Undergraduate programs
ENGINEERING
2015
WHY CHOOSE UQ?

A university in the world’s top 100 that offers excellence in teaching, world-class learning environments, state-of-the-art facilities and opportunities to excel beyond the classroom: what more could you want?

INTERNATIONAL REPUTATION
UQ is ranked in the world’s top 100, as measured through four key global university rankings – Times Higher Education, Shanghai Jiao Tong, Performance Ranking of Scientific Papers for World Universities and QS World University. UQ is also one of only three Australian members of Universitas 21, a select international network of comprehensive, research-intensive universities.

QUALITY PROGRAMS
UQ has the most comprehensive range of high-quality programs in Queensland, with just under 400 programs and more than 4000 courses offered at undergraduate and postgraduate levels. Concurrent undergraduate diplomas in languages, global issues or music performance, as well as UQx (uncredited) massive open online courses (MOOCs) are also available.

GREAT EXPERIENCES
Many programs at UQ offer a range of practical experiences – including field trips and industry placements – to boost your skills. You can also make the most of “the UQ Advantage” with many extra-curricular activities such as Summer and Winter Research programs, intensive language training, volunteering opportunities, and overseas exchange programs.

WORLD-CLASS FACILITIES
UQ is continually upgrading its teaching facilities to meet the needs of students. We have one of the fastest and most advanced information networks in the world, one of the best research libraries in the country, and modern teaching spaces that enable the latest technology. Our active building program reflects our commitment to providing high-quality, sustainable facilities.

HIGHLY AWARDED TEACHERS
Our teachers share a passion for excellence in education that has led to them receiving more national teaching awards than any other Australian university. The University has more than 2800 highly-qualified academic staff dedicated to teaching, research and mentorship, many of whom are recognised internationally as leaders in their fields.

LEADING RESEARCHERS
Our researchers are answering some of the toughest questions facing humanity. With eight internationally recognised Institutes on-site, UQ is one of the country’s top three research universities across many measures, including annual PhD graduations, commercialisation of discoveries, industry collaboration, Excellence in Research for Australia survey results, and funds received from both government and the private sector.

VIBRANT CAMPUSES
Life beyond the classroom is a big part of university life, and UQ is a great place to meet new people and access a wide range of sporting, social and cultural activities. You will enjoy the sense of community that pervades UQ’s diverse campuses at St Lucia, Ipswich, Gatton and Herston. The campuses are renowned as being among the most beautiful and well-equipped in Australia.

SUCCESSFUL GRADUATES
UQ has a tradition of leadership in all spheres of society, both here and overseas, and our 210,000+ alumni include many outstanding performers. UQ qualifications are highly regarded by Australian and international employers, and both the employment rate and starting salary for UQ graduates are considerably higher than the national average.

WHY CHOOSE UQ?
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CHALLENGE YOURSELF

The 21st century is an era of great global and local challenges. Climate change and clean energy, reliable water supplies, infrastructure for growing populations, sustainable resource development, and expanding information and communication advances are some of the many groundbreaking opportunities for a new generation of engineers.

Engineers create imaginative and visionary solutions to the challenges facing the planet to improve the world we live in.

MRI TECHNOLOGY

Radiation therapy is used to treat 40% of cancer patients in Australia. The problem with current therapy is that during treatment the tumours are moving. To solve this problem, The University of Queensland’s Professor Stuart Crozier, in collaboration with fellow biomedical engineers, developed a research program around a novel MRilinear accelerator in which the cancer will be imaged – and treated – as it is moving. Successful completion of this program will have a direct impact on the treatment, overall survival and quality of life for Australian cancer patients in the foreseeable future.
WHY CHOOSE ENGINEERING?

The UQ Engineering advantage:

CAREER OPPORTUNITIES
Engineers enjoy diverse and challenging career opportunities in existing and new growth areas within research, development, design, manufacturing and operations that provide valuable products, processes and services. New materials, technologies and infrastructure are being developed all the time, creating a high demand for engineers.

CONTRIBUTE TO SOCIETY
A UQ Engineering degree is challenging. It provides a strong foundation in mathematics, science and engineering design, and prepares you with the knowledge and skills to make significant contributions to society and our community.

MORE OPTIONS
With the flexible first year and largest range of engineering specialisations in Queensland, UQ gives you exceptional opportunities in engineering. Introduced in 2012, you have the option to undertake an integrated masters program combining the Bachelor of Engineering with a Master of Engineering. See page 10 for further information.

While at UQ, Yassmin completed a Bachelor of Engineering (Mechanical), graduating with first-class honours, and fuelled her passion for motorsport by managing the UQ Racing Team.

She has also received accolades for her humanitarian work, was named Young Queenslander of the Year, Young Australian Muslim of the Year and was one of the inaugural 100 Women of Influence.

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THE UQ ENGINEERING EXPERIENCE

UQ offers the largest choice of engineering specialisations, a wide range of quality resources, and access to more award-winning teachers and researchers than any other university in Queensland. Strong links with industry, research and government ensure our programs are industry relevant, providing you with exceptional opportunities for employment and a university experience like no other.

WIDEST RANGE OF SPECIALISATIONS

Our nationally and internationally accredited Bachelor of Engineering (Honours) offers one of the largest range of engineering disciplines in Australia, some unique to Queensland such as Mining, and Chemical and Metallurgical Engineering. Access to continually modernised facilities and an interdisciplinary approach to learning provides you with the technical skills and knowledge to solve existing and emerging challenges facing society.

THE EMPLOYMENT EDGE

UQ Engineering graduates are in the top band of engineering starting salaries in Australia, and many graduates have gone on to senior positions within Australia and overseas, or postgraduate study. The reputation of UQ Engineering ensures our graduates are highly sought after by employers in industry and research institutions all over the world. A UQ Engineering degree gives you a strong foundation for a career in engineering. You will develop the necessary skills, technical knowledge and industry experience to begin a rewarding career in engineering.

FLEXIBLE FIRST YEAR

At UQ, the Engineering program is flexible. You can choose your BE (Hons) specialisation in first year, or wait until second year. This allows you to keep your options open and gives you the opportunity to experience the many “flavours” of engineering before deciding on a specialisation.

SUPPORT FOR STUDENTS

First-year engineering students have exclusive access to the First Year Engineering Learning Centre, a social and learning resource equipped with the latest technologies. Other learning spaces are also available for later-year students throughout the engineering precinct. Academic advisors and tutors are available throughout semester and our staff provide support and advice to new students from their first year of study. Advice on the sometimes difficult transition from high school to university, as well as assisting international students commencing study in Australia, is also available. You can participate in our First Year Mentoring Program where second-year engineering students pass on their knowledge and assist with the adjustment to university life.

CHALLENGING OPPORTUNITIES

As a UQ Engineering student, you can participate in international robotics competitions, national mechanical engineering competitions, biomedical and environmental engineering forums, mining games, and the Formula One style racing car competition where a group of students design, build and test a Formula SAE racing car. You also have the opportunity to join the UQ Chapter of Engineers Without Borders and contribute to engineering projects in developing communities. These are just some of the many advantages of being a UQ Engineering student.

ADAPTABLE PROGRAMS

The University of Queensland offers a variety of dual programs in which you can study a Bachelor of Engineering (Honours) with other disciplines including Biotechnology, Information Technology, Arts, Business Management, Commerce, Economics and Science. A more extensive list is featured on page 25.
WOMEN IN ENGINEERING

UQ Engineering is the leading choice for women pursuing engineering in Queensland and we have our sights set even higher. Collaborating with UQ staff and alumni, as well as industry organisations, the UQ Women in Engineering program aims to provide inspiration and support to both prospective and current female engineering students. The program offers female engineering students access to scholarships, guest lectures and leadership opportunities, as well as a number of social events throughout the year.

