Engineering & IT
Undergraduate Courses
International Students

No. 1
UTS ranked Australia's #1 young* uni
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Faculty snapshot
11,171 Total number of enrolments
7694 Undergraduate enrolments
2510 Postgraduate coursework enrolments
967 Higher degree research enrolments

UTS at a glance
2199 Higher degree research
10,208 Postgraduate coursework
33,752 Undergraduate, enabling and non-award

UTS student diversity
29% are 25 or older
49% are female
50% were born outside of Australia

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

Contact us
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Web: international.uts.edu.au
Email: international@uts.edu.au

Connect with us

UTSInternationalstudents
UTSINT
UTSFIEIT
悉尼科技大学 UTS

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 respect to the Elders both past and present, acknowledging them as the traditional custodians of knowledge for these Lands.
Why UTS?

Advances in engineering and digital technologies are changing the world. Our graduates are next-generation leaders with real-world innovation and entrepreneurship skills in new and emerging fields.

Transform the future with degrees that will develop technical skills and build practical experience.

INDUSTRY FOCUSED LEARNING
Theory is great, but nothing prepares you better than real industry experience for the workforce. That’s why we offer hands-on, practice-based learning that cultivates future-ready graduates. Our industry partnerships enable us to offer you working knowledge throughout your degree.

CONNECTIONS THAT COUNT
UTS connects with over 1000 industry partners in teaching and research. Surround yourself with opportunities to engage with companies such as Siemens, Raytheon, Deloitte, PwC, Aurecon, WiseTech Global, Thales, Canon Medical Systems and Cisco.

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. 10 in the world 2020.

EXPAND YOUR HORIZONS
Participate in our Global Exchange, Global Short Programs or undertake an international internship, to lay down the foundations for a global career.

INNOVATION HUB
UTS sits in an innovation precinct that is home to Australia’s largest cluster of start-up firms. Our building’s modern teaching spaces and laboratories are designed to inspire and support creativity, entrepreneurship and collaboration.

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

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

At UTS, we’re preparing students for the future of work."
No. 1
in Australia for Computer Science & Engineering*

Academic Ranking of World Universities (ARWU) 2019

No. 2
in Australia in Telecommunication Engineering

Academic Ranking of World Universities (ARWU) 2019

No. 29
in the world for Computer Science

Academic Ranking of World Universities (ARWU) 2019

No. 1
UTS ranked Australia’s #1 young* uni


Top 100 universities globally

Engineering/Technology & Computer Science

Academic Ranking of World Universities (ARWU) 2019

No. 69th
Globally for graduate employability and 7th in Australia

QS Graduate Employability Rankings 2020

Almost 80%
of UTS’s assessed research areas rated as having a “high” impact beyond academia (the highest proportion in the country)

2018 Engagement and Impact Assessment (EIA).
Research facilities

There is no better place to see your future from.

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

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

PROTOSPACE
ProtoSpace is our purpose-built additive manufacturing facility, designed to bring prototype testing and product manufacture within the reach of UTS students. State-of-the-art printing machines have a broad range of functionality, which means ProtoSpace can offer new opportunities for cutting edge applications of 3D printing, also known as ‘additive manufacturing’. This range of additive and advanced manufacturing technologies, software and expertise, places NSW at the forefront of manufacturing innovation in the local region.

ProtoSpace is a collaborative space open to industry and external partners, as well as UTS staff, students and researchers. The set-up allows ideas to be trialled and refined, for possible commercial manufacturing or bespoke applications. Innovations that emerge from a lab of this calibre have real-world uses across a range of industries, from medicine to manufacturing, engineering and design to architecture.
SOFTWARE DEVELOPMENT STUDIO
A rich environment for you to become professionally competent via an industry collaborative software development experience throughout your degree.

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

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

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

Research at the Faculty of Engineering and Information Technology is renowned for impact and industry focus. Our priority is to ensure that the work we do has a transformative impact on society and industry.

feit.uts.edu.au/research

**SHARK-DETECTING SOFTWARE PROTECTS BEACHGOERS**

SharkSpotter is a world-first system developed by the Centre of Artificial Intelligence in partnership with drone solutions provider The Ripper Group to prevent shark attacks and save lives at beaches.

Patrolling from the sky, Little Ripper drones are loaded with AI software that distinguishes sharks from other marine life and objects.

If a shark is detected and becomes a threat, the drone’s megaphone can be activated to warn swimmers. It can also drop a live-saving floatation pod with an electronic shark repellent in emergencies.

A cost-effective solution for beach safety over large areas, SharkSpotter won the national AI or Machine Learning Innovation of the Year at the Australian Information Industry Association’s annual iAwards.

Little Ripper drones are currently patrolling major beaches across Australia.

Centre for Artificial Intelligence
FILTRATION SYSTEM PROVIDES CLEAN WATER IN VIETNAM
An inexpensive and sustainable filtration system designed by the Centre for Technology in Water and Wastewater is providing clean drinking water along the Red River Delta in Vietnam.

Working with researchers from Hanoi University of Science and the Institute of Environmental Technology, Vietnam Academy of Science and Technology, the system addresses the issue of groundwater contaminated by arsenic. Previous filtration methods were neither cost-effective or efficient at removing the chemical, which causes major health problems including cancer, gastrointestinal disorders and nerve tissue injuries. Water for daily living at many sites depended on rainwater, which is scarce in dry seasons.

The system was installed and operated in houses, childcare centres, a commune office and commune culture houses in Hanoi and Ha Nam province – a model for clean water that can be adopted worldwide. It won a Technology Against Poverty Prize, a partnership between the Australian Government’s innovationXchange and Google.

