILITIES



UTS: ENGINEERING REMOTE LABORATORY

The UTS: Engineering Remote Laboratory is one of the first of its kind in the world. The Lab, situated in the UTS Tower, allows students to conduct real-time experiments with actual apparatus and equipment at anytime of the day from anywhere in the world. For more information, visit www.feit.uts.edu.au/facilities/remote-lab



LEARNING AND DESIGN CENTRES (LDCS)

The Learning and Design Centres within UTS: Engineering provide a rich and supportive learning environment for students, from subject resources such as electronic kits and subject guides, space for individual or group study to allocated times for teaching staff to provide academic support. It is also home to the Women in Engineering and IT unit.



ALCATEL-LUCENT FACILITY

UTS has partnered with Alcatel-Lucent to prepare students for building and managing carrier-grade services-enabled telecommunication networks.

In 2010, part of the Asia-Pacific headquarters for Alcatel-Lucent University (globally accredited by the European Foundation for Management Development, EFMD) moved onto the UTS campus. This facility includes training rooms and a state-of-the-art laboratory, giving UTS students access to the latest technologies and equipment being used by the telecoms industry in Australia and around the world. Undergraduate and postgraduate students studying telecommunications will be able to gain not only their UTS award but also have the possibility of obtaining a globally-recognised industry certification at the same time (with additional external examinations). Courses offered focus on building scalable, manageable networks optimised for triple-play services (voice, video and data) and cost-effective virtual private services.



NEW ENGINEERING AND IT BUILDING

A new world class building will house the Faculty of Engineering and IT. The building which is planned to be opened in 2014 will be state-of-the-art; green (with at least a five star green rating) and distinctive; an embodiment of creativity and technology

CAREERS IN ENGINEERING

“The UTS: Engineering practice based learning model provides an exceptionally strong foundation for graduate engineers who aspire to succeed.”

Ross Fowler, Vice President, Borderless Networks, Cisco Systems

WHAT IS ENGINEERING?

Engineers use scientific and mathematical principles to create, apply and maintain technology to improve society. They need to deal with complex and multidisciplinary problems and challenges and develop innovative and appropriate solutions. Engineering is all around us, from sustainable buildings to robots, water systems to power stations. Engineers today are pioneering solutions to major world issues in the areas of energy, water, food, environment, transport, housing and the ageing population. It's an exciting time to be an engineer.

INDUSTRY OPPORTUNITIES

In July 2011, the CEO of Engineers Australia released a report detailing the shortage of engineers in Australia. Currently the supply of new engineering graduates has not kept pace with the increase in demand for engineers for many years. What this means is that there are plenty of job opportunities in all areas of engineering, particularly in Australia, but also worldwide. UTS Bachelor of Engineering degrees are fully accredited by Engineers Australia, which means your degree is recognised around the world in countries who are part of the Washington Accord (see Accreditation on page 8).

ARE YOU UP FOR ENGINEERING?

Engineers are innovators, problem solvers, communicators, team players and visionaries. Normally, engineers will need to have a like, if not love, for science and mathematics. There's no shying away from it, these subject areas will be a big part of your degree. But don't panic if you haven't completed the subjects as part of your senior years at high school. UTS has bridging courses in physics, chemistry and mathematics as well as a foundation level mathematics subject which will help you adjust to tertiary studies.

CAREERS

Engineering is a diverse profession and there are many fields to choose from. At UTS, we offer 13 majors and 6 broad areas of engineering. Within each specialisation there are many career options available to you, but here are a few examples:

- > Environmental Engineer – looking at ways to make buildings more environmentally sustainable
- > Project Engineer – Managing a team of civil engineers on building projects
- > Mechanical Engineer – working on anything from creating factory machinery to mechanical parts for automobiles and medical applications
- > Electrical Engineer – you could work in third world countries on power generation, alternative energy or even in biomedical engineering
- > Network Engineer – Involved in the design, operation, and maintenance of diverse communication technologies to efficiently move information across the room, building, city, country, continent or the globe
- > Researcher – Undertake a PhD and conduct research into engineering issues. Many companies outsource research to universities, so you'll be working on groundbreaking projects that have the potential to help millions of people.

A UTS Engineering course develops a broad range of graduate attributes which can provide employment across a diverse range of professions.

HOW MUCH DO ENGINEERS EARN?

The average graduate salary for engineers across Australia is \$58,000. UTS graduates do better, earning on average \$61,000 on graduation.*

* According to the Graduate Destination Survey 2011 conducted by Graduate Careers Australia.

INTERNSHIPS

“UTS: Engineering courses give graduates a head start through industry experience. Graduates with real engineering work experience tend to have strong adaptability to new workplaces which allows them to stand out and excel.”

Thomas Willmott, Team Manager Track & Structures, RailCorp



With engineering being a practical profession, it's safe to say that experience out in the workplace is a great way to learn.

The Bachelor of Engineering, Diploma in Engineering Practice incorporates two blocks of engineering internship (industry experience) into the degree which allows you to integrate what you learn in the classroom into a work environment and vice versa.

The internships are usually paid and reflect the UTS commitment to industry-based learning, the course's backbone, and help you gain a better idea of the economic, social and environmental realities of the working world.

GIVING YOUR CAREER A DIRECTION

Through its Industry Partnering Unit (IPU) UTS: Engineering maintains close links with more than 800 engineering organisations who offer scholarships and internships.

The internship program will give you an insight into future employment opportunities as well as the type of organisation you could work for. You will quickly learn what skills and experience are needed to suit your chosen career.

Through the professionals you meet, you'll find mentors, meet contacts and build networks for your future.

INVALUABLE EXPERIENCE

You'll take on real responsibilities and show what you can do before you graduate. This kind of experience goes a long way towards impressing future employers.

FINANCIAL BENEFITS

Another benefit is that you do not pay tuition fees for the two periods of internship, and in most cases your internship will be paid work. Pay can vary a great deal but in 2011 the average weekly salary UTS: Engineering students were earning while on internships was approximately \$700. Students negotiate their internship conditions and many continue a relationship with the company after their internship.

TURNING EXPERIENCE INTO LEARNING

By building on your work experience in the classroom, you'll gain a better understanding of what you're learning and how to apply this knowledge when you enter the workplace, making your study really relevant to your future.

Bachelor of Engineering, Diploma in Engineering Practice

KEY INFORMATION

2012 ATAR: See majors, pages 9-15

Duration: 5 years full time/part time available

Assumed Knowledge: HSC with Standard English, Mathematics Extension 1 and Physics. Advanced English is recommended. Chemistry is also recommended for the Civil and Environmental major.

Combine your Degree with: Business, Science, Medical Science, Biotechnology, International Studies and Law, see page 16.

Bonus Points and Questionnaire: see page 21.

How to apply: see page 23

Professional Recognition: recognised and accredited by Engineers Australia

Handbook: www.handbook.uts.edu.au/eng/ug

COURSE DESCRIPTION

You study a four-year Bachelor of Engineering with a major (also known as field of practice) of your choice, plus the Diploma in Engineering Practice*, which gives you two six-month periods of internship with an engineering company of your choice. Doing the internships during your degree prepares you for professional practice, giving you valuable work experience before you graduate, and enabling you to integrate the classroom learning you do with genuine industry work for some of Australia's biggest engineering names.

Many of our students finish their degree part time if they are employed as trainee engineers following their second period of internship.