UQ Women in Engineering Program
www.eait.uq.edu.au/women-in-engineering

THE ADVANCED ENGINEERING BUILDING

The Advanced Engineering Building (AEB) enhances UQ’s ability to deliver practical active-learning styles for engineering students, and maximise global research opportunities that enable UQ to respond to major shifts in the world economy and global marketplace for innovative engineering solutions.

The AEB houses the state-of-the-art GHD Auditorium – a 500 seat lecture theatre supported by large-span timber trusses – as well as active learning laboratories and student spaces, and contemporary research facilities to support global engineering research centres.

The AEB is a unique facility designed to interact with the natural environment, dramatically reduce energy consumption, and create an interactive learning environment for students that is instrumented and monitored in real-time, allowing students to interact and experiment with the features of the building.

EXCELLENCE IN TEACHING

UQ Engineering is internationally recognised for its world’s best practice in teaching and learning in undergraduate education. You will be taught by leading experts in their field ensuring programs are responsive to change and industry. Many of our staff have been recognised for their teaching and innovation, winning federal government and UQ Teaching Excellence awards including a Prime Minister’s Australian Award for Individual University Teacher of the Year. Innovative teaching methods include the Project Centred Curriculum applied in Chemical and Environmental Engineering majors, and other Australian award winning programs where students integrate project work sourced from industry and research partners into their program.

STUDENT SOCIETIES

UQ Engineering has some of the most active student groups on campus including many undergraduate engineering student societies. Student societies not only provide a voice for the engineering student community, but bring engineering students together through social events and networking. They also provide opportunities to engage with industry – all of which serve to further enrich the engineering student experience.

PROFESSIONAL ACCREDITATION

Our Bachelor of Engineering (Honours) program is accredited by the leading professional association, Engineers Australia. You will be eligible for membership of Engineers Australia upon graduation. Other memberships apply to specific engineering majors.

PRACTICAL INDUSTRY EXPERIENCE

The UQ Bachelor of Engineering (Honours) provides you with practical experience through site visits, vacation work and industry placements. You can complete project work, on-site learning and work experience at real industry workplaces as a core component of your degree. Industry placements not only provide an authentic experience of professional practice, but also provide you with valuable opportunities to develop relationships for future employment.
INTERNATIONAL OPPORTUNITIES

Studying in another country is a great way to learn about the world and broaden your horizons. UQ can help with costs and give you credit towards your degree.

UQ ABROAD

Through UQ’s student exchange program, UQ Abroad, you can study overseas for up to one year while gaining credit towards your UQ degree.

With 185 exchange partners in 41 countries, UQ Abroad is an ideal way to combine study and travel and can be the adventure of a lifetime. Improve your foreign language skills, broaden your professional and academic experience, and establish a worldwide network of friends.

While on exchange, tuition fees at the host university are waived and you continue to be enrolled at and pay fees to UQ. You can even apply for student exchange scholarships or an OS-HELP loan to assist with airfares, accommodation, health insurance and living costs.

UQ Abroad

www.uq.edu.au/uqabroad
www.uq.edu.au/uqabroad/contact-us
Phone (07) 3365 9075 or (07) 3365 8832

LEARN A LANGUAGE

If you would like to add another skill to your portfolio, why not learn a new language?

The Institute of Modern Languages (IML), a centre within the Faculty of Humanities and Social Sciences at UQ St Lucia, offers courses in more than 30 languages, from Arabic to Vietnamese, at beginner to advanced levels, and you are most welcome to enrol while studying at UQ.

IML’s flexible time schedule and well-qualified tutors ensure that you not only gain valuable language skills but also receive an exciting cultural experience.

IML language courses cover all four communication skill areas – listening, speaking, reading and writing – in small, friendly classes. You do not need any formal entry requirements for IML courses and they will not be counted towards your degree.

IML also offers translation and interpreting services on a fee-for-service basis.

Institute of Modern Languages

www.iml.uq.edu.au
Email iml@uq.edu.au
Phone (07) 3346 8200
In a first for Australian engineering education, UQ Engineering students now have the opportunity to complete multiple internationally recognised degrees during the course of their studies. We have established agreements with two institutions, the Écoles Centrales in France and Technical University Munich in Germany, providing you with a unique double degree program and experience. These qualifications, skills and experience will equip you with outstanding career prospects to work anywhere in the world.

Further information
www.eait.uq.edu.au/international-dual-degrees

INTERNATIONAL PARTNER PROGRAMS

The Écoles Centrales Program
Representing five of France’s elite Grandes Ecoles, the engineering schools in the Écoles Centrales group offer world-class facilities with campuses in Lille, Lyon, Nantes, Marseille and Paris. At the end of six years of study, you will be awarded a Bachelor of Engineering (Honours) and Master of Engineering from UQ as well as a Diplôme d’Ingénieur from the French institution. You must be able to speak French in order to participate in this program.

Technical University of Munich Program
The Technical University of Munich (Technische Universität München - TUM) provides you with a linked degree program where you will graduate with the integrated Bachelor of Engineering (Honours)/Master of Engineering from UQ, and a TUM Master of Science in Electrical Engineering and Information Technology degree.
The UQ BE (Hons) offers:
- Queensland’s largest choices of engineering study areas
- a flexible first year for students who haven’t decided and wish to defer choice of an engineering specialisation to second year
- excellent employment opportunities strengthened by UQ’s world-class reputation
- award-winning lecturers, degree programs and researchers
- hands-on experience and strong links to industry and world leading research
- advanced theoretical knowledge and practical skills to meet industry needs.

The Bachelor of Engineering (Honours) program requires you to complete 64 units of study including a major in one of the 16 engineering specialisations described on the following pages.

The program typically takes four years to complete based on the standard University full-time load of eight units (usually four courses) per semester.

The UQ Bachelor of Engineering (Honours) equips you to work in both established and newly emerging areas of engineering. You will build your understanding by applying basic science and engineering principles to engineering problems of commercial and societal importance. In addition to technical expertise, the program emphasises essential workplace skills such as communication, teamwork, project management, critical thinking and problem-solving.

Can I study more than one degree?
Engineering students can enrol in a number of dual programs, where you can study two degrees at the same time.

Dual programs provide an opportunity to broaden your education and experience, and enhance the qualifications and skills you take into the employment market. For example, you can develop foreign language proficiency or expertise in computer science, mathematics or business.

For further information on UQ’s dual programs, please see page 25.

Can I study part-time?
While it is possible to study for a Bachelor of Engineering (Honours) part-time, most classes are scheduled between 8am and 5pm weekdays. International students usually need to study full-time to enable them to complete their studies in accordance with their visa.

Can I transfer from another degree into engineering?
At UQ, you may be able to enter the Bachelor of Engineering (Honours) program at a later date even if you do not meet all the initial entry requirements. You can enrol in other UQ programs and undertake some courses that are also available in the Bachelor of Engineering (Honours) program while studying to meet the entry requirements or improve your entry score. For example, by selecting certain first-year courses as electives in the Bachelor of Information Technology, you can satisfy the entry prerequisites for the Bachelor of Engineering (Honours) and, subject to satisfactory grades, proceed to the BE (Hons) in your second year.