Centre for Technology in Water and Wastewater

ROBOTIC TECHNOLOGIES EXTEND WATER PIPE LIFE
UTS and Sydney Water have a strong research partnership spanning over 10 years. The Centre for Autonomous Systems collaborated with Sydney Water to design sensing robotic technologies that extend the lifespan of water and sewer pipes in Australian cities and towns.

Many of the pipes approaching the end of their life are underground and completely replacing them is expensive. As a more cost-effective solution, the water industry and multiple partners are establishing standards, technologies and coatings for lining pipe interiors to extend their use.

The robots developed at UTS are designed to check the quality of liner application and conduct long term performance monitoring of pipes. The technology will help deliver an even more reliable water and wastewater service and reduce disruption due to repairs and replacements.

Centre for Autonomous Systems

LANDMARK INTERNET OF THINGS (IOT) INNOVATION LAB PROMOTES BETTER BUSINESS AND STUDY
UTS is the first academic institution to work with leading technology solutions provider Cisco and analytics software company SAS in a global Internet of Things (IoT) partnership to create a new research and teaching facility.

The UTS-SAS-Cisco IoT Innovation Lab will explore how huge volumes of data generated by massive numbers of IoT devices and sensors can be gathered, stored and analysed to help businesses improve decision-making, build organisational capacity and apply streaming data analytics at the edge to meet new IoT challenges.

The world-first partnership will foster collaboration between top UTS researchers in the area of IoT and harness the power of industry platforms to deliver solutions with impact. Early research will be in the areas of advanced manufacturing, agribusiness and healthcare. The facility’s optimised study environments will promote improved learning outcomes for students.

UTS-SAS-Cisco Innovation Lab
When you choose to study at the UTS Faculty of Engineering and IT you get experience the best of both worlds - a great degree and exposure to UTS industry partners.

Add an internship to your degree, work on industry projects in studio subjects, test industry systems in hackathons and pitch your experience at a student showcases.

**INTERNSHIPS**

All engineering students complete a minimum of 12 weeks work experience in the Bachelor of Engineering (Honours). This ensures you graduate with practical, hands-on experience, to give you a competitive edge when you finish uni.

Engineering students have the option to enrol in the Diploma in Professional Engineering Practice. This is a 48-week structured Practice Program, consisting of two six-month internships alongside your engineering course.

Students who enrol in the Bachelor of Science in IT can add the Diploma in Information Technology Professional Practice as part of their program. The Diploma is a structured program, consisting of one nine-month internship alongside your IT course.

**SUPPORT FROM OUR TEAM**

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.

**GAIN REAL-WORLD EXPERIENCE**

Internships are structured programs that give you valuable hands-on work experience. You get to see how the technical knowledge you learn at uni is applied in practice. It’s the perfect way to explore the world of work to learn more about the type of job options and career paths available to you.

**BUILD VALUABLE NETWORKS**

An internship as part of your UTS Engineering or IT degree is a chance to make valuable connections and start building your industry network. Your internship work colleagues may become lasting contacts who let you know about potential job opportunities and act as your mentors and referees in the future.

**PROFESSIONAL FROM DAY ONE**

Step one listen, step two do. Engineering and IT subjects are delivered by industry professors who understand the importance of practice. Be a true professional from the start, by applying your skills to real industry challenges, hackathons and showcases.

**SEE YOUR IDEAS FLOURISH**

TIME Magazine, Snapchat, Reddit, Facebook, Google, Dropbox, WordPress and Yahoo were all founded in universities. Be where opportunities happen. 40% of Sydney’s tech start-ups are in our neighbourhood and we offer dedicated services and programs to mentor students with ideas and ambitions.

**INDUSTRY PARTNERS**

- Accenture
- American Express
- Aurecon
- Bouygues Construction Australia
- BT Group
- Caltex
- Cisco
- Coca-Cola Amatil
- Cochlear
- Commonwealth Bank
- Deloitte
- KPMG
- Lendlease
- Microsoft
- Nokia
- PWC
- Qantas
- Raytheon
- ResMed
- Siemens
- Thales
- Toshiba International Corporation Pty Ltd
- Unilever
- Westpac
- WiseTech Global
Prepare for the future

Engineering and IT skills are your passport to success.

ROBOTICS
Blending mechanical engineering, electrical engineering and computer science, intelligent systems will play an important role in business and in day-to-day life.
Consider Mechanical and Mechatronic Engineering, Electrical Engineering or Software Engineering.

DATA ANALYTICS AND ARTIFICIAL INTELLIGENCE (AI)
AI is a part of our everyday lives. Google’s search algorithms, facial recognition tools, virtual personal assistants like Siri or Alexa 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.
Consider Computing Science, majoring in Data Analytics and Artificial Intelligence.

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.
Consider Data Engineering or Electronic Engineering.

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.
Consider Software Engineering.

3D PRINTING
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 printing facility, the ProtoSpace.
Consider using ProtoSpace, our 3D print facility, to support your engineering projects and research.

CYBERSECURITY
With the ever-increasing exposure to technology, the concern over cyber threats to organisations and government is a continuous threat. With each breach comes increased security, focus and funding.
Consider Computing Science, majoring in Cybersecurity and Privacy or Networking and Cybersecurity.