ENGINEERING MAJORS

There are nine majors to choose from:

- > General
- > Biomedical
- > Civil, with specialisations in Construction or Structures
- > Civil and Environmental
- > Electrical
- > Information and Communication Technologies Engineering (ICT Eng), with sub-majors in Computer Systems, Software or Telecommunications
- > Innovation (taken in conjunction with one of the other majors)
- > Mechanical
- > Mechanical and Mechatronics

See pages 9-15 for an explanation of these majors.

All these majors offer excellent job prospects as there is a growing shortage of engineers, particularly in Australia.

COURSE STRUCTURE

The Bachelor of Engineering, Diploma in Engineering Practice (BE, DipEngPrac) has five course components, three of which are common to all students completing the course. This means that our courses are very flexible, allowing you to move relatively easily between fields of practice as your learning advances. In fact, if you're really unsure which field of practice you want to pursue, you can begin with a General major and decide on your field of practice after first year, or you may choose to continue with the General major.

* If you take a combined degree (see pages 16-17), you will complete a Bachelor of Engineering and have the option of adding the Diploma in Engineering Practice. The exception is the combined degree with Law, which does not include internships. If you take a combined degree with Science, you have the option to take the Diploma in Engineering Practice and/or an honours year in Science.

TYPICAL COURSE STRUCTURE

YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	
Core	Core	Internship 1	Core	Core	Core	Internship 2	Core	Capstone Project	Capstone Project	
Core	Core		Field of Practice	Field of Practice	Field of Practice		Field of Practice	Field of Practice	Field of Practice	
Field of Practice	Field of Practice		Field of Practice	Field of Practice	Field of Practice		Field of Practice	Field of Practice	Elective	Elective
Field of Practice	Field of Practice		Field of Practice	Field of Practice	Field of Practice		Field of Practice	Field of Practice	Elective	Elective
	Engineering Practice Preview 1		Engineering Practice Review 1				Engineering Practice Preview 2	Engineering Practice Review 2		

Bachelor of Engineering, Diploma in Engineering Practice (continued)

COMMON COMPONENTS

Core subjects: these subjects are a common thread throughout your course which will give you the skills and knowledge every engineer needs, regardless of your field of practice. They include communication, project management, physics, mathematics, design, engineering economics and engineering enterprise.

You'll learn how to use engineering processes to design, build, troubleshoot and manage, and will develop the skills to analyse problems and find creative solutions. You will also work with other students on technical, problem-based projects which will prepare you for the way you'll work in industry.

Engineering internships: you'll work in industry for two periods of six months, generally in your second and fourth years. The Industry Partnering Unit (IPU) provides a service whereby companies will advertise opportunities directly through a UTS System for you to access or you can find an appropriate placement yourself. You'll be very close to being a graduate engineer when you do your second internship, and it provides a valuable introduction to life after your degree. You will most likely be paid for these periods of internship, and they can lead to permanent employment.

Engineering practice subjects: these subjects help you get the most out of your internships. You'll take them before and after your two periods of internship as part of the Diploma in Engineering Practice.

SPECIALIST COMPONENTS

Field of Practice subjects: give you the essential technical knowledge specific to your major. If you choose a specialisation, some Field of Practice subjects will also deepen your knowledge in that area.

Field of Practice subjects include a Capstone project, which is an in-depth study of your choice. Many students work on their capstone projects with one of their internship companies and some within the faculties research centres. The capstone is your chance to demonstrate your knowledge, skills and creative thinking, and can be groundbreaking with the potential to lead into a research degree.

Electives: are subjects you select based on your interests and the knowledge you want to add to your degree. You can choose electives from other engineering disciplines, postgraduate engineering subjects, or take subjects from other UTS faculties. If you have chosen a specialisation, some of your electives will be restricted to your field of study.

ACCREDITATION

The Bachelor of Engineering is recognised and accredited by Engineers Australia*. When you graduate you will be eligible for graduate membership of Engineers Australia, which means your degree will be recognised by all countries that are signatories to the Washington Accord (currently Australia, Canada, the US, the UK and Ireland, Hong Kong, Japan, Korea, Malaysia, New Zealand, South Africa, Singapore and Turkey), for more information visit www.washingtonaccord.org

With a year of internships under your belt with the Diploma in Engineering Practice, you may also need only two more years work experience to apply for Chartered Professional Engineer (CPEng).



* Seeking accreditation for biomedical engineering major

GENERAL

UAC Code: 603105
2012 ATAR: 85.25

If you're not sure what field of practice you want to specialise in, or you'd like to customise your degree by combining several fields of practice, the General major is the one for you. It's highly flexible, allowing you to select field of practice subjects from any of the majors offered.

You'll be able to study an approved mixture of majors, allowing you to explore all the areas that interest you. If you find some areas interest you more than others, you can negotiate to specialise, which means you can effectively start your degree with this major and transfer to one of the other majors after first year, when you have a clearer idea of what you want to do. Alternatively, if you have had some experience of engineering and you see a particular niche which covers two or more majors, you can create your own specialist area of study.

CAREER OPTIONS

Your technical, analytical and practical engineering skills, logical and common sense thinking and your ability to identify problems, focus on solutions, work in teams and manage projects and people, will be sought after in a wide range of areas, including:

- > State and federal government agencies, such as the Road and Maritime Services (RMS - formerly RTA) or local councils
- > Water and catchment authorities
- > Development contractors and consultancies, from small private firms to giants such as Brookfield Multiplex
- > Rail and road operators, and their construction contractors
- > Banks and financial institutions, such as Macquarie Bank
- > 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 specialising in civil, electrical, ICT, mechanical or other disciplines

INNOVATION

UAC Code: 603125
2012 ATAR: 86.70

The Innovation major allows you to add an innovation dimension to any of the other majors. Together with your solid engineering foundation, you'll gain the skills to identify commercial engineering opportunities and develop products and processes to meet those opportunities. You'll learn how to understand and manage engineering innovation processes in a variety of environments through specialised subjects such as creativity and idea generation, patents and intellectual property, product planning, product development and project funding.

With a range of cross-faculty subjects in areas like finance, marketing or intellectual property law, the Innovation major is an ideal complement to any of the other engineering majors, and you'll graduate ready to realise the commercial potential of the great ideas Australia is famous for.

CAREER OPTIONS

You'll be able to work in any of the areas suggested for your chosen major and will be well suited for a career within a multi-disciplinary engineering environment.

You will have developed skills that are particularly useful for positions involving product planning and strategy, product development and business development, marketing or for starting your own business.



ALEX MORRISSEY

**Bachelor of Engineering
(Innovation – Civil & Environmental),
Diploma in Engineering Practice**

**Civil Design Engineer, Parsons
Brinckerhoff**

**Why did you choose to study the
Innovation Major?**

For me it was an excellent mix of business and engineering. It has helped me realise that behind every project there needs to be a commercially or socially viable plan.

**Internships are a large part of the
UTS engineering course, did you
find these useful?**

For my first internship my previous work experience was recognised.

My second placement was as a project co-ordinator to roll out a system to keep track of Sydney Water's vast inventory of pipes and fittings. The internship definitely helped me establish what I wanted to do when I finished university.

**What do employers say about your
innovation major?**

They were genuinely interested in what was involved. There is a great focus on workplace innovation at present and for me the degree really capitalised on that.

What does your job involve?

As a Civil Design Engineer with Parsons Brinckerhoff I design the installation of flow meters to measure water flowing through Sydney's water supply network. I'm also involved in a project to inspect stormwater assets.