First Year Engineering
The first year of the Bachelor of Engineering (Honours) equips you to work in both established and newly emerging areas of engineering. You will build your understanding by applying basic science and engineering principles to engineering problems of commercial and societal importance. In addition to technical expertise, the program emphasises essential workplace skills such as communication, teamwork, project management, critical thinking and problem-solving.

Can I transfer from another degree into engineering?
At UQ, you may be able to enter the Bachelor of Engineering (Honours) program at a later date even if you do not meet all the initial entry requirements. You can enrol in other UQ programs and undertake some courses that are also available in the Bachelor of Engineering (Honours) program while studying to meet the entry requirements or improve your entry score. For example, by selecting certain first-year courses as electives in the Bachelor of Information Technology, you can satisfy the entry prerequisites for the Bachelor of Engineering (Honours) and, subject to satisfactory grades, proceed to the BE (Hons) in your second year.
SPECIALISATIONS

The UQ Bachelor of Engineering (Honours) program offers 16 specialisations (called majors, dual majors and extended majors) in engineering, along with a number of minors that can be added to broaden your area of specialty.

- Chemical
- Chemical and Materials
- Chemical and Metallurgical
- Civil
- Civil and Environmental
- Civil and Geotechnical
- Electrical
- Electrical and Biomedical
- Electrical and Computer
- Mechanical
- Mechanical and Aerospace
- Mechanical and Materials
- Mechatronic
- Mining
- Mining and Geotechnical
- Software.

UQ OP Guarantee Scheme

The University of Queensland’s (UQ) OP Guarantee Scheme ensures students who achieve an OP score in the range of 1-5 (or entry rank equivalent) and have completed prerequisite subjects, are guaranteed a place in the Bachelor of Engineering (Honours), regardless of the published program cut-offs. The OP Guarantee is limited to the major QTAC offer round held in January and some programs are excluded from the scheme.
The integrated Bachelor of Engineering (Honours) and Master of Engineering (BE (Hons) / ME) is an exciting new addition to The University of Queensland’s Engineering programs.

Recent surveys of UQ engineering students highlighted that many students would undertake an extended program if it involved useful, advanced course content, practical placements in industry or research, and improved positioning in the international graduate market. We received similar feedback from our industry partners and graduate employers and this feedback played a vital role in shaping the new BE (Hons) / ME program.

If you undertake the Integrated BE (Hons) / ME program, you will enrol and follow the same course outline as other Bachelor of Engineering (Honours) students for the first three years. You may also undertake a semester long industry or research placement, either locally or overseas, during the fourth or final year, depending on your specialisation. The fifth year will contain advanced level specialist courses in your discipline area and design and research projects.

The BE (Hons) / ME will educate graduates who:
- are globally competitive for graduate positions and research higher degrees
- have the depth to be technical leaders in their area of specialisation
- have the breadth and experience to lead multi-disciplinary teams.

These courses are designed to provide specialist knowledge of the various disciplines and place students closer to the leading edge of technology. Industry needs graduates who can apply new technologies to existing and emerging industries. The Masters courses give the BE (Hons) / ME graduate a clear and demonstrable advantage when applying for jobs that require advanced skills/capabilities.

The courses will be delivered in a diverse range of styles. The placement semester will connect you with industry/research relevant projects.

The timing of the placement adjacent to summer holidays adds flexibility, meaning that many things are possible, including overseas placements or hybrid industry/research projects where you work in industry or at a research institute. Your interest and career ambitions will be the driving force behind what you choose to do.

UQ Engineering has a proud history of innovation and leadership in engineering education, and this new BE (Hons) / ME program will continue to position UQ engineers as industry leaders, both in Australia and internationally. Our existing industry partners have shown great enthusiasm for this new program as a way of developing outstanding engineers.

HECS-HELP Support
The BE (Hons) / ME is currently HECS-HELP supported for the entire five years of study for domestic students as it is for the four-year BE. This is a feature of an integrated Bachelor and Masters that does not exist for other postgraduate coursework degrees.

Overseas Placement
You will be strongly encouraged to explore opportunities to undertake a placement semester overseas. This can be done either with a company, research institute or partner university.

Sponsorship
Scholarships may be available for BE (Hons) / ME industry placements and UQ travel scholarships may also be available for an overseas placement.

BE (Hons) / ME Accreditation
An application to accredit the BE (Hons) / ME at Masters level is being presented to Engineers Australia.

Future of BE (Hons)
The BE (Hons) will continue to be offered by UQ. There is no intention of removing this degree. It will continue to be a valuable degree for students and provide well qualified and highly sought after employees to industry. The BE (Hons) will continue to be accredited at its current level with Engineers Australia and the Institution of Chemical Engineers.
The BE (Hons) / ME program is available in chemical, electrical, mechanical, mechatronic and software engineering.

The Bachelor of Engineering/Master of Engineering specialisations include:
- Chemical Engineering
- Chemical and Biological Engineering
- Chemical and Environmental Engineering
- Chemical and Materials Engineering
- Chemical and Metallurgical Engineering
- Electrical Engineering
- Electrical and Biomedical Engineering
- Electrical and Computer Engineering
- Mechanical Engineering
- Mechanical and Aerospace Engineering
- Mechanical and Materials Engineering
- Mechatronic Engineering
- Software Engineering

UQ ENGINEERING PATHWAYS

Entry via the Bachelor of Engineering (Honours)

BE (HONS)
Engineering courses with elective streams
Apply for entry to BE (Hons) / ME at end of third year or continue with BE (Hons)

BE (HONS) YEAR 4
Semester 1: BE Design / Projects / Thesis and electives
Semester 2: BE Design / Projects / Thesis and electives

BE (HONS) / ME YEAR 4
Semester 1: Engineering courses and electives
Semester 2: Industry / research placement or Engineering course elective

BE (HONS) / ME YEAR 5
Semester 1: ME level courses and electives or Industry/Research placement
Semester 2: ME Design/Grand Challenges / Professional Practice and ME level courses and electives
CHEMICAL

What is Chemical Engineering?
Chemical engineers invent, design, and manage products and processes that transform raw materials into valuable products using the latest knowledge of biology, chemistry and physics to ensure minimum loss of materials and consumption of energy. This value-adding must be safe, economical and environmentally sound. It is a rapidly changing profession with chemical engineers working at the cutting-edge of fields such as molecular biology, nano-materials, chemistry, physics, mathematics and information technology.

Chemical engineers design both products and the processes needed for their commercial-scale production. They also manage operation and optimisation of these processes to produce such products as petrol, plastics, instant coffee, pharmaceuticals and artificial blood.

Year 1
- Engineering Design
- Engineering Modelling and Problem Solving
- Calculus and Linear Algebra I
- Multivariate Calculus and Ordinary Differential Equations
- Engineering Thermodynamics
- Chemistry for Science and Engineering
- Electives

Year 2
- Process Principles
- Fluid and Particle Mechanics
- Process Experimentation
- Chemistry – Structure and Reactions
- Physical and Surface Chemistry
- Calculus and Linear Algebra II
- Electives

Year 3
- Heat and Mass Transfer
- Chemical Thermodynamics
- Process Systems Analysis
- Unit Operations
- Reaction Engineering
- Process Modelling and Dynamics
- Electives

Year 4 / Years 4 and 5
- Environmental Risk Assessment
- Transport Phenomena
- Biomolecular Engineering
- Heat Mass Transfer
- Chemical Thermodynamics
- Process Systems Analysis
- Unit Operations
- Reaction Engineering
- Process Modelling and Dynamics
- Biochemistry and Molecular Biology
- Microbiology and Immunology

CHEMICAL AND BIOLOGICAL*

What is Chemical and Biological Engineering?
This program combines studies in chemical engineering with additional specialist study and project work in Bioengineering.