60,000
job openings around Australia for software and applications programmers by 2022
Australian Government, Job Outlook

$64,250
The average starting salary for graduate engineers in Australia is $64,250
Australian Bureau of Statistics 2018

36,000
job openings for ICT Managers around Australia over the next 5 years
Australian Government Job Outlook

76.4%
of students were in full-time employment four months after graduation
Engineering Professions, Australia, 2017 Department of Employment, Australian Government

11,000
engineering management roles in Australia available by 2022
Australian Government, Job Outlook

172,400
new IT related jobs are predicted to be created over the next five years to May 2024
Department of Employment, 2019 Industry Employment Projections
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 and 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.

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

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. 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.
utsroboticssociety.org

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.
utscyber.org

UTS MOTORSPORTS ELECTRIC
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

PROGSOC
Established by students for students, Progsoc’s main aim is to encourage programming at UTS and enable members to develop non-commercial software and collaborate with organisations who share an interest in programming.
progsoc.uts.edu.au

UTS TECHSOC
UTS TechSoc is the student society for Information Technology at UTS and is now one of the leading social societies at the university, attracting members from a variety of courses and disciplines. UTS TechSoc aims to provide all members with a variety of social and career-focused events.
utstechsoc.com

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.
helps.uts.edu.au

We encourage you to check out the full list of clubs and societies at: activateuts.com.au/clubs
Mechatronic engineering students developed two prototypes during their Summer Studio to assist with the rehabilitation of stroke victims.

Thirunisha Thirumurugan developed ‘Rehab to the beat’, a virtual piano rehabilitation device for stroke patients to use at home or in their hospital bed. Rowan Smith added ‘Universal Care’, a robotic assistance device that detaches the physiotherapist from the patient. By doing this, the physiotherapist can use a hand controlled mode to move the arm or can set a series of independent games or exercises for the patient to play.

‘The class continued to collaborate and brainstorm until they came up with ‘Tech Gym’, a place where people can come to be rehabilitated but with updated equipment that evolves around cutting edge technology. ‘Tech Gym’ was showcased at the Summer Studio Exhibition and exposed the team to the partnering opportunity with UTS Startups.

“I’m just blown away with how much support we get. The collaboration space is really nice. The community and the vibe from everyone is phenomenal,” says Rowan.

Within the first two weeks of joining UTS Startups, the Tech Gym team met with an accelerator program and investors. This highlighted the blunt, yet constructive realities of investor and industry expectations, which Rowan and Thirunisha are taking on board to progress to their next big goals.

“Our main milestone would be to have an MVP (minimum viable product) out by the end of summer. The particular medical advice that we’re trying to get is around the Therapeutical Goods Administration regulations and laws and how to go to a clinical trial.”

See page 15 for more info on studios.
Scholarships

UTS is proud to award scholarships to its students every year. Through its scholarships, UTS endeavours to reward achievement and recognise motivation to succeed.

UTS has committed $30 million towards a range of scholarships and grants for commencing and current international undergraduate and postgraduate students up to 2020.

Check out the full range of scholarships here and assess your eligibility to apply.

uts.edu.au/future-students/scholarships

Global opportunities

Ready for the world beyond?

Dive headfirst into the language and culture of another country, travel the world during uni break and get a global perspective on your engineering or IT degree that’ll set you apart from your peers.

GLOBAL EXCHANGE
Study overseas for one or two teaching sessions at a UTS partner university. There are 256 exchange partners in over 43 countries and territories to choose from.

INTERNATIONAL INTERNSHIPS
The Bachelor of Engineering (Honours), Diploma in Professional Engineering Practice includes two six-month internships which can be taken with a local or international company. Students who intern overseas develop an international business network, add another language to their résumé, plus gain exposure to multinationals who don’t have offices in Australia.

Dive headfirst into the language and culture of another country, travel the world during uni break and get a global perspective on your engineering or IT degree that’ll set you apart from your peers.

UTS BUILD PROGRAM
BUILD (Beyond UTS International Leadership Development) is an extra-curricular global leadership program designed to harness your leadership potential and develop your mindset, skills and competencies as a global citizen and global leader.

UTS GLOBAL SHORT PROGRAMS
Each university session break, this program offers short-term overseas programs that will broaden your horizons. Students can participate in summer/ winter schools at partner universities; overseas study tours; and international internships.

Understand your degree

Let’s break it down. Here’s what a UTS degree program looks like.

A UTS degree is made up of credit points. Most subjects are 6 credit points, or sometimes 3. Engineering and IT degrees are mainly comprised of core subjects, major subjects, professional practice subjects and electives. Some degrees allow you to choose a sub-major option.

Some UTS Engineering and IT degrees have the following subjects as part of the degree:
- capstone subject: in-depth later year research project
- studio subject: project-based and collaborative subject that promotes problem solving skills, and creative thinking.
WHAT'S IT ALL ABOUT?
Get the in-depth preparation you need to make your mark in the engineering industry. Combine strong technical skills with transformative professional skills in complex problem solving, communication, innovation and team-work to deliver impact across local and global communities.

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

See pages 18-23 for an explanation of these majors.
*Not available in combined degrees with Medical Science and Science
^*Not available in combined degrees

COMBINED DEGREES
- Bachelor of Arts in International Studies
- Bachelor of Business
- Bachelor of Creative Intelligence and Innovation
- Bachelor of Laws**
- Bachelor of Laws (Honours)**
- Bachelor of Medical Science
- Bachelor of Science

** Combined with Bachelor of Engineering Science (not accredited by Engineers Australia)

ACCREDITATION
The Bachelor of Engineering (Honours) is accredited by Engineers Australia at the Graduate Professional Engineer level. The degree is recognised internationally by signatories to the Washington Accord.
For more information visit
ieagreements.org/accords/washington
Typical course structure for a single major

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<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<tr>
<td>Session 1</td>
<td>Session 2</td>
<td>Session 3</td>
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<td>Core</td>
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</table>

**CORE**
Core subjects are taken by all engineering students regardless of major and provide the foundation knowledge and skills required of every engineer.