**What's one of the greatest benefits of
being an engineer?**

I enjoy the challenge and practicality of design; it's like a big jigsaw puzzle. When something you've designed is getting built, seeing it all come together is very satisfying.

MAJORS



NATHAN GRACE

**Bachelor of Engineering (Civil),
Diploma in Engineering Practice
Site Engineer, Laing O'Rourke**

Where did you complete your internships?

I completed both my Internships and worked part time outside of my internships with Laing O'Rourke. For my first internship I received a Laing O'Rourke internship scholarship offered through UTS: Engineering.

I experienced multiple facets of the construction industry, from tendering and estimating process to large construction projects.

What has been your best experience at UTS?

An elective subject which gave me, and a few other students, the opportunity to travel to a small remote Aboriginal community over 200km west of Alice Springs. Volunteering our time and resources to improving the schools aging infrastructure, was a fantastic experience and the opportunity made me realise what engineering is really about.

What is your current role?

My current role is Site Engineer where I am partially responsible for the structural steel installation and welding activities of large pre-fabricated steel units for a 465 metre wharf.

CIVIL

UAC Code: 603015

2012 ATAR: 91.05

Civil engineers build and maintain the big things in life – roads, bridges, tunnels, houses, offices, shopping and residential complexes, water and sanitation systems and other infrastructure. They generally work outside on construction sites, but can also be found managing projects, consulting or designing in office-based jobs.

The Civil major will give you the basic competencies you need to be 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 and timber, and the physics and mechanics of structures large and small. You will also gain expertise in water supply systems, flood protection, sanitation, hydraulics and waste disposal.

Civil engineers get to see physical structures and systems as reward for their work, and make a huge difference in establishing or repairing infrastructure in developing or war-damaged countries.

CAREER OPTIONS

You can work in any of the areas suggested for the General major, but will be most likely to find opportunities with:

- > Major development and design firms, such as Brookfield Multiplex, Lend Lease, Mirvac, Arup or Landcom
- > Government agencies and their contractors
- > Local (particularly country) 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)

UAC Code: 603095

2012 ATAR: 88.05

You'll learn all the key skills and competencies you need to become a professional civil engineer (as in the Civil major), but will exchange some subjects to specialise in the design and construction of large projects, such as high-rise apartment or office blocks, and high-level skills in scheduling and management of sub-contractors.

You'll gain an understanding of human resources, finance and environmental planning and law, from development applications to environmental impact assessments. With cross-faculty subjects from Design, Architecture and Building, you'll also learn the details of installing building services such as lifts, air conditioning, cabling, IT and telecommunications.

CAREER OPTIONS

You can work in any of the areas open to all civil engineers, and are most likely to find opportunities with:

- > Major developers, such as Brookfield Multiplex, Lend Lease, Mirvac or Landcom
- > 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.

CIVIL (STRUCTURES)

UAC Code: 603018
2012 ATAR: 90.75

You'll learn all the key skills and competencies you need to become a professional civil engineer (as in the Civil major), but will exchange some subjects to specialise in large, complex structures such as skyscrapers and large bridges. You will learn the advanced design and modelling techniques needed to erect and maintain structures like Centrepont Tower, Sydney Harbour Bridge or the Sydney Opera House, and the traditional and advanced materials available for their construction.

You'll also gain advanced knowledge in the behaviour of structures under stresses such as extreme weather, earthquakes or explosions, and develop skills in assessing structural damage. This includes practical expertise in assessing and improving the safety of older structures which may be subject to loads and conditions they weren't originally designed to withstand.

CAREER OPTIONS

You can work in any of the areas open to all civil engineers, and are most likely to find opportunities as a structural engineer with:

- > Major commercial developers
- > Government agencies and their contractors
- > Engineering consultancies, particularly those which specialise in designing and building large structures or assessing existing structures.

CIVIL & ENVIRONMENTAL

UAC Code: 603005
2012 ATAR: 90.65

You'll learn all the key skills and competencies you need to become a professional civil engineer (as in the Civil major), but will spend around half your degree developing a holistic focus on environmental issues.

You'll develop practical skills and expertise in environmental impact assessment, water and wastewater treatment and management, waste management, environmental planning and law, natural resource management (including land and water resources) and sustainable development. You'll also gain expertise in biology, ecology and microbiology, plus an understanding of the social, political and legal aspects of environmental planning and management.

CAREER OPTIONS

You can work in any of the areas suggested for the Civil major, but will be most likely to find opportunities with:

- > Environmental consultants
- > Waste contractors
- > Local councils and government agencies, such as the Department of Environment, Climate Change and Water, Department of Services, Technology and Administration, Department of Planning, the Roads & Maritime Services (RMS – formerly RTA) or water authorities.



ROBERT JOHNSTON

Bachelor of Engineering (Civil-Structures), Diploma in Engineering Practice

What were you doing before you came to UTS?

I first completed a trade certificate in Engineering Fabrication and worked in the industry for 10 years, before deciding to pursue a career as a Civil Engineer. Because I did not complete my HSC, I felt I did not have the prior knowledge to commence an Engineering degree. I completed a Diploma in Civil Engineering at TAFE and worked as Structural Design Draftsmen both in Australia and England for 4 years. The TAFE teachers always spoke highly of UTS and for me, when the time came, my first choice was always going to be UTS.

What Student Support Services have you used?

I completed the mathematics and chemistry bridging courses offered by UTS before commencing the degree. I had not studied chemistry before and found the chemistry bridging course gave me enough fundamental knowledge required to study an engineering degree. UTS also offer's a subject in foundation mathematics which I also took. I found the subject prepared me well for Math Modelling 1 and 2.

Utilise all resources that the university offers, such as U:PASS and the help centres.

MAJORS



DEON PONCINI

Bachelor of Engineering (Software Engineering)
Bachelor of Science (Mathematics),
Diploma in Engineering Practice
Design Engineer, Dolby Laboratories,
Silicon Valley USA

Why did you choose to study engineering at UTS?

Firstly I loved the internship program - it got me the job I am currently working at in America. Secondly, I felt the university had a strong undergraduate focus, they put a lot of work into teaching undergraduate students. I also received a Linden Little Memorial Scholarship.

What aspects of your degree did you find most valuable?

I found the extensive hands on projects really helped me understand the theoretical material that was presented. The final year group project that I undertook in ICT Analysis and Design was the largest project I have ever worked on in my life and was a great opportunity to synthesize all the various skills I had learned over my engineering degree.

How did you come to work in Silicon Valley?

My second internship was a developer at Dolby Laboratories. I stayed on part time and at the conclusion of my degree was offered a position in Silicon Valley in California as they didn't have any positions available in Sydney.

What do you do in your role?

I'm part of a team developing a multimedia player that showcases Dolby's many decoder technologies. Most of my time is taken up by writing code and I get to do a lot of design work as well, designing the architecture of the system I am implementing, as well as helping to decide the requirements.

INFORMATION AND COMMUNICATION TECHNOLOGIES ENGINEERING

UAC Code: 603060
2012 ATAR: 95.40

The ICT Engineering major will teach you to work with software, hardware and systems on a grand scale and with an engineer's analytical approach. Where an IT graduate might work in commercial settings with networks and end-users, as an ICT Engineering graduate you'll be able to design, build, develop and manage anything from commercial networks right up to advanced military or transport applications, industrial automation, intelligent control (such as autopilot or automated production line systems) robotics, aviation, telemetry and satellite systems, including GPS.