Year 1
- Engineering Design
- Engineering Modelling and Problem Solving
- Calculus and Linear Algebra I
- Multivariate Calculus and Ordinary Differential Equations
- Engineering Thermodynamics
- Chemistry – Energetics and Reactivity
- Principles of Biological Engineering
- Elective

Year 2
- Process Principles
- Fluid and Particle Mechanics
- Process Experimentation
- Chemistry – Structure and Reactions
- Physical and Surface Chemistry
- Calculus and Linear Algebra II
- Cell Structure and Function
- Genetics

Year 3
- Heat and Mass Transfer
- Chemical Thermodynamics
- Process Systems Analysis
- Unit Operations
- Reaction Engineering
- Process Modelling and Dynamics
- Biochemistry and Molecular Biology
- Microbiology and Immunology

Year 4 / Years 4 and 5
- Environmental Risk Assessment
- Transport Phenomena
- Biomolecular Engineering
- Heat Mass Transfer
- Chemical Thermodynamics
- Process Systems Analysis
- Unit Operations
- Reaction Engineering
- Process Modelling and Dynamics
- Biochemistry and Molecular Biology
- Microbiology and Immunology

* Available in BE (Hons) / ME only. Students in the BE (Hons) undertake a major in Chemical Engineering with a minor in Biological Engineering or Environmental Engineering.

Careers
Chemical engineering is one of the most mobile and diverse careers you can choose. Your skills will allow you to work in a wide range of industries, government departments and private consultancies.

You can work in environmental protection; risk management and safety; natural resource utilisation in the energy sector; chemical, petroleum and petrochemical industries; biochemical, biomedical and pharmaceuticals industries; computer-aided process and control engineering; advanced materials design and manufacture; minerals processing and related industries; and food processing and biotechnology.

Minors Available
A stream of courses in a complementary area. You can graduate with a BE (Chemical) with any minor or go on to the BE (Hons) / ME.

- Biological Engineering: focuses on biological processes and is required for entry into the BE (Hons) / ME (Chemical and Biological).
- Environmental Engineering: focuses on environmental systems and is required for entry into the BE (Hons) / ME (Chemical and Environmental).
- Food Engineering: develops to give an edge in the food processing industry; you can graduate with BE (Chemical) or go on to BE (Hons) / ME (Chemical).

Careers
You can find employment in a wide range of companies employing chemical engineers. Employment prospects are excellent, especially in environmental protection, management and safety;

traditional chemical engineering roles and help the industry make the transition from chemical to biological routes. In fact, the whole chemical industry – with pharmaceuticals, chemicals and oil, representing around 20 per cent of traded goods and services – will be affected and is responding with large investments in biotechnology.

You can find employment in a wide range of companies employing chemical engineers. Employment prospects are excellent, especially in environmental protection, management and safety;

biochemical, biomedical and pharmaceuticals industries; advanced materials design and manufacture, including biomedical device manufacture; minerals processing and related industries; food processing; and product design and development.

Graduates are actively sought by employers for design, operations, and management positions. With a shift from chemical to biological processes, there are many industrial research and development as well as academic positions in biological engineering. Many bioengineers progress to postgraduate studies.
What is Chemical and Environmental Engineering?
Chemical and Environmental engineers will be accredited chemical engineers, with additional technical skills in the areas of waste management and resource recovery, water treatment and sustainable energy systems. They will have the skills and knowledge required to implement cleaner production, and to rigorously assess the long-term impacts of proposed products, processes and developments. This includes an understanding of key global challenges, the causes of these problems and barriers to the uptake of technical solutions. As a Chemical and Environmental engineer, you will be able to apply, assess and communicate a wide range of approaches to developing sustainable systems, including indicators of sustainability and different methods of community consultation and engagement. You will have a solid grounding in modelling and in analytical measurement in laboratory and field/industrial applications, including basic sampling design and data analysis.

Careers
You will be equipped to work effectively across technical, research and strategic roles to respond to present and future challenges associated with sustainably meeting the needs of the national and global population. You may also work within government agencies, industry and consulting firms in strategic roles such as sustainability implementation. For example, Chemical and Environmental engineers will assist companies implement cleaner production practices, and will be involved in adaptation and planning for future environmental challenges in both the public and private sector.

**CHEMICAL AND MATERIALS**

What is Chemical and Materials Engineering?
The program combines studies in chemical engineering with additional specialist study in materials engineering. You will become a fully accredited chemical engineer with additional knowledge of materials engineering.

Materials engineering is concerned with the selection, processing and development of materials to design and make products. Materials – metals, alloys, ceramics, polymers and composites – give manufactured products their functional and aesthetic qualities. Materials engineers apply their knowledge of materials behaviour to optimise processing and improve the properties of products. They are also involved in controlling the service behaviour of materials; improving the performance of machines and structures.

The dual major in Chemical and Materials Engineering provides you with the best of both worlds – an excellent broad education in chemical engineering combined with specialist skills in materials engineering.

Careers
As a fully qualified Chemical Engineer, you will have all the employment opportunities of a Chemical Engineer, as well as further possibilities as a Materials Engineer.

Materials engineers are employed in the materials processing and manufacturing industries, including the automobile, whitegoods, steel, aluminium and polymer industries that create wealth and add value to Australia’s mineral and other resources.

Materials engineers are responsible for contributing to advances such as the space shuttle and the jet aeroplane; the laptop computer and the iPod; artificial hips, contact lenses and the bionic ear; improved golf clubs and tennis rackets; and levitating trains. Employment can be found in biomedical, electronics, energy and heavy industries.

Chemical and materials engineers are employed in positions in management, design, operations, research, and consulting in Australia and overseas.

**CHEMICAL AND ENVIRONMENTAL**

What is Chemical and Environmental Engineering?
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As a fully qualified Chemical Engineer, you will have all the employment opportunities of a Chemical Engineer, as well as further possibilities as a Materials Engineer.

Materials engineers are employed in the materials processing and manufacturing industries, including the automobile, whitegoods, steel, aluminium and polymer industries that create wealth and add value to Australia’s mineral and other resources.

Materials engineers are responsible for contributing to advances such as the space shuttle and the jet aeroplane; the laptop computer and the iPod; artificial hips, contact lenses and the bionic ear; improved golf clubs and tennis rackets; and levitating trains. Employment can be found in biomedical, electronics, energy and heavy industries.

Chemical and materials engineers are employed in positions in management, design, operations, research, and consulting in Australia and overseas.
## CHEMICAL AND METALLURGICAL

Metallurgical engineers play a key role in ensuring the sustainability of our modern society. Almost everything in our material world, even our major energy sources, is derived from minerals or from recycled materials.

It is the role of the metallurgical engineer to develop, design and operate processes that transform these low value raw materials into useful, high value mineral and metal products.

If you are looking for an interesting career that offers variety, hands-on problem solving, major high-tech projects, high salaries with prospects for international travel, you should find out more about this option.

The dual major in Chemical and Metallurgical Engineering provides you with the best of both worlds – a broad education in chemical engineering combined with more specialist metallurgy courses.