**MAJOR**
Develop the essential technical knowledge specific to your chosen field of practice.

Major subjects include a final-year Capstone Project, which is an in-depth research study on a topic of your choice. Many students work on their Capstone Project with one of their internship companies, while others work within the Faculty’s research centres.

**ELECTIVES**
Consolidate your expertise with additional engineering subjects, or expand your interests by enrolling in subjects from other faculties.

**PREPARATION AND REFLECTION**
These subjects help you get the most out of your internships. You’ll take them before and after your internship. Think resume preparation, interview advice and e-portfolios including your experience.

**STUDIOS**
High energy, open-ended and collaborative subjects with input from academics and industry partners.

The team-based projects include a challenging industry task with multiple solutions. Implement the fundamentals of your learning, using the latest tools, whilst developing professional skills in communication, team-work, complex problem solving and creativity.

Highlight the studio experience on your resume as an example of project experience and demonstrate the professional skills you developed at interview.

**Mohammed Chowdry – Bangladesh**
**Bachelor of Engineering (Honours)**

“As part of my degree, I also completed a 12-week internship. I did my work experience with an engineering consulting firm where I was given the role of drafting designs for my senior managers. In this role, I could implement what I’d learnt in my subjects, like engineering project management. That was a really good experience because I was exposed to industry and that was thanks to UTS.”
Bachelor of Engineering (Honours) Diploma in Professional Engineering Practice

This program is a comprehensive preparation for careers in the professional practice of engineering. Students learn to deal with complex systems and manage large-scale projects using the most appropriate emerging technologies.

The Diploma in Professional Engineering Practice requires the completion of two six-month internships and the Professional Engineering Practice Program. Completing 12 months of relevant engineering experience before graduating enables students to link learning in the workplace and learning at university, with each experience enhancing the other.

Typical course structure for a single major

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<thead>
<tr>
<th>Year 1</th>
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<td>Session 1</td>
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<td>Work Integrated Learning 1</td>
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ACCREDITATION
The Bachelor of Engineering (Honours) is accredited by Engineers Australia at the Graduate Professional Engineer level. The degree is recognised internationally by signatories to the Washington Accord.

For more information visit ieagreements.org/accords/washington

Admission requirements: Applicants must have completed an Australian Year 12 qualification, Australian Qualifications Framework Diploma, or equivalent Australian or overseas qualification at the required level.

Assumed knowledge: HSC (or international equivalent) English Standard, Mathematics Extension 1 and Physics. English Advanced is recommended, Chemistry is recommended for the Biomedical, Civil and Civil and Environmental majors.

Professional recognition: Accredited by Engineers Australia.
Bachelor of Engineering Science*  

Duration: 3 years full-time  
UTS course code: C10066  
CRICOS code: 033909D  
Study load: 144 credit points  
Study mode: standard mode  
Available intakes: Autumn (March)/Spring (July)  
How to apply: see page 36 and inside back cover  
English language requirements: see page 36 and inside back cover  
Course structure: see handbook.uts.edu.au/courses/c10066  

Admission requirements: Applicants must have completed an Australian Year 12 qualification, Australian Qualifications Framework Diploma, or equivalent Australian or overseas qualification at the required level. As 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.  

MAJORS  
Civil, Data, Electrical, Electronic, Flexible, Mechanical, Mechatronic, Software.  
*Not accredited by Engineers Australia
Majors

The major represents your chosen engineering field of practice and will typically influence the career path you take. We have 12 majors to choose from, all leading to a wide range of career options.

Flexible

Explore the world of engineering.

The Flexible major gives you the option to design your own fully accredited interdisciplinary engineering degree with an academic advisor. So you can find that niche area, a blend between two or more existing majors and make it your own.

Alternatively, if you're not sure which engineering major you want to take, the Flexible major provides an opportunity to explore some engineering disciplines in your first year before transferring to a designated major.

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 span all engineering disciplines, including emerging areas such as:

- Smart cities
- Renewable energy
- Distributed generation
- Internet of Things (IoT)
- Industry 4.0
- Data analytics and visualisation
- Cyber security
- Medical technologies
- Agriculture and food security

Biomedical

Break new ground in healthcare.

Biomedical engineering is multi-disciplinary by nature and covers a broad scope of areas relating to medical technology; geonomics, tissue engineering, bioinformatics, nanotechnology, 3D printing and bio-instrumentation.

Biomedical engineers design and develop medical-related equipment and systems for analysis, diagnosis, therapy and rehabilitation. Their ultimate goal is to improve healthcare delivery and extend the quality and longevity of human life.

In this program, you’ll learn the basics of biology, information technology, electrical, electronic, and mechanical engineering and medical science. Choose 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, 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
- Medical devices
- Regulatory affairs
- 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.
Fatema Ismati – Bangladesh
Biomedical Engineering

“I chose UTS because it offers one of the best engineering courses in Sydney. With its mentoring programs, internship programs and hands-on studio subjects, UTS facilitates both my technical and transferrable skills to help me enter the workforce.

I did an internship at a biomedical instrumentation company and UTS helped me secure the position. I assisted in product testing and parts procurement. I learned something new every day, from soft skills like effective communication to technical skills such as 3D modelling.

I am currently working on EEG signal processing for my studio subject. The project is extremely enticing—EEG signals help classify human emotions and, in turn, massively contributes to the world of psychological treatment.