You have the choice of specialising in computer systems, software or telecommunications but, regardless of your sub-major, the ICT major is broad enough to allow you to move between these areas as your career progresses.

CAREER OPTIONS

You can work in any of the areas suggested for the General major, but will also find opportunities with:

- > Transport organisations, such as the Roads and Maritime Services (RMS - formerly RTA), RailCorp or AirServices Australia
- > Manufacturing industries, particularly those with automated production lines
- > Logistics and supply chain companies
- > Telecommunications companies, such as Telstra, Optus or Vodafone
- > Commercial service, software and equipment providers, such as Ericsson, Cisco Systems, Microsoft, IBM, SAP, Yahoo or Google

INFORMATION AND COMMUNICATION TECHNOLOGIES ENGINEERING

(COMPUTER SYSTEMS)

UAC Code: 603025
2012 ATAR: 85.00

You'll learn the key competencies and skills from the ICT Engineering major, and will then take subjects specialising in designing, developing, troubleshooting and managing computing machinery from the ground up - the hardware that makes it tick, and the software that gives it character.

This sub-major balances hardware, software and systems, and will teach you advanced design, analysis, programming and integration, as well as advanced technical management skills.

CAREER OPTIONS

You can work in any of the areas open to all ICT Engineers and other IT graduates, and are most likely to work for:

- > Defence and military contractors
- > Government agencies
- > Computer systems consultancies

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

INFORMATION AND COMMUNICATION TECHNOLOGIES ENGINEERING

(SOFTWARE)

UAC Code: 603085
2012 ATAR: 85.05

You'll learn all the key competencies and skills from the ICT Engineering major, and will then take subjects specialising in software development and programming languages, technical design and advanced programming for commercial and industrial machines, including artificial intelligence and software for automatic control systems.

CAREER OPTIONS

You can work in any of the areas open to all ICT Engineers and other IT graduates, and are most likely to work for:

- > Commercial software companies, such as Microsoft or SAP
- > Major industrial computing companies
- > Financial institutions

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

INFORMATION AND COMMUNICATION TECHNOLOGIES ENGINEERING

(TELECOMMUNICATIONS)

UAC Code: 603065
2012 ATAR: 85.00

You'll learn all the key competencies and skills from the ICT Engineering major, and will then take subjects specialising in communications systems, from the analogue and digital telephone, mobile and internet networks we're all familiar with, to communications satellites, radar and the telemetry systems relied on by military, aerospace, aviation and motor racing.

You'll also learn about telecommunications standards, security and regulation – areas which are constantly under scrutiny and changing rapidly.

CAREER OPTIONS

You can work in any of the areas open to all ICT Engineers and other IT graduates, and are most likely to work for:

- > Telecommunications companies and ISPs
- > Defence and military contractors
- > Government agencies

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



PIPPA FLANAGAN

**Bachelor Engineering, (Information and Communication Technologies), Diploma in Engineering Practice
Network Engineer, Optus**

Why did you decide to study engineering at UTS?

I'm a hands-on person. I learn more and have more fun if I am doing practical things, rather than reading from a book, and UTS has a reputation for practical education. Also, they have close ties with industry, meaning they have great contacts.

Internships are a large part of the UTS engineering course. Did you find these useful?

My internships were of great value. They showed me the real-world application of the theory I was studying and helped me understand why we learnt in lectures. They re-invigorated my interest each time. I did a mix of office and field activities. I was lucky enough to be able to stay on after my internship and start my career.

What is your current position?

I'm a Network Engineer at Optus. I design customer services. This involves knowing all about the technologies involved and the equipment used. My job is to ensure our customers have their communication service delivered. I also am responsible for analysing current business processes and making them more efficient.

What's one of the greatest benefits of being an engineer?

There are constant problems to troubleshoot and fix. You have to think creatively and quickly as there is always a customer being affected. Feeling the satisfaction of knowing you solved a problem which resulted in a happy customer is great.

MAJORS



LOUELLA YU

Bachelor of Engineering (Mechanical & Mechatronics), Diploma in Engineering Practice

Why did you decide to study engineering at UTS?

UTS was the only Sydney university to offer both Mechanical and Mechatronic Engineering as well as the Diploma in Engineering Practice. I really liked the idea of getting a "real engineering job" whilst still studying.

Did you enjoy your internships?

The best parts were definitely meeting people, forming relationships with mentors and seeing how things work and how engineering fits into different fields (automotive, health etc.). I worked for NTC Powertrain for my first internship where I got to learn a lot about vehicle and marine transmission systems. My second internship was at UTS: Nursing, Midwifery & Health. I was a Simulation Technician in charge of the high-fidelity mannequins used to simulate patients in real-time.

I'm now working with the Royal Australian Navy while I complete my degree.

What other extracurricular activities do you do?

I am a SWIEIT Speaker (Sydney Women in Engineering & IT Speakers' Program), I go to schools and talk to young girls about engineering or IT.

I've also participated in Unigames, Formula SAE with UTS Motorsports, Engineering Society and DOUTS - Diving Club.

ELECTRICAL

UAC Code: 603035

2012 ATAR: 86.25

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

You will learn 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 the practical skills in hardware and software to enable you to design and build electronics systems, and the knowledge to work effectively with mechanical, computer systems and software engineers.

CAREER OPTIONS

You can work in any of the areas suggested for the General major, but will be most likely to find 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
- > Electronics also has overlaps with Mechanical and Mechatronics and ICT, and you'll also be able to work in many of the areas suggested for those majors

MECHANICAL & MECHATRONICS

UAC Code: 603115

2012 ATAR: 88.00

Mechanical and Mechatronics engineers work both with moving things and the advanced electronics that drive them. This major is a combination of mechanical, electronics, computer systems and software engineering, and you will learn to design and build not only mechanical systems, but also their controllers, software and hardware, electronic processes and the networks which link them.

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 study electronics and computer engineering subjects to enable you to design, build and manage automated and autonomous mechanical systems as a complete whole, with an emphasis on robots, micro and nanoscale machines, automatic and intelligent control systems and biomedical devices.

CAREER OPTIONS

You will be able to work as a Mechatronic Engineer in all the areas suggested for the Mechanical major, but you'll most likely work with:

- > Biomedical and health industries
- > Automotive and aviation companies
- > Advanced machinery and robotics manufacturers

MECHANICAL

UAC Code: 603055

2012 ATAR: 85.05

Mechanical engineers work with moving things (or systems), and in this major you will learn to design, build and maintain anything that moves – from engines and other parts which move planes, trains and automobiles to heavy industrial machinery, biomedical devices, space vehicles, wind turbines and other power generation equipment.

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 power. You'll study some electrical engineering subjects and will also apply your learning in hands-on projects which will help you build the confidence and ingenuity to push the boundaries of machine-based technology.

CAREER OPTIONS

You can work in any of the areas suggested for the General major, but will also find opportunities with:

- > Aerospace companies, such as Boeing
- > Defence agencies, such as BAE Systems
- > Automotive companies, such as Bishop Steering Technology, Holden or Ford
- > Biomedical and health companies, such as ResMed, AiMedics or Cochlear
- > Machinery and robotics manufacturers

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

BIOMEDICAL ENGINEERING*

UAC Code: 603130

2012 ATAR: new course

Biomedical engineers design and develop medical related products and systems, such as; biosensors, medical and physiological monitoring devices and other assistive instrumentation.