### Careers

You will find employment in a wide range of companies and employment prospects are excellent. Positions for metallurgical engineers are available in production operations, engineering design, consultancies, laboratories, marketing, finance and commerce, and in research and development. The industry provides generous, well-paid vacation work to enable you to obtain practical experience in the sector before you graduate, and scholarships to help pay tuition fees. This is a truly international profession with a choice of employment and lifestyle opportunities throughout Australia and overseas.

### Year 1

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### Year 2

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### Year 3

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### Year 4 / Years 4 and 5

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### Profile

**KAT TATERSALL**

*Bachelor of Engineering (Chemical and Materials)*

“I love the hands-on practicals in every course because it allows us to fully understand the concepts and the limitations of scientific ideas discussed in lectures.”
Civil engineers are experts in the environments in which they live. They engineer buildings, bridges, roads, harbours, dams, airports, coastal protection, water supply and public health, producing efficient facilities that are aesthetically pleasing and satisfy the needs of society. Civil engineers understand the way in which natural phenomena behave, meeting both environmental and technical challenges relating to areas such as how water flows, how waves break, how rivers can be controlled, how rainfall and wind effects can be measured, and how buildings of all kinds can resist loads. You can study in the areas of structural engineering, hydraulic engineering, transportation engineering, geomechanics, hydrology, construction, coastal engineering and economics.

**Careers**
Civil engineers mostly work in private industry, federal, state and local government, consulting engineering firms, construction companies, mining companies and research establishments in Australia and overseas. Within the private sector, consultant civil engineers are engaged to plan, design, manage and supervise works. They provide expert services to clients, advising financially and technically and undertaking the planning, coordination and technology of projects, often from first concepts through to completion.

In the public sector, the state and federal government departments and authorities responsible for railways, roads, ports, airports, housing and construction, all employ civil engineers. City councils and regional shires/councils also need the services of civil engineers.
CIVIL AND GEOTECHNICAL

What is Civil and Geotechnical Engineering?
The unprecedented infrastructure development in Queensland, and Australia as a whole, is generating huge demand for Civil Engineering graduates. This includes specialisation associated with civil engineering in Geomechanics, incorporating soil mechanics, rock mechanics and engineering geology. The Civil and Geotechnical specialisation consists of the major in Civil Engineering, which is taken common with all civil engineering plans, supplemented with additional specialist study and project work in Geotechnical Engineering. This specialisation is designed to equip qualified civil engineers with the skills to approach complex, multidisciplinary problems concerning earth materials including roads, landslides, piled building foundations, excavations, spillways, tunnelling and mining. The Civil and Geotechnical Engineering dual major is supported by a consortium of global companies. Students are taught by experts working in civil and geotechnical engineering and benefit from UQ’s close links with these companies.

Careers
There is a high demand from Civil and Geotechnical Engineering Consultants, Mining Companies, and Civil and Mining Contractors, and you can work in design, operation, management, research and consulting in Australia and overseas.

Year 1
Engineering Design
Earth Processes and Geological Materials for Engineers
Engineering Mechanics: Statics and Dynamics
Calculus and Linear Algebra I
Engineering Modelling and Problem Solving
Multivariate Calculus and Ordinary Differential Equations
Electives

Year 2
Environmental Issues, Monitoring and Assessment
Structural Mechanics
Traffic Flow Theory and Analysis
Calculus and Linear Algebra II
Analysis of Engineering and Scientific Data
Fundamentals of Soil Mechanics
Introduction to Structural Design
Reinforced Concrete Structures and Concrete Technology

Year 3
Fluid Mechanics for Civil Engineers
Geotechnical Engineering
Structural Analysis
Mining Geomechanics
Catchment Hydraulics
Structural Design
Transportation Systems Engineering Hydrogeology

Year 4
Mine Geotechnical Engineering
Geotechnical Investigation and Testing
Civil Design
Advanced Rock Mechanics
Civil Engineering Management

PROFILE

ALICE NAUGHTON
Bachelor of Engineering (Civil) and UQ Women in Engineering Student Leader

“The big picture is that I want to be part of the development of our ever-changing world. I want to plan for the huge changes we are starting to see: the increase in population, the strain on resources, the development in technology, the increase in urbanisation and mega-cities, the rise in pollution. Based on today’s plan, I hope to be part of the development through structural design.”
**ELECTRICAL**

**What is Electrical Engineering?**
Electrical engineering is concerned with the design, construction, operation and maintenance of electronics and electrical energy infrastructure.

<table>
<thead>
<tr>
<th>Year 1</th>
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<th>Year 4 / Year 4 and 5</th>
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<tbody>
<tr>
<td>Engineering Design</td>
<td>Introduction to Computer Systems</td>
<td>Embedded Systems Design and Interfacing</td>
<td>Thesis Project</td>
</tr>
<tr>
<td>Engineering Modelling and Problem Solving</td>
<td>Electromechanics and Electronics</td>
<td>Signals, Systems and Control</td>
<td>Engineering Professional Practice in the Business Environment</td>
</tr>
<tr>
<td>Calculus and Linear Algebra</td>
<td>Calculus and Linear Algebra II</td>
<td>Electrical Energy Conversion and Utilisation</td>
<td>Engineering Grand Challenges</td>
</tr>
<tr>
<td>Multivariate Calculus and Ordinary Differential Equations</td>
<td>Computer Systems Principles and Programming</td>
<td>Electronic Circuits</td>
<td>Electives</td>
</tr>
<tr>
<td>Introduction to Electrical Systems</td>
<td>Circuits, Signals and Systems</td>
<td>Fundamentals of Electromagnetic Fields and Waves</td>
<td>Team project II</td>
</tr>
<tr>
<td>Introduction to Software Engineering</td>
<td>Team Project I</td>
<td>Electives</td>
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<tr>
<td>Electromagnetism and Modern Physics</td>
<td>Analysis of Ordinary Differential Equations</td>
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<td>Elective</td>
<td>Probability Models for Engineering and Science</td>
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**Careers**
Electrical engineers typically work in one of the following fields:
- telecommunications
- signal and image processing
- robotics and intelligent systems
- computer systems engineering
- electric power generation
- transmission and distribution
- biomedical engineering
- including biomedical imaging and signal processing for biomedical applications.

Career opportunities are found in the telecommunications and microwave industry, mining and transport sector, power generation and transmission industries and in the government and defence sector. Many of our graduates establish their own companies quite early in their careers, or are working overseas.

**ELECTRICAL AND BIOMEDICAL**

**What is Electrical and Biomedical Engineering?**
This program combines studies in electrical engineering with additional specialist study and project work in bioengineering.