Relocating to Sydney was nothing short of a rollercoaster ride. I never knew what to expect, but UTS made things easy. Any kind of help was always one phone call away.”

Civil
Build tomorrow’s future.
Civil engineers are problem solvers and visionaries who plan, design, build, maintain and demolish 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)
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 communication, leadership, critical thinking and project management.

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, 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.
Civil (Structures)

Build the world around you.

Structural engineers specialise in the analysis and design of structures, ranging from small to large and highly complex. 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

Suvidya Tuladhar – Nepal
Civil Engineering

“As a civil engineer you can make a mark in the world: you construct bridges, dams, roads, skyscrapers and leave a lasting impact on communities.

The practical based learning approach with strong ties to industry is what attracted me to UTS. I did a 12-week internship at Optik Engineering, found it via UTS CareerHub. The work experience was based at UTS Tech Lab.

My project involved designing structural elements and estimating piling work costs. It required me to implement concepts learnt across many of my subjects. From this experience I have improved my time management, project management and presentation skills.

Applying for a free Engineers Australia student membership can open doors for students through industry connections. Besides internships, I have found programs facilitated by Women in Engineering and IT (WiEIT) to be very helpful on my path to become a professional in my field. UTS ensures the overall development of a student rather than just the academic aspect.”

Civil and Environmental

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
Electronic

Design the next generation of smart devices.

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 miniaturised 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
- Telecommunications

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

Electrical

Use renewable energy to power the future.

Electrical engineers deal with the generation and application of electricity, including 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 super-efficient electrical devices that aim to reduce our energy demands.

In this program, you’ll learn all about circuits, large scale electrical system design and operation, energy 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 large scale electrical and control 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

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

Electrical and Electronic

Use smart electronic and electrical systems to support increasing complex human activities

Electrical and electronic engineers combine a range of communication and electrical energy technologies to underpin the ongoing transformation of how humans commute, stay connected and consume energy. With emerging technologies in Internet of Things (IoT) and microgrids for example, distributed energy and communication systems have enabled more flexible use of power and information. An increasing demand now exists for analytical techniques and design skills in devices, software and systems being able to handle increasing system complexity, particularly in terms of security, efficiency and reliability.

In this program, you’ll learn about communication electronic circuits and sensors, electrical energy circuits and systems, IoT components and software, digital intelligent control and embedded systems, and renewable energy systems design and operation.

You’ll graduate with practical skills in hardware and software that enable you to design, development and control a range of IoT devices and energy systems.

CAREER OPTIONS
You can work in any of the areas suggested for the flexible major, as well as finding opportunities with:
- wireless and IoT technology companies and product developers
- transportation sector focusing on electrification
- defense agencies and military hardware manufacturers
- power and energy companies, including utilities and sustainable energy providers

WHAT’S THE DIFFERENCE?
Electronic Engineers design small-scale circuits that live inside smart devices for consumers and industry.

Electrical Engineers design, maintain and build high voltage power and control systems that run the world’s electricity grid and other large-scale industrial applications.
Data

Combined expertise in advanced analytics and engineering is the gateway to business innovation.

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.

CAREER OPTIONS
- Data Engineer
- Data Architect
- Visualisation Analyst
- Developer, Big Data Platform
- Data Services Engineer
- Data Network Engineer

This major also utilises project-oriented studios with participation from industry mentors.

Software

Future proof your career.

Software engineering is the application of engineering principles to the design, development and maintenance of software.

It focuses on large, complex and critical software systems that are interwoven into our daily lives. Examples include power distribution, traffic control, autonomous vehicles and large systems that hold secure data, systems that must work the first and every time.

A software engineer ensures that the software is built systematically, rigorously, measurably, on time, on budget and within specification to meet these complex demands.

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.

CAREER OPTIONS
- Chief Technology Officer
- Development Manager
- DevOps Manager
- Enterprise Architect
- Systems Designer
- Consultant
- Chief Architect

Mikhail Fedulov – Russia
Software Engineering

“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

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
- Marine industry
- Materials and metals industry
- Pharmaceutical industry
- Rail industry
- Robotics industry
- Utilities 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.

Mechatronic

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.

WHAT’S THE DIFFERENCE?

**Mechanical engineers** design components, machines, systems and processes using principles of motion, energy and force.

**Mechatronic engineers** focus on making a machine smarter by combining principles of mechanics, electronics and computing.

Mechanical and Mechatronic

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.
## Combined degrees

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

<table>
<thead>
<tr>
<th>Bachelor of Engineering (Honours) combined with:</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Bachelor of Arts in International Studies</td>
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<tr>
<td>Add an extra year if undertaking the Diploma in Professional Engineering Practice</td>
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</tr>
<tr>
<td>Bachelor of Business</td>
<td>5 years full-time</td>
</tr>
<tr>
<td>Add an extra year for the Diploma in Professional Engineering Practice</td>
<td></td>
</tr>
<tr>
<td>Add an extra year if undertaking Business Honours</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Creative Intelligence and Innovation</td>
<td>5 years full-time</td>
</tr>
<tr>
<td>Bachelor of Laws*</td>
<td>5.5 years full-time</td>
</tr>
<tr>
<td>Bachelor of Medical Science</td>
<td>5 years full-time</td>
</tr>
<tr>
<td>Add an extra year if undertaking the Diploma in Professional Engineering Practice</td>
<td></td>
</tr>
<tr>
<td>Add an extra year if undertaking Medical Science Honours</td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science</td>
<td>5 years full-time</td>
</tr>
<tr>
<td>Add an extra year if undertaking the Diploma in Professional Engineering Practice</td>
<td></td>
</tr>
<tr>
<td>Add an extra year if undertaking Science Honours</td>
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* combined with the Bachelor of Engineering Science (not accredited by Engineers Australia)
<table>
<thead>
<tr>
<th>UTS course code</th>
<th>CRICOS code</th>
<th>Further information</th>
</tr>
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<td>084093F</td>
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</tr>
</tbody>
</table>
Bachelor of Science in Information Technology

Take charge of your future in a world of disruptive technologies.