You will learn basics of biology, information technology, electrical and mechanical engineering as well as current advances in this multi-disciplinary field. You will be able to select subjects based on your interest. These include biomedical instrumentation and control, bioinformatics, biomechanics, biomedical signal and image processing, neuroscience, and biomedical applications of artificial intelligence.

You will graduate with practical skills and knowledge about the stream of your choice, which will enable you to contribute towards the enhancement of biotechnology, biomedical devices and health services. You will be able to work effectively with other engineers, IT professionals, medical staff and researchers.

CAREER OPTIONS

You will work in any areas open to Biomedical Engineers in the biomedical and health industries and are most likely to find opportunities with:

- > Bioinstrumentation and biomedical device companies
- > Biotechnology and biomechanics manufacturing companies
- > Medical research centres or hospitals in Australia or abroad
- > Medical imaging

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

* Seeking university approval and accreditation with Engineers Australia



PETER RINGWOOD

Bachelor of Engineering (Mechanical Engineering), Diploma in Engineering Practice

Why did you choose to study Engineering at UTS?

The UTS Engineering internship program, awarded as a Diploma in Engineering Practice, allowed me to move into the city and support myself during my studies.

Where did you complete your first internship?

I worked at Eemotiv Control, an aftermarket automotive company specialising in modifying stability control systems for race cars. I was responsible for generating vehicle dynamics models specific to different cars, implementing those models and then testing them against the original manufacturers model.

My internship introduced me to complex simulations and dealing with complex dataset, which has definitely helped me in the more technical subjects of the mechanical stream.

Are you or have you been involved in any societies/clubs?

I've been heavily involved in the UTS Motorsports team, a team which designs, builds and races a 600cc engine open wheel race car. Being involved has been an amazing experience for me, where I have constantly developed my engineering knowledge and allowed me to work side by side with some of the best people I will ever meet.

COMBINED DEGREES

UTS combined degrees will equip you with an in-depth understanding of an engineering field of practice and another discipline, opening up a broader range of career opportunities.

You can transfer from the Bachelor of Engineering, Diploma in Engineering Practice into a combined degree provided you meet the academic performance requirements.

BACHELOR OF ENGINEERING SCIENCE / BACHELOR OF LAWS

2012 ATAR: 97.65
UAC Code: 609050

Duration: 5.5 years full time

With a combined engineering science and law degree, you will have a blend of technical knowledge and legal skills which will enable you to become a legal practitioner in New South Wales. Students wishing to obtain full recognition as graduate lawyer 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.

As well as the engineering skills you will develop in your chosen Bachelor of Engineering Science major, you'll also gain an overview of the legal system, technology legislation, technology-specific criminal law, contract law and environmental law.

CAREER OPTIONS

You'll find opportunities to work in any of the suggested areas listed for your chosen engineering major as a legal advisor, manager or consultant. You can work in engineering or 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, and this combined course was developed in response to this demand.

Engineering Majors available

General, Biomedical, Civil, Civil & Environmental, Electrical, ICT Engineering, Innovation, ICT (Software), ICT (Computer Systems), ICT (Telecommunications), Mechanical.

BACHELOR OF ENGINEERING / BACHELOR OF ARTS IN INTERNATIONAL STUDIES

2012 ATAR: 95.50
UAC Code: 609032

Duration: 5 years full time* + extra year for Diploma in Engineering Practice

With a combined engineering and international studies degree, you will broaden your knowledge and experience beyond Australia and give yourself the opportunity of a multi-lingual, multi-country career.

You will spend one year living and studying overseas, with your international tuition and travel costs paid for by UTS. You don't need previous language experience and can choose to major in one of 12 countries in Europe, Asia and North and South America.

As well as the professional engineering skills you will develop in your chosen Bachelor of Engineering major, you'll also open up a whole world of opportunities, have a rare chance to immerse yourself in another language and culture, develop an international perspective on your studies and broaden yourself as a person.

CAREER OPTIONS

You'll find opportunities to work in any of the suggested areas listed for your chosen engineering major in Australia or in another country. Engineering is an international discipline, and bilingual, global-thinking engineers are able to tackle infrastructure, water and sanitation, environmental sustainability, communication technology and energy resources anywhere they're needed.

Engineering Majors available

General, Biomedical, Civil, Civil & Environmental, Electrical, ICT Engineering, ICT (Software), ICT (Computer Systems), ICT (Telecommunications), Mechanical.

**BACHELOR OF ENGINEERING /
BACHELOR OF SCIENCE**

2012 ATAR: 85.60
UAC Code: 609360

**BACHELOR OF ENGINEERING /
BACHELOR OF MEDICAL SCIENCE**

2012 ATAR: 86.65
UAC Code: 609370

**BACHELOR OF ENGINEERING /
BACHELOR OF BIOTECHNOLOGY**

2012 ATAR: 86.20
UAC Code: 609380

Duration: 5 years full time* + extra year for Diploma in Engineering Practice + extra year for science honours

With a combined engineering and science degree, you will have the technological expertise to understand scientific problems and the practical engineering skills to implement effective solutions.

As well as the professional engineering skills you will develop in your chosen Bachelor of Engineering major, you can specialise in biotechnology, medical science or most of the science majors such as nanotechnology or environmental science.

You can develop skills in areas such as 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 or environmental biotechnology and sustainability. You'll also learn cutting-edge practical laboratory skills and gain an understanding of intellectual property and ethical issues related to science research.

CAREER OPTIONS

You'll find opportunities to work in any of the suggested areas listed for your chosen engineering major, plus fields such as medical technology and instrumentation, biotechnology and bioengineering, nanotechnology, molecular biology, mining, agriculture and fisheries, environmental science, food and drink, product design, pest control or pharmaceuticals.

Engineering Majors available

General, Civil, Civil & Environmental, Electrical, ICT Engineering, ICT (Software), ICT (Computer Systems), ICT (Telecommunications), Mechanical, Mechanical & Mechatronics.

**BACHELOR OF ENGINEERING /
BACHELOR OF BUSINESS**

2012 ATAR: 88.10
UAC Code: 609350

Duration: 5 years full time*+ extra year for Diploma in Engineering Practice

With a combined engineering and business degree, you will have a blend of skills and knowledge to enable you to succeed in any engineering or business environment. As well as the professional engineering skills you will develop in your chosen Bachelor of Engineering major, you'll also gain valuable and highly sought-after business skills from a variety of majors available from the Faculty of Business. You can combine your engineering talents with strong people and business management skills, finance, marketing or international business.

CAREER OPTIONS

You'll find opportunities to work in any of the suggested areas listed for your chosen engineering major, plus fields such as banking, accounting and economics, marketing and any commercial or business sector.

You'll be particularly sought after by manufacturing businesses, where your engineering skills will enable you to understand and develop products and your business skills will ensure the product is financed, developed to meet consumer needs and marketed effectively.

You'll also be ideally suited to working in the financial sector, running your own engineering business or senior management in engineering settings.

Engineering Majors available

General, Biomedical, Civil, Civil & Environmental, Electrical, ICT Engineering, ICT (Software), ICT (Computer Systems), ICT (Telecommunications), Mechanical, Mechanical & Mechatronics.

*If you do not complete the Diploma in Engineering Practice, it is a requirement that you complete 12 weeks of industry experience with the Bachelor of Engineering.

**TRUDI CRAWFORD**

**Bachelor of Engineering (Mechanical),
Bachelor of Arts in International Studies
(Germany)**

Why did you choose Germany for your International Studies?