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<th>Year 1</th>
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<th>Year 4 / Year 4 and 5</th>
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<tbody>
<tr>
<td>Engineering Design</td>
<td>Introduction to Computer Systems</td>
<td>Integrative Cell and Tissue Biology</td>
<td>Thesis Project</td>
</tr>
<tr>
<td>Engineering Modelling and Problem Solving</td>
<td>Electromechanics and Electronics</td>
<td>Embedded Systems Design and Interfacing</td>
<td>Image Processing and Computer Vision</td>
</tr>
<tr>
<td>Calculus and Linear Algebra</td>
<td>Calculus and Linear Algebra II</td>
<td>Signals, Systems and Control</td>
<td>Team Project II</td>
</tr>
<tr>
<td>Multivariate Calculus and Ordinary Differential Equations</td>
<td>Computer Systems Principles and Programming</td>
<td>Electronic Circuits</td>
<td>Medical Imaging</td>
</tr>
<tr>
<td>Electromagnetism</td>
<td>Circuits, Signals and Systems</td>
<td>Fundamentals of Electromagnetic Fields and Waves</td>
<td>Professional Practice and the Business Environment</td>
</tr>
<tr>
<td>Introduction to Electrical Systems</td>
<td>Team Project I</td>
<td>Digital Signal Processing</td>
<td>Advanced Medical Device Engineering</td>
</tr>
<tr>
<td>Introduction to Software Engineering</td>
<td>Analysis of Ordinary Differential Equations</td>
<td>Medical and Industrial Instrumentation</td>
<td>Clinical Biomedical Signal Processing</td>
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<tr>
<td>Electromagnetism and Modern Physics</td>
<td>Equations</td>
<td>Cells to Organisms</td>
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<tr>
<td>Elective</td>
<td>Probability Models for Engineering and Science</td>
<td>Probability Models for Engineering and Science</td>
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New discoveries and developments in biology and medicine are occurring with greater frequency now than ever before. This has led to the rapid change and growth of biotechnology research and industry. Biomedical engineering bridges the gap between technology, medicine and biology. It integrates physical, chemical, mathematical, and computational sciences and engineering principles with the ultimate aim of improving healthcare through advances in technology.

The dual major in Electrical and Biomedical Engineering commences with a broad foundation of preparatory courses in engineering, mathematics, biology and physics. This is followed by more advanced coursework and laboratory training, combining engineering analysis and design techniques with biology and physiology of cells and organisms.

**Careers**
As a biomedical engineer, you may be involved in the design, construction and development of health and monitoring devices or computers, diagnostic systems (such as CT, MRI and ultrasound), and therapeutic systems (such as surgical lasers and tissue engineering). You could also work with models of physiological function (such as a virtual heart), and with prosthetics and implants (such as cardiac pacemakers, defibrillators and artificial organs).

Employment opportunities include hospitals, biotechnology companies, medical equipment manufacturers, research institutes, and government health departments.
What is Electrical and Computer Engineering?

Computer engineering spans hardware, software and systems — how to build a computer based device, how to program that for advanced operations and how to connect to other devices to work together. Computer engineers build devices which everybody can recognise as a computer e.g., iPad or PC, but electrical and computer engineers can also build “hidden” or embedded computers which control complicated machinery, medical instruments, cars, white goods, robots, communication equipment and satellites.

You will graduate with knowledge in electrical engineering, computer engineering and information technology, in conjunction with skills of a professional engineer.

Careers

Electrical engineers with in-depth knowledge of computer systems are needed in virtually any industry where advanced electrical and electronic equipment is designed, upgraded or even maintained. Electrical and Computer engineers are qualified to work within the mainstream computer industry but also in most other areas of electrical engineering. Career opportunities exist with a range of employers, including multinational computer companies, state and federal government departments, consulting companies, the telecommunications industry, manufacturing and resource industries.

You may be employed as a designer of electronic and computer hardware, or as a system integrator building equipment requiring computer control. You can also work as a programmer, designing and implementing applications, ranging from software for embedded microcontrollers to the software used in information terminals.

Year 1

- Electromagnetism and Modern Physics
- Engineering Design
- Engineering Modelling and Problem Solving
- Calculus and Linear Algebra I
- Multivariate Calculus and Ordinary Differential Equations
- Introduction to Electrical Systems
- Introduction to Software Engineering
- Elective

Year 2

- Programming in the Large
- Introduction to Computer Systems
- Electromechanics and Electronics
- Calculus and Linear Algebra II
- Computer Systems Principles and Programming
- Circuits, Signals and Systems
- Team Project I
- Analysis of Ordinary Differential Equations
- Probability Models for Engineering and Science

Year 3

- Embedded Systems Design and Interfacing
- Signals, Systems and Control
- Electronic Circuits
- Digital System Design
- Fundamentals of Electromagnetic Fields and Waves
- Electives

Year 4 / Year 4 and 5

- Thesis Project
- Advanced Embedded Systems
- Team Project II
- Professional Practice and the Business Environment
- Algorithms and Data Structures
- Concurrency: Theory and Practice
- Electives

Profile

JAMES MCGILL

Graduate Bachelor of Engineering (Electrical & Computer)

Google Australia

"Working at Google Australia, has provided me with so many great opportunities. One of the biggest highlights would have to be traveling to San Francisco to work with some incredibly bright people, and also working in a building which has a slide between levels 6 and 5!"
**MECHANICAL**

What is Mechanical Engineering?
One of the broadest areas of engineering activity, mechanical engineering is concerned with machinery, power and manufacturing methods. Mechanical engineers design and manufacture machinery and equipment for all branches of industry; design and operate power plants; and concern themselves with the economical combustion of fuels, the conversion of heat energy into mechanical power and the use of that power to perform useful work.

You will study core courses in design, mathematics, modelling, computing, management and engineering science. Electives in later years will give you an opportunity to study in greater depth the fields of interest for individual career options. The principal topics in mechanical engineering are fluid mechanics, thermodynamics and heat transfer, solid mechanics, manufacturing, energy systems, dynamics and control.

**Careers**
Mechanical engineers are employed in diverse industries including the automotive, aerospace, environmental, medical, power generation and building industries to name a few. Our graduates work in research, design and development, testing and manufacturing, consulting firms, government agencies and educational institutions.

Employment opportunities in Australia and overseas range from very large mining, refining, construction and manufacturing companies to small companies in which you might be the only engineer. Some graduates start their own companies soon after they have gained the experience required to become a Chartered Professional Engineer (CPEng).

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<tbody>
<tr>
<td>Engineering Design</td>
<td>Calculus and Linear Algebra II</td>
<td>Analysis of Ordinary Differential Equations</td>
<td>Introduction to Control Systems Engineering Thesis OR Professional Engineering Project OR Major Design Project Electives</td>
</tr>
<tr>
<td>Engineering Problem Solving</td>
<td>Introduction to Engineering Design and Manufacturing</td>
<td>Mechanical Systems Design</td>
<td>Electives</td>
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<tr>
<td>Calculus and Linear Algebra</td>
<td>Intermediate Mechanical and Space Dynamics</td>
<td>Advanced Dynamics and Vibrations</td>
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<tr>
<td>Multivariate Calculus and Ordinary Differential Equations</td>
<td>Structures and Materials</td>
<td>Finite Element Method and Fracture Mechanics</td>
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<tr>
<td>Engineering Thermodynamics</td>
<td>Fundamentals of Fluid Mechanics</td>
<td>Thermodynamics and Heat Transfer</td>
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<tr>
<td>Engineering Mechanics: Statics and Dynamics</td>
<td>Engineering Analysis I</td>
<td>Fluid Mechanics</td>
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<td>Elective</td>
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<td>Engineering Management and Communication</td>
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<td>Analysis of Engineering and Scientific Data</td>
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**MECHANICAL AND MATERIALS**

What is Mechanical and Materials Engineering?
The program combines studies in mechanical engineering with additional specialist study in materials engineering. Materials engineering is concerned with the selection, processing and development of materials to design and make products. Materials – metals, alloys, ceramics, polymers and composites – give manufactured products their functional and aesthetic qualities. Materials engineers apply their knowledge of materials behaviour to optimise processing and improve the performance of products. They are also involved in controlling the service behaviour of materials; improving the performance of machines and structures.