With the Bachelor of Science in Information Technology you’ll learn how to innovate today so that you can help shape tomorrow.

This program sees you combine theoretical knowledge and practical skills in both computing and business analysis to bridge the gap between business needs and innovation. The course allows you to develop a strong grounding in the fundamentals of IT, while specialising with an IT major and pursuing additional interests through a second IT major, sub-majors or elective subjects. You can even choose electives from other faculties and/or undertake an exchange session overseas.

**MAJORS**

**Business Information Systems Management**

In the Business Information Systems Management major students learn how to use appropriate design approaches to design ICTs for all types of business activities, including customer-focused operations, maintaining relationships for knowledge sharing, business collaboration and strategic management. Students also learn about organisation theory, accounting and project management.

**Data Analytics**

This major integrates the mathematical and information technology foundations for developing and applying business analytics systems and is concerned with technology services. Computer and data analytics is an emerging and rapidly expanding area where mathematics and statistical methods interact with powerful information technologies to improve the flow of massive amounts of data for a business. Students learn mathematical analytics methods, contemporary statistical data mining and computational methods.

**Enterprise Systems Development**

This major introduces the practice of creating software applications and is concerned with technology building. Students learn how to build software by applying technologies and practice from computer science, project management and other fields to produce business solutions with known characteristics.

**Interaction Design**

Information technology is no longer just a tool for work and productivity, it is an integral part of our everyday lives, mediating our interactions with one another and our broader environment. Digital technologies shape how we work, how we communicate, socialise, and connect with others. As technology advances and computing power increases, we face significant technical and design challenges. To meet these challenges, we need to understand how to design for interactions that unfold within rich and complex social and physical environments.

**Networking and Cybersecurity**

This major provides the necessary knowledge and skills in network design and application development, and is concerned with technology services. Students learn the hows and whys of Internet design – its architecture, protocols and components – as well as the enabling software tools and programming methods to achieve a well-designed secure network.
Students who enrol in the Bachelor of Science in IT can transfer to the Bachelor of Science in Information Technology Diploma in Information Technology Professional Practice. This is a structured program designed to gain practical skills, consisting of one nine-month internship alongside your IT course.

See page 28 for information on the Diploma.

Students interested in research and who excel in their studies are eligible to undertake one additional full-time year of study in the Bachelor of Science (Honours) in Information Technology.

The Bachelor of Science (Honours) in IT includes a substantial research project under the supervision of a member of academic staff.

[uts.edu.au/future-students/find-a-course/bachelor-science-honours-information-technology](uts.edu.au/future-students/find-a-course/bachelor-science-honours-information-technology)

**Course structure**

<table>
<thead>
<tr>
<th>Core (8 subjects)</th>
<th>Major (8 subjects)</th>
<th>Electives (8 subjects)</th>
</tr>
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<tbody>
<tr>
<td>– Communication for IT Professionals</td>
<td>Choose one major from the following:</td>
<td>Choose:</td>
</tr>
<tr>
<td>– Introduction to Information Systems</td>
<td>– Business Information Systems Management</td>
<td>– a second IT major</td>
</tr>
<tr>
<td>– Programming Fundamentals</td>
<td>– Data Analytics</td>
<td>OR</td>
</tr>
<tr>
<td>– Web Systems</td>
<td>– Enterprise Systems Development</td>
<td>2 sub-majors (IT or from another faculty)*</td>
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<tr>
<td>– Business Requirements Modelling</td>
<td>– Interaction Design</td>
<td>OR</td>
</tr>
<tr>
<td>– Database Fundamentals</td>
<td>– Networking and Cybersecurity</td>
<td>1 sub-major and 4 electives</td>
</tr>
<tr>
<td>– Project Management and the Professional</td>
<td></td>
<td>OR</td>
</tr>
<tr>
<td>– Network Fundamentals</td>
<td></td>
<td>8 electives</td>
</tr>
</tbody>
</table>

Students may also undertake a global exchange overseas.

* The full list of sub-majors is online [handbook.uts.edu.au/directory/cbk90782](handbook.uts.edu.au/directory/cbk90782)

**CAREERS**

– Business analyst
– Computer game designer/ animator
– Cloud specialist
– Data analyst
– Database designer/ manager
– IT architect
– IT project manager
– Network administrator/ manager
– Software developer
– Systems analyst
– Web developer
– Interaction designer

Combine your degree with:
Bachelor of Business
Bachelor of Arts in International Studies
Bachelor of Laws
Bachelor of Creative Intelligence and Innovation
Bachelor of Science in Information Technology Diploma in Information Technology Professional Practice

Students who enrol in the Bachelor of Science in IT can add the Diploma in Information Technology Professional Practice as part of their program. The Diploma is a structured program, consisting of one nine-month internship alongside your IT course.