A main factor was the fact that in Germany there are so many well-known engineering companies, so future job prospects opened up to me, since I have learned the language.

What have you enjoyed most about your International studies degree?

Of course it would have to be the fact that you get to immerse yourself in a different culture, make new friends and live in a different country for a whole year. I studied in the south-western part of Germany, in the town called Karlsruhe. There is so much variety in the different regions of Germany that it is truly amazing and its perfect to travel from as it is a very central part of Europe.

What did you do for your industry experience?

Having not studied the Diploma in Engineering Practice I was required to complete a 3-month internship which I completed at RailCorp. The best part was being able to meet engineers with years of experience that are happy to share their knowledge with you.

SCHOLARSHIPS IN ENGINEERING



SALLY ANDERSON

Bachelor of Engineering (Mechanical and Mechatronics), Diploma in Engineering Practice

2011 UTS Toshiba's Allan Rogers Memorial Scholarship Recipient

Why did you choose engineering at UTS?

In school I loved maths and science, so when I was in year 10 I went on a 'Women in Engineering' camp. I didn't even know what engineering was at the time but I had a fantastic trip and learnt about different types of engineering and where it could take me. On that camp I decided that this was what I wanted to do – my only problem was choosing a specialty!

I chose UTS because the Engineering Faculty has an exceptional reputation for high-standard graduates and I liked the idea of the two, six-month work placements.

What advantages have you experienced as a scholar?

The main advantages are the industry links. I was excited to be working with Toshiba International Corporation, a leading edge global company. I'm able to contact a team of engineers at Toshiba if I have any questions to do with my course, and my industrial placements are already organised.

The UTS Engineering Scholarship program is not only designed to provide financial support, it also promotes your development as a future leader in engineering through partnerships between the University and engineering industry. Giving you the opportunity to meet industry leaders early on in your career and establish relationships with them.

COOPERATIVE SCHOLARSHIPS

\$14,000 (first year)

Application by: 7 October 2012

Interview: 22 November 2012

There are up to 16 industry sponsored scholarships each year in most majors.¹

Past industry sponsors include Alcatel-Lucent, Thales Australia, Laing O'Rourke, Raytheon Australia, John Holland, Robert Bird Group, Transgrid and Weir Minerals.

These scholarships are not available with combined degrees.

THE DEANS ICT MERIT SCHOLARSHIP

\$5,000 (first year)

Two scholarships will be available for high achieving students enrolling in ICT Engineering (any sub major) in the Bachelor of Engineering, Diploma in Engineering Practice. It may be awarded to one female and one male.

These scholarships are not available with combined degrees.

FULL-DEGREE SCHOLARSHIPS

A Full Degree Scholarship provides you with financial support for the full duration of your studies in the Bachelor of Engineering, Diploma in Engineering Practice (5 years full time). Internships are taken with the sponsored organisation.

Roads and Maritime Service (RMS – formerly RTA) Scholarships

\$52,000 over 5 years

Application by: 7 October 2012

Interview: 22 November 2012

These scholarships are available for the Civil major only and are not available with combined degrees. There are six scholarships available in 2013. Applicants from a rural/regional area or applying for a UAC Equity Access Scheme are encouraged to apply.

Toshiba's Allan Rogers Memorial Scholarship

\$73,000 over 5 years

Application by: 7 October 2012

Interview: 22 November 2012

There is one scholarship available each year in either Electrical, Mechanical or Mechanical & Mechatronics Engineering majors and is not available with combined degrees. This scholarship is sponsored by Toshiba International Corporation.

EQUITY SCHOLARSHIPS

These scholarships provide you with financial support if you have experienced long-term educational disadvantage/financial hardship due to any of the following:

- > Personal illness/disability
- > English language difficulty
- > Rural or isolated school
- > Difficult family circumstances
- > Indigenous Australian

When applying for an Engineering Equity Scholarship, you must apply online at www.eng.uts.edu.au/scholarships in addition to applying for an Equity Scholarship through UAC (Universities Admissions Centre) found at www.uac.edu.au/equity

WJ and LM Sinclair Scholarship in Engineering

\$100,000 over 5 years

Application by: mid January 2013

Interview: Jan/Feb 2013

One scholarship offered to an applicant with a minimum raw ATAR of 80 commencing the first year of the Bachelor of Engineering, Diploma in Engineering Practice in any major.

This scholarship is also open to non-current school leavers. Indigenous Australians are encouraged to apply.

John Heine Memorial Foundation Engineering Scholarship

Approx \$85,000 over 5 years

Application by: mid January 2013

Interview: Jan/Feb 2013

One scholarship offered to an applicant with a minimum raw ATAR of 80 commencing the first year of the Bachelor of Engineering, Diploma in Engineering Practice in any major. This scholarship is also open to non-current school leavers.

The Linden Little Engineering Equity Scholarship

\$27,000 over two years

Application by: mid January 2013

Interview: Jan/Feb 2013

This scholarship is available to students commencing in the Bachelor of Engineering, Diploma in Engineering Practice in any major.

UTS Engineering and IT Aboriginal and Torres Strait Islander Scholarship

\$25,000 over 5 years

Application by: mid January 2013

Interview: Jan/Feb 2013

This scholarship is offered to a high achieving student of Australian Aboriginal or Torres Strait Islander descent commencing the first year of the Bachelor of Engineering, Diploma in Engineering Practice in any major. This scholarship is also open to non-current school leavers. Up to two scholarships are offered every year.

Women in Engineering Equity Scholarship

\$14,000 (first year)

Application by: mid January 2013

Interview: Jan/Feb 2013

This scholarship is offered to a female with a minimum raw ATAR of 80 commencing the first year of the Bachelor of Engineering, Diploma in Engineering Practice in any major. This scholarship is also open to non-current school leavers.

APPLICATION AND INTERVIEWS

Application Criteria

- > For most scholarships, you need to be a successful High School candidate in the current year's NSW Higher School Certificate (or equivalent) or have successfully completed the NSW Higher School Certificate (or equivalent) in 2011 and taken a gap year² in 2012. Successful candidates will generally have an ATAR of around 90.
- > Be an Australian Citizen or Permanent Resident
- > Apply to study and to meet the admission requirements for the five-year Bachelor of Engineering, Diploma in Engineering Practice, see (Applying to UTS) page 23.

How to apply

Applications need to be submitted before the closing date and online at:

www.eng.uts.edu.au/scholarships

Online applications open in May 2012.

Interviews

Applications are reviewed by a panel of university staff and industry representatives. Students who are short listed will be invited to attend an interview. If your interview is successful, you will be made a provisional offer in mid December.

For up to date scholarship information, including any new scholarships visit:

www.eng.uts.edu.au/scholarships

¹ Availability of scholarships may vary depending on industry support.

² If you have studied a university or TAFE diploma level course or above during this gap year, you are not eligible to apply for current school leaver scholarships.



JOSHUA BURNS

Bachelor of Engineering (Civil), Diploma in Engineering Practice

2011 UTS Faculty of Engineering and IT Aboriginal and Torres Strait Islander Equity Scholarship recipient

Why did you choose engineering at UTS?

My dad works in construction and after hearing him say "See that building? I built it..." several hundred times, it became pretty clear what I was going to do with my life! I was able to go along to his workplace now and then, and the more I went the more the industry appealed to me. I decided to go with UTS because of the reviews I had heard about its program, and the two six-month internships which form part of the course curriculum are appealing because they will add to my understanding of the engineering world and the real life applications of what we learn.