The dual major in Mechanical and Materials Engineering provides you with the best of both worlds – an excellent broad education in mechanical engineering combined with specialist skills in materials engineering.

**Careers**
As a fully qualified Mechanical Engineer, you will have the same employment opportunities as any mechanical engineer with further possibilities as a materials engineer.

Materials engineers are employed in the materials processing and manufacturing industries, including the automobile, whitegoods, steel, aluminium and polymer industries that create wealth and add value to Australia’s mineral and other resources. Materials engineers are employed in large multinational companies and small to medium enterprises, in research establishments, in public utilities and in consulting engineering firms.

Materials engineers are responsible for contributing to advances such as the space shuttle and the jet aeroplane; the laptop computer and the iPod; artificial hips, contact lenses and the bionic ear; improved golf clubs and tennis rackets; and levitating trains. Employment can be found in biomedical, electronics, energy and heavy industries.

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<td>Calculus and Algebra</td>
<td>Analysis of Ordinary Differential Equations</td>
<td>Engineering Thesis</td>
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<tr>
<td>Engineering Problem Solving</td>
<td>Structures and Materials</td>
<td>Analysis of Engineering and Scientific Data</td>
<td>Introduction to Control</td>
</tr>
<tr>
<td>Calculus and Linear Algebra</td>
<td>Introduction to Engineering Design and Manufacturing</td>
<td>Finite Element Method and Fracture Mechanics</td>
<td>Nano-materials OR Bio-materials</td>
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<tr>
<td>Multivariate Calculus and Ordinary Differential Equations</td>
<td>Machine Element Design</td>
<td>Thermodynamics and Heat Transfer</td>
<td>Net Shape Manufacturing</td>
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<tr>
<td>Engineering Thermodynamics</td>
<td>Intermediate Mechanical and Space Dynamics</td>
<td>Engineering Management and Communication</td>
<td>Aerospace Materials</td>
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<tr>
<td>Introduction to Electrical Systems</td>
<td>Fluid Mechanics</td>
<td>Mechanical Systems Design</td>
<td>Corrosion and Electrochemistry</td>
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<tr>
<td>Engineering Mechanics: Statics and Dynamics</td>
<td>Science and Engineering of Metals</td>
<td>Advanced Dynamics and Vibrations</td>
<td>Polymers</td>
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<td>Elective</td>
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<td>Fluid Dynamics</td>
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<td>Materials Selection</td>
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Electives
MECHANICAL AND AEROSPACE

What is Mechanical and Aerospace Engineering?
This program combines studies in mechanical engineering with additional specialist study and project work in the aerospace and aviation industry.

Aerospace engineering is concerned with the design, manufacture, and operation of aircraft, launch vehicles, satellites, spacecraft, and ground support facilities. It is a particularly challenging discipline because of the need for lightweight but highly reliable aircraft and spacecraft. Cutting-edge technology and design are key in this field.

Aerospace engineering projects tend to be multidisciplinary in nature because of the scientific content of many of the payloads and the complex thermophysical aspects of hypersonic atmospheric flight. All workers in this field must be adept at incorporating technology from outside their immediate specialty.

The Mechanical and Aerospace Engineering specialisation includes the same compulsory courses as the Mechanical Engineering specialisation. All students study aerospace propulsion, design and manufacturing and then specialise in either the aeronautical or space engineering stream to obtain the dual major. You can study topics such as flight mechanics, aerospace materials, space physics and astrophysics, hypersonic aerodynamics and computational fluid dynamics.

Careers
Because the degree program is based on the Mechanical Engineering program you will be fully qualified as a mechanical engineer and will have the same employment opportunities as mechanical engineers.

As a UQ Mechanical and Aerospace Engineering graduate you will not only have generic skills that give you an advantage in traditional mechanical engineering roles, as the discipline increasingly relies on high technology, but will also have the specialised training that enables you to apply engineering and scientific techniques to aerospace-based situations.

Year 1
- Engineering Design
- Engineering Problem Solving
- Calculus and Linear Algebra I
- Multivariate Calculus and Ordinary Differential Equations
- Engineering Thermodynamics
- Introduction to Electrical Systems
- Engineering Mechanics: Statics and Dynamics

Year 2
- Calculus and Linear Algebra II
- Introduction to Engineering Design and Manufacturing
- Machine Element Design
- Intermediate Mechanical and Space Dynamics
- Structures and Materials
- Fundamentals of Fluid Mechanics
- Engineering Analysis I

Year 3
- Engineering Analysis II
- Analysis of Ordinary Differential Equations
- Aerospace Design and Manufacturing
- Advanced Dynamics and Vibrations
- Finite Element Method and Fracture Mechanics
- Thermodynamics and Heat Transfer
- Fluid Mechanics
- Engineering Management and Communication
- Analysis of Engineering and Scientific Data

Year 4
- Introduction to Control Systems
- Aerospace Propulsion
- Engineering Thesis
- OR Professional Engineering Project
- OR Major Design Project
- Aerospace Electives

PROFILE

RACHEL PURDIE
Bachelor of Engineering (Mechanical) and UQ Women in Engineering Student Leader

“One of the biggest highlights from my time at UQ would be becoming a member of the UQ Racing team, an extra-curricular activity where a group of students completely design, fabricate and test a formula style vehicle. We then compete in an international competition organised by the Society of Automotive Engineers against over 500 other University teams. I have learnt so much while on the team such as project management, system integration, mechanical design, practical manufacturing and even fabrication. Using the skills that I have developed by participating in the team I managed to win the A R Munro Prize for Mechanical Design, so it is already paying off!”
MECHATRONIC

What is Mechatronic Engineering?
Mechatronic engineering is the integration of precision mechanical engineering with electronics, computer systems, and advanced controls to design and construct products and processes. Mechatronic engineering is one of the newest branches of engineering with far-reaching applications in every sector of society.

The Mechatronic Engineering program provides a broad-based education in the basic principles of electrical, mechanical and computer engineering. In the first and second year, you will take core courses from the Mechanical and Electrical Engineering degree programs.

In the third and fourth year, you will be required to take four courses that are specific to the Mechatronics program along with electives such as engineering analysis and design, engineering mechanics, dynamics and automatic control, signals and communication, and electrical hardware and computer software. The remaining courses can be taken from any area of study on campus that will enhance your engineering degree (e.g., commerce, business studies, physics, mathematics or music) or they can be further courses from the Mechatronic Engineering program.

Careers
Mechatronic engineers work in multidisciplinary design teams in industry, manufacturing, and research and development. They are often employed by product developers and manufacturers, by the mining industry, by the aerospace and defence sectors, and by the government and industry research groups. Biomedical and biotechnology companies are in increasing need of mechatronics graduates.

Mechatronic engineers are needed wherever there is potential for improvement through the integration of computer and electrical hardware with mechanical systems. Opportunities also exist for you to form your own company early in your career.

SOFTWARE

What is Software Engineering?
Software engineering is the systematic approach to the development, operation, maintenance and retirement of software: the controlling element of computer-based systems. As society has become even more dependent on computers, one of the biggest challenges is the creation of new software necessary to make computers useful.

Software engineering deals with the challenges associated with large-scale, high-quality software including size and complexity; cooperation between developers, clients and users; and evolution of software over time to maintain its value. Software engineers use principles of computer science, engineering, design, management, psychology, sociology and other disciplines to design and manage large software systems.

You will complete team projects in third and fourth year. Employers strongly support this UQ approach to learning.