WHY CHOOSE THIS COURSE?
As well as learning theory, you’ll get the chance to practice it. You will gain:
- strong technical skills in IT
- skills in business analysis, problem solving, teamwork and communication
- exposure to real IT problems - employers look for graduates with industry experience
- the opportunity to undertake a minimum of nine months’ work experience with the Diploma in Information Technology Professional Practice

Duration: 4 years full-time
UTS course code: C10345
CRICOS code: 084259M
Study load: 192 credit points
Study mode: standard mode
Available intakes: Autumn (March)/Spring (July)
Majors: see page 26
How to apply: see page 36 and inside back cover
English language requirements: see page 36 and inside back cover
Course structure: see page 29
Admission requirements: Applicants must have completed an Australian Year 12 qualification, Australian Qualifications Framework Diploma, or equivalent Australian or overseas qualification at the required level.
Assumed knowledge: HSC (or international equivalent) Mathematics and any 2 units of English.
Recommended Year 12 subjects: Mathematics Extension 1 and English Advanced.
Professional recognition: Graduates are eligible to apply for Professional-level membership of the Australian Computer Society.
I’ve gained so many skills during my studies at UTS. I have developed new technical, programming, networking and IT skills. Through the subject Communication for IT Professionals, my verbal and written communication skills improved greatly.

It’s extremely important to be able to work in teams. Here at UTS, we have a lot of group assignments so you need to cooperate with people and work in a team. Group work also requires leadership in order to organise the group, so I have actually developed my leadership skills too. Also, I’ve developed problem solving skills and analytical skills to critically analyse information. These are all team management skills that will help you succeed.”

Vitaly Kuzenkov – Russia
Bachelor of Science in Information Technology
Diploma in Information Technology Professional Practice
Drive innovation with real-world experience.

This premier degree has been developed in collaboration with the software industry to ensure students graduate with the skills required to pursue highly technical careers in artificial intelligence, cybersecurity, data science or quantum computing.

With an emphasis on next generation technologies, computer scientists solve deep problems in computing. They theorise, design, develop and apply computing and software for advanced programs.

You’ll work in a studio environment, applying theoretical knowledge to real-world problems. In years three and four of the course, you’ll also develop research skills through computing science studio subjects and specialist subjects, culminating in an honours project in your final year of study.

The Honours component is a one-year, research-based program devoted to a research project. It is the first step towards a career in research and a unique opportunity for students to explore research opportunities at UTS.

**CHOOSE A MAJOR:**
- Artificial Intelligence and Data Analytics
- Business Information Systems Management
- Cybersecurity and Privacy
- Enterprise Systems Development
- Interaction Design
- Mathematical Analysis
- Networking and Cybersecurity
- Operations Research
- Quantum Information Science
- Statistics

handbook.uts.edu.au/directory/cbk91220

Prof Michael Blumenstein
Associate Dean
(Research Strategy & Management)
Faculty of Engineering & Information Technology

“The Bachelor of Computing Science (Honours) is designed for students with a strong foundation in mathematics who wish to develop their research potential with a view to pursuing higher degree by research studies in the future.”
WHY CHOOSE THIS COURSE?
As a Bachelor of Computing Science (Honours) student, you’ll develop:
- the ability to theorise, design, develop and apply computing and software for advanced programs
- advanced cognitive, technical and communication skills required for a highly rewarding career
- opportunities to work in research. The combination of core computing science subjects, IT majors, electives and research subjects will prepare you to embark on a PhD.

CAREERS
You will have diverse career opportunities locally and internationally across a range of industries, including science, health, engineering, finance, transport and telecommunications.
- Data scientist
- Artificial Intelligence expert
- Machine learning specialist
- Software designer
- Web development
- Interface designer
- Information systems management
- Network management
- Systems engineer
- Security operations
- Professional computing science researcher

Course structure

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<tr>
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<td>IT (Core)</td>
<td>IT (Major)</td>
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<td>IT (Core)</td>
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<td>Comp. Sci. Studio</td>
<td>IT (Major)</td>
<td>Comp. Sci. Studio</td>
<td>Elective</td>
</tr>
</tbody>
</table>

Mustafa Barodawala – Australia
Bachelor of Computing Science (Honours)

“...I wanted to study in an area that focuses on technology, but also mathematics. In computing science, maths is the foundation of how we analyse different programs, algorithms and even different computational systems. Having this unique way of approaching problems allows computer scientists to thoroughly investigate a problem, such as find some hidden-in-plain sight sort of pattern in a data analytics problem, or rule out potential algorithms immediately by predicting their run-time and space requirements.”
Bachelor of Information Systems

Get ahead in an information-rich world.

With data produced globally in unprecedented volumes, there is a need for a new generation of technology professionals. This degree will give you solid knowledge and skills in information system applications across different areas.

You will be able to analyse complex problems and develop solutions for a range of stakeholders.

Built on the foundations of multiple disciplines, Information Systems plays a central role in addressing contemporary challenges and creating a sustainable society. It unlocks capabilities to design, build, deploy, evaluate, and manage solutions to complex problems.

CAREERS OPTIONS
You will be able pursue a career in a range of sectors, such as energy, transport, smart cities, business, and government, in roles including:

- Information Systems Analyst/Designer
- Business Analyst
- Business Process Modeller
- Smart Infrastructure Professional
- Supply Chain Modeller
- Digital Transformation Analyst
- Data Modeller

Combine your degree with:
Bachelor of Business: see handbook.uts.edu.au/courses/c10278
## Course structure

<table>
<thead>
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<th></th>
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<td>Sessions</td>
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<td>Core subjects</td>
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<tr>
<td>Studios and projects</td>
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<tr>
<td>Elective subjects</td>
<td>4</td>
</tr>
<tr>
<td>Specialisations, e.g. Systems Analytics</td>
<td>4</td>
</tr>
</tbody>
</table>
Bachelor of Science in Games Development

Be part of the largest global entertainment industry, make games for social good, or apply your specialist skills to any IT field.