What advantages have you found being a scholar?

My scholarship has presented experiences that other first year students haven't had. I've attended several faculty functions and met the industry partners who sponsor the scholarships.

SCHOLARSHIP INFORMATION EVENING

You are encouraged to attend the scholarship information evening to be held on **Wednesday 27 June**. There will be presentations on the scholarships offered, how to apply and interview skills. You will also hear from UTS students who will talk about their experiences of becoming engineering scholars at UTS. Please check the website to register your attendance at www.eng.uts.edu.au

UTS SCHOLARSHIPS, FEES & FINANCIAL ASSISTANCE

UNIVERSITY-WIDE SCHOLARSHIPS

- > **Vice-Chancellor's Outstanding Achievement Scholarship**
UTS offers up to five of these scholarships to top HSC students.
Value: \$12,500 per annum for the duration of your undergraduate study in any discipline
- > **Vice-Chancellor's Merit Scholarship**
UTS offers up to five of these scholarships to top HSC students who are assessed as being in need of financial assistance.
Value: \$12,500 per annum for the duration of your undergraduate study in any discipline
- > **Vice-Chancellor's Indigenous Undergraduate Tuition Fee Scholarship**
Scholarships are awarded on academic merit to Australian Indigenous students who are commencing higher education studies for the first time.
Value: Tuition fees for the duration of your undergraduate studies
- > **Shirley Alexander TAFE-UTS Pathways Scholarship**
Scholarships are awarded to an outstanding TAFE student with demonstrated financial hardship, who has completed a Diploma or Advanced Diploma in the year before commencing any UTS course.
Value: \$4,000 paid upon commencement.

For information on all scholarships visit www.undergraduate.uts.edu.au/scholarships

TUITION FEES

Local students

Most local 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 and receive a 10% discount. Alternatively, you can defer payment of your student contribution using HECS-HELP.

Students are also 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 Union food, beverage and retail outlets (including a 10% discount for students), the planned free legal services centre 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 SA-HELP.

For more information on course fees visit: www.sau.uts.edu.au/fees
Tel: 1300 ASK UTS (1300 275 887)

International students

Fees for international students are published annually, visit www.uts.edu.au/international

FINANCIAL ASSISTANCE

The UTS financial assistance service can help students with practical and financial aspects of life at university.

Local UTS students with ongoing and long-term low income, can approach our financial assistance service for support with advocacy to Centrelink, information on HECS & FEE-HELP, loans and equity based scholarships and grants, and advice on budgeting.

Student Loans

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.

For information on financial assistance at UTS visit www.ssu.uts.edu.au/fassist

GETTING IN TO UTS

CURRENT SCHOOL LEAVERS

Selection is based on your ATAR only. You may also increase your chances of getting into UTS with Year 12 bonus scheme and/or access schemes. See below for more information.

YEAR 12 BONUS SCHEME AND QUESTIONNAIRE

Although your ATAR can be a good indicator of a successful career in engineering we also know, from our experience in the education of professional engineers, that other factors also play a significant role.

Student motivation, interpersonal skills, design talent and technical aptitude are just a few aspects which can contribute quite strongly to both performance within an engineering degree and your success as a professional engineer.

The HSC Bonus Scheme takes these other factors into account when assessing applications.

How Does it Work?

Bonus points (**up to 5**) are added to your ATAR on the basis of performance in certain subjects taken in the HSC. If your ATAR falls short of the course cut-off (normally mid 80s) subsequent to bonus points being added, your ranking can be adjusted based on the submission of a questionnaire. The questionnaire will be evaluated based on the following criteria:

- > Your motivation
- > Your interest in engineering
- > Your affinity for the engineering discipline

The Year 12 Bonus Scheme is applicable to all UTS Engineering courses except Bachelor of Engineering Science/ Bachelor of Laws.

Even if you believe that you will receive a high ATAR, we strongly recommend that you still complete the questionnaire.

The questionnaire submission deadline is **Sunday 2 December 2012**.

HSC subjects that can help you accumulate bonus points for entry into a UTS Engineering course include:

- > Chemistry
- > Design & Technology
- > Engineering Studies
- > English Advanced Extension 1 or Extension 2
- > Industrial Technology
- > Information Processes and Technology
- > Information Technology
- > Mathematics Extension 1 or Extension 2
- > Physics
- > Software Design and Development

Information about the Year 12 Bonus Scheme & online questionnaire for UTS: Engineering courses can be found at www.eng.uts.edu.au/entry

MATURE AGED AND OTHER NON SCHOOL LEAVERS

Selection is based on academic merit based on previous ATAR or post-school courses already completed. UTS may also take into account your relevant achievements and experience, for UTS admission requirements visit www.undergraduate.uts.edu.au

You may also increase your chances of getting into UTS via access schemes. See below for more information.

ACCESS SCHEMES

UTS Access Schemes take into account a range of educational disadvantages that may have impacted on your most recent academic performance. The following schemes assist applicants to gain entry to UTS courses:

- > **inpUTS Educational Access Scheme** awards up to 10 concessional points off the ATAR cut-off to applicants who have experienced financial hardship, illness or disability, family disruption, language difficulties, or have attended a disadvantaged school.
- > **UTS Refugee Special Admissions Scheme** awards up to 10 concessional points for applicants who have had a refugee experience or people seeking asylum in Australia.

- > **Jumbunna Indigenous Admissions Program** is for Aboriginal and Torres Strait Islander applicants. It provides help with entry to UTS through Yana Muru Pathway Program. For more information contact Jumbunna Indigenous House of Learning, see page 23.

- > **UTS Elite Athletes and Performers Special Admissions Scheme** awards up to 5 concessional points off the ATAR cut-off to applicants are elite athletes and/or performers and whose sport or performance commitments have impacted on their studies

For more information about Access Schemes contact the UTS Equity & Diversity Unit, see page 23 for contact details.

ENTRY PATHWAYS

For a list of UTS admission requirements visit www.undergraduate.uts.edu.au

If you do not get into university straight from school or if you have no recent study experience, possible entry pathways are TAFE NSW or UTS:Insearch. If you complete one of the approved Diplomas in Engineering offered by TAFE NSW or UTS:Insearch and then apply for a UTS: Engineering course you may then receive credit recognition.

INTERNATIONAL STUDENTS

If you are not a citizen or permanent resident of Australia, or a New Zealand citizen, you need to apply as an international student.

UTS International can provide international students with course admission requirements.

If your prior education was not conducted in English, you must demonstrate proficiency in English by completing an English language test.

For more information contact UTS International, see page 23 for contact details.

STUDENT SUPPORT AND COMMUNITY

ENGINEERS WITHOUT BORDERS

Engineers Without Borders (EWB) work with disadvantaged communities to improve their quality of life through education and sustainable engineering programs. UTS has an active chapter of EWB where students of all disciplines (not just engineers) have the option of building leadership and sustainability skills while applying their university studies to humanitarian engineering projects such as the Great Engineering Challenge, Connectivity Program, High School Outreach Program, Capstone Project or perhaps by even doing an internship overseas.

For more information visit www.ewb.org.au/explore/chapters/nsw/uts

UTS MOTORSPORTS

The UTS Motorsports team competes every year in the Formula SAE, an engineering design competition run by the Society of Automotive Engineers (SAE) for university students. Students are encouraged to showcase their ingenuity and engineering skill by building, racing and marketing an open-wheel, formula-style race car to compete in various static and dynamic events.

The UTS Motorsports team primarily consists of students from the Mechanical Engineering discipline but welcomes all

motoring enthusiasts from other faculties and departments. This includes students from the Civil, Electrical, Mechatronics and Software Engineering disciplines as well as from the Design, Architecture and Building Faculty. The team allows students to participate and learn from tasks ranging from engineering design, to application and management.

To express interest in the UTS Motorsports team, e-mail: motorsports@uts.edu.au or visit www.utmotorsports.com

WOMEN IN ENGINEERING AND IT

The Women in Engineering & IT Program at UTS was established to promote engineering and IT as a choice of study and career to girls and young women, particularly in secondary schools. New students can connect with WiE&IT staff at Orientation Camp in February and follow-up at the first welcome lunch in April.

Students of both genders are invited to support and participate in year-round interactive programs engaging school students, site-visits and industry mentoring programs. Leadership initiatives include volunteering for Hands on Days and the industry sponsored Sydney Women in Engineering & IT (SWIEIT) Speakers' Program as well as being mentored by a female engineering or IT professionals as part of the Lucy Mentoring Program. WiE&IT host regular lunchtime events with guest speakers every semester.

A number of industry, professional and community organisations support WiE&IT with presenters, networking opportunities and mid-degree scholarships including Zonta Club of Sydney Breakfast, Engineers Australia, RailCorp, Minerals Council of Australia-Thiess, Google and NAWIC.

The Women in Engineering & IT Program at UTS is celebrating its 31st birthday in 2012, making it the longest running program of its kind in Australia.

For more information visit: www.feit.uts.edu.au/women

UTS ROBOTICS SOCIETY

The UTS Robotics Society promotes the building and learning of robotics. The Society has access to robotics equipment, participates in robot building competitions, and receives support from Faculty staff and industry.

<https://www.facebook.com/RoboSoc>

ENGINEERING SOCIETY

This is a student body within UTS: Engineering that organises a number of academic and social events including Orientation Camp and the Tower Building Competition sponsored by John Holland. They offer new students support and encourage student relationships.

For more information visit www.engsoc.org.au

OVERSEAS STUDY EXPERIENCES

Most of the overseas universities with which we have exchange agreements teach engineering courses in English, while also providing you with the opportunity to study the local language. The countries where English-language programs are offered are Austria, Canada, Denmark, France, Germany, Hong Kong, Hungary, Mexico, Netherlands, Philippines, Singapore, Sweden, USA and the UK.

For details visit www.uts.edu.au/international/exchange



APPLYING TO UTS

APPLICATION

Your formal application to study at UTS is lodged with the Universities Admissions Centre (UAC) at www.uac.edu.au in August - September. Late fees apply for applications received after this date. UAC provides details on application procedures and admission schemes.

QUESTIONNAIRE FOR CURRENT SCHOOL LEAVERS

To increase your chance of entry, we encourage you to complete the HSC Bonus Scheme Questionnaire for engineering courses detailed on page 21. To do this, visit www.eng.uts.edu.au/entry

Submissions close 2 December 2012.

NON-CURRENT SCHOOL LEAVERS

For Non-Current School Leavers who have worked or studied before, previous qualifications, achievements and experience will be considered and should be included in your UAC application.

CREDIT RECOGNITION

If you have already completed, or part completed a university course, you will be eligible for credit recognition. This will either exempt you from certain specific subjects or reduce the number of elective subjects you need to complete. If you have completed a TAFE Diploma or Advanced Diploma in an Engineering sub-discipline or a UTS:Insearch Diploma of Engineering, you will also be eligible for credit recognition.

MATHS AND PHYSICS PREPARATION

If you don't have the assumed knowledge but have a strong interest in engineering, bridging courses, transition subjects and student support services are available that will enable you to complete the course in normal time.

ACCESS SCHEMES FOR STUDENTS WHO HAVE EXPERIENCED DISADVANTAGE

If you've experienced educational disadvantage you should contact UTS Equity & Diversity Unit to discuss options of applying through a UTS educational access schemes. (See details on page 21)

Tel: +61 2 9514 1084

Web: www.equity.uts.edu.au/admission

Email: equity@uts.edu.au

INDIGENOUS AUSTRALIANS

If you identify as Australian Aboriginal or Torres Strait Islander, Jumbunna Indigenous House of Learning will provide specialised assistance to help you gain entry to UTS through the Yana Muru Pathway Program.

Tel: 1800 064 312 (free call within Australia)
Tel: +61 2 9514 1904

Web: www.jumbunna.uts.edu.au/students

Email: atsirecruitment@uts.edu.au

INTERNATIONAL STUDENTS

If you are not a citizen or permanent resident of Australia, or a New Zealand citizen, you need to apply as an international student.

International students apply to UTS International, either in person, by mail, online or through an accredited UTS representative.

UTS International

Tel: 1800 774 816 (free call within Australia)
+61 3 9627 4816 (for international calls)

Web: www.uts.edu.au/international

Email: international@uts.edu.au

USEFUL LINKS

Online handbook

www.handbook.uts.edu.au

Timetable

timetable.uts.edu.au

Applying for Undergraduate Study

www.undergraduate.uts.edu.au/

HSC Bonus Scheme & Questionnaire

www.eng.uts.edu.au/entry

Fees

www.sau.uts.edu.au/fees

Accommodation and Housing

www.housing.uts.edu.au

Bridging Courses

www.science.uts.edu.au/courses/bridging.html

Orientation Camp

www.feit.uts.edu.au/students/new

Engineering Events

www.eng.uts.edu.au/newsandevents

Young Engineers Australia

www.engineersaustralia.org.au/young-engineers

WANT MORE INFORMATION?

VISIT OUR WEBSITE

eng.uts.edu.au

The Engineering Handbook:
www.handbook.uts.edu.au/eng

CONTACT US

We are always happy to answer your questions and we can even give you a tour of the faculty at the city campus, Broadway. For further information contact us:

Engineering and IT Outreach Office
Building 2, Level 4, Room 4.16
City Campus, Broadway
Tel: **(02) 9514 2666**
email: engineering@uts.edu.au

WATCH OUR 'STUDYING ENGINEERING AT UTS' VIDEO

www.eng.uts.edu.au/video

VISIT UTS

UTS Engineering Info Evening
Wednesday 20 June 2012
6pm
City Campus

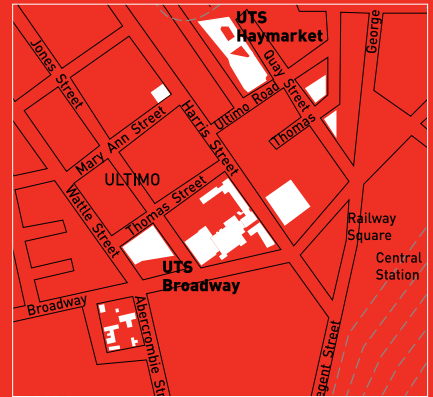
Scholarship Information Evening
Wednesday 27 June 2012
6pm
City Campus

UTS Open Day
Saturday 25 August 2012
9am-4pm
City Campus

UTS Info Day
Thursday 3 January 2013
9am-4pm
City Campus

On Campus High School Visits
Please ask your teacher to contact us for bookings

CITY CAMPUS



DISCLAIMER: The information in this brochure is correct at February 2012. Changes in circumstances after this date may alter the accuracy or currency of the information. The UTS reserves the right to alter any matter described in this brochure without notice. Readers are responsible for verifying information that pertains to them by contacting the University.

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