Evolving technology is changing the face of the interactive entertainment industry, giving unprecedented opportunities. Today’s games are sophisticated computer programs that often connect thousands of players through virtual worlds and consist of detailed 3D graphics, realistic physics and complex artificial intelligence.

In this program, you’ll develop a sound education in all aspects of information technology as well as the diverse skills necessary for a career in games development. In doing so, graduates are equipped with a wide range of skills that can be applied to a diverse set of IT careers, such as practical problem-solving skills, the application of theory and cutting-edge research to a real-world context, programming across a variety of languages, professional verbal and written communication, and an awareness of the principles of ethics in the IT sector.

WHY CHOOSE THIS COURSE?
At UTS you won’t just learn the theory, but will also practice it. You will gain:
- enhanced work-ready expertise in games development and other IT fields
- creative freedom and practical problem-solving skills based on leading-edge IT theory
- communication skills in a variety of forms including written, verbal, online and technical literacies
- exposure to a wide range of cutting edge research in games, including artificial intelligence, serious games and gamification, computer graphics, and more
- an understanding of industry through showcase events and industry interaction

CAREERS
- Game developer
- Interaction designer
- Graphics programmer
- Exer-game/edu-game research engineer
- Artificial intelligence in games researcher
- Virtual/augmented reality developer
- Simulation/visualisation specialist
- Software engineer
- Data analyst
- Cybersecurity analyst
- IT project manager
Course structure

<table>
<thead>
<tr>
<th>Core (8 subjects)</th>
<th>Games Development (10 subjects)</th>
<th>Electives (6 subjects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Communication for IT Professionals</td>
<td>– Introduction to Computer Game Design</td>
<td>Choose:</td>
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<tr>
<td>– Introduction to Information Systems</td>
<td>– Introduction to Computer Graphics</td>
<td>– 1 sub-major and 2 electives*</td>
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<tr>
<td>– Programming Fundamentals</td>
<td>– Game Design Studio 1</td>
<td>OR</td>
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<tr>
<td>– Web Systems</td>
<td>– Game Design Studio 2</td>
<td>– 6 electives</td>
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<td>– Business Requirements Modelling</td>
<td>– Applications Programming</td>
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<td>– Database Fundamentals</td>
<td>– Data Structures and Algorithms</td>
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<tr>
<td>– Project Management and the Professional</td>
<td>– Introduction to Computer Game Development</td>
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<td>– Network Fundamentals</td>
<td>– Advanced Interaction Design</td>
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<td></td>
<td>– Fundamentals of Interaction Design</td>
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<td></td>
<td>– Advanced Games Programming</td>
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</table>

* The full list of sub-majors is online handbook.uts.edu.au/directory/cbk91780

Natassja Sundara – Australia
Bachelor of Science in Games Development

“I chose this degree because it allowed me to be creative in technology. It also combines IT subjects with games development, so you can branch into various fields when you graduate—not just games.

Right now I’m a part-time research assistant and games developer on a UTS project for the elderly. I also worked with UTS advanced technology development unit, Rapido. They were doing a VR project for a national tech conference in Sydney and asked me to gamify it.

There have been plenty of opportunities to engage with industry, including showcases where you can demonstrate your project and capabilities. It’s been very enjoyable—challenging but very rewarding.”
Starting at UTS

1. **Find your course**
   Look for the course you are interested in to start.
   [ut.s.edu.au/future-students/undergraduate/our-courses/find-right-course]

2. **Check the admission requirements**
   Do you meet both the Academic and English Language Requirements for your course?
   There are English language proficiency requirements for all courses.

3. **Complete your UTS application**
   Submit either an online or hardcopy application with supporting documentation required.
   [ut.s.edu.au/future-students/international/essential-information/applying-study-uts]

4. **Submit your application**
   Your application, application fee and supporting documentation must be submitted to UTS.
   You may be eligible for recognition of prior learning (RPL) based on previous study. Application for recognition of prior learning must be made at the point of applying for your UTS course.
   [ut.s.edu.au/future-students/international/essential-information]

5. **Accept your offer**
   You will receive an acknowledgement letter once UTS has received your application. Once your application is successful, you will receive an offer letter to can accept your offer!
   Complete the Acceptance form and follow your preferred payment methods.
   [ut.s.edu.au/future-students/international/commencing-students/accepting-and-deferring]

6. **Understand the fees**
   Make sure you are up to date with costs of your UTS tuition and amenities fees plus the costs of living in Sydney.
   [ut.s.edu.au/future-students/international/essential-information/fees-information]
   Understand the costs to support yourself while studying in Sydney including transport and living expenses.
   [ut.s.edu.au/future-students/international/commencing-students/living-sydney]

7. **Scholarships**
   UTS has a variety of scholarships on offer to incoming student students to help support career aspirations.
   [ut.s.edu.au/future-students/international/essential-information/scholarships]
Ensure you’re covered
You will need to have Overseas Student Health Cover (OSHC) for the duration of your stay in Australia.
medibankoshc.com.au/uts

Find your accommodation
There are many convenient accommodation options while studying at UTS. Organise housing for yourself close to uni.
uts.edu.au/current-students/support/uts-housing-service

Visit UTS and UTS International contacts
All important contact information can be found here. See you at UTS!
uts.edu.au/future-students/international/essential-information/uts-international-contacts

How to apply
uts.edu.au/international-apply

Get in touch
Phone: 1800 774 816 (free call within Australia)
Phone: +61 3 9627 4816
Email: international@uts.edu.au
uts.edu.au/international