Careers
Software engineers work in large multinational companies, state and federal government departments and agencies, as well as small, specialised consulting companies. Some of our students have started their own companies. Defence, transport, games and security are just a few of the areas where software engineers are currently being recruited. Career opportunities for software engineers are excellent and Australian graduates are well-accepted internationally and able to work overseas and expand their expertise.
MINING

What is Mining Engineering?
Mining engineering is concerned with the extraction of valuable minerals from the ground for processing and utilisation. It covers all phases of mining operations, from exploration and discovery, through feasibility, development, production, processing and marketing, to final site rehabilitation. Mining engineers assess whether a new mineral discovery is of sufficient size and quality to warrant the costs of extraction, transportation and marketing. The mining industry is highly mechanised, highly automated and capital-intensive, and uses the most sophisticated technology available. Some mining engineers choose to specialise in engineering sciences, such as rock mechanics, mine planning, excavation engineering, ventilation or mining systems.

Mining engineering students have access to a wide range of scholarships and often take up well-paid, industry-based vacation work throughout their study.

Careers
Employment prospects for UQ mining engineers are excellent with recent graduates commanding starting salaries in excess of $90,000. Most mining engineers are employed by mining companies, initially at the mines where minerals such as gold, silver, copper, lead, zinc, uranium ores, and coal are extracted. Some mining engineers choose to specialise in operations while others, such as technical specialists and senior managers, move to the major cities where head offices tend to be located. You will have a range of employment options in the mining industry, such as engineering, operations, sales and management. Mining engineers often work for international companies, leading to opportunities for overseas travel and employment.

Year 1
- Engineering Design
- Earth Processes and Geological Materials for Engineers
- Engineering Mechanics: Statics and Dynamics
- Engineering Modelling and Problem Solving
- Calculus and Linear Algebra I
- Multivariate Calculus and Ordinary Differential Equations
- Electives

Year 2
- Introduction to Mining
- Resource Geology and Mine Surveying
- Soil Mechanics
- Structural Mechanics in Mining
- Physical and Chemical Processing of Minerals
- Fluid Mechanics
- Calculus and Linear Algebra II
- Analysis of Engineering and Scientific Data
- Elective

Year 3
- Resource Estimation
- Mining Geomechanics
- Mining Systems
- Mine Ventilation
- Mine Planning
- Rock Breakage
- Electives

Year 4
- Mine Geotechnical Engineering
- Mine Management
- Mining Research Project I
- Mining Research Project II
- Hard Rock Mine Design and Feasibility
- Coal Mine Design and Feasibility

MINING AND GEOTECHNICAL

What is Mining and Geotechnical Engineering?
The unprecedented mining and infrastructure development in Queensland, and Australia as a whole, is generating huge demand for Mining Engineering graduates.

Year 1
- Engineering Design
- Earth Processes and Geological Materials for Engineers
- Engineering Mechanics: Statics and Dynamics
- Calculus and Linear Algebra I
- Engineering Modelling and Problem Solving
- Multivariate Calculus and Ordinary Differential Equations
- Electives

Year 2
- Calculus and Linear Algebra II
- Fluid Mechanics
- Introduction to Mining
- Structural Mechanics for Mining
- Analysis of Engineering and Scientific Data
- Fundamentals of Soil Mechanics
- Structural Geology
- Resource Geology and Mine Surveying
- Physical and Chemical Processing of Minerals

Year 3
- Geotechnical Investigation and Testing
- Resource Estimation
- Mining Geomechanics
- Mining Systems
- Hydrogeology
- Mine Planning
- Mine Ventilation
- Rock Breakage

Year 4
- Mine Geotechnical Engineering
- Mining Research Project
- Hard Rock Mine Design and Feasibility
- Coal Mine Design and Feasibility
- Coal Mine Design and Feasibility

This includes specialisation associated with mining engineering in Geomechanics, incorporating soil mechanics, rock mechanics and engineering geology.

The Mining and Geotechnical specialisation consists of the major in Mining Engineering, which is taken in common with all mining engineering plans, supplemented with additional specialist study and project work in Geotechnical Engineering. The program is designed to equip you with the skills to approach complex, multidisciplinary problems concerning earth materials – including roads, excavations, spillways, tunneling and mining.

The Mining and Geotechnical Engineering major is supported by a consortium of global companies. You will be taught by experts working in mining and geotechnical engineering and benefit from UQ’s close links with these companies.

Careers
There is a high demand from Mining and Geotechnical Engineering Consultants, Mining Companies, and Civil and Mining Contractors, and you can work in design, operation, management, research and consulting in Australia and overseas.
High school prepares students for the next step towards their career, in whatever area or path that may be. If you are considering studying engineering at university, we’ve asked some of our current students to share what they wished they knew in high school, in order to help you make the transition to university easier and get the most out of your studies, now and in the future.

Aaron Low
BE Civil and Geotechnical
Second Year student
Things I wished I knew in high school...
Hold onto your notes! In Semester 1 of first year I had to revise my integration and derivation rules as university notes just looked too complicated. My old notebook from back in high school was the best resource available to me at that time.
There are many scholarships available to all types of students. Sites like UQ’s scholarship page for future students are very well structured, however, you need to actively apply for university scholarship before the start of first semester.
Explore your options. I was a part of the Students for the Future program which gave me a head start in making a decision to study engineering. Many events and opportunities like this are available during high school if you’re interested.

Elisheba Radke
BE Chemical and Metallurgical
Third Year student
Things I wished I knew in high school...
Every student has different strengths and learning paces. I’ve found there really isn’t only one way to do an engineering degree. Sometimes it just takes a few years after graduation before you know what you want to do, or are in the headspace for intense study. Consider bridging courses, night classes or other degrees as a pathway to engineering.
Science and engineering are different. In high school I loved applications of chemistry, but I had no idea until I was well into my first year that this actually existed as a specialisation in Metallurgical Engineering. You will be exposed to many different areas of engineering in first year before deciding on an area to specialise in.

Julian Tonino
BE Civil
Third Year student
Things I wished I knew in high school...
Learn your fundamentals. The fundamentals I learnt in Chemistry, Physics and Maths B and C like algebra, calculus and trigonometry, I have never lost and will use every day for the rest of my life.
Develop an understanding of University and what you think you might want to do. I didn’t really understand Circuits, but that’s ok as I’ve pursued Civil Engineering, not Electrical Engineering where this has more relevance and I’d have to fully understand and enjoy this subject.
CONCURRENT DIPLOMAS

Once you are enrolled at UQ, you may decide to undertake a Diploma in either Music Performance, Languages, or Global Studies at the same time as you complete your bachelor degree.

At UQ, you can now study one of three undergraduate diplomas concurrently with your bachelor degree. You may complete it over an accelerated period, or spread the load across the duration of your degree.

MUSIC PERFORMANCE
If you love music, this is the diploma for you – no matter what your main academic interest. Discover the world of ensembles as you participate in ensemble rehearsals and performances. Develop excellence in rhythmic accuracy and pitch discrimination, acquire a full dynamic range, and develop musical style and vitality through a variety of rehearsal techniques employed by each ensemble director. Indulge your passion for music!

LANGUAGES
If you are keen to learn a new language, whether for personal interest or to enhance your career prospects in the global economy, you can study the Diploma in Languages. This diploma will suit you if you studied a language at high school and want to maintain your proficiency. It will also suit you if you have never studied a foreign language – you don’t need any prior experience. The diploma is available in Chinese, Classical languages, French, German, Indonesian, Japanese, Korean, Russian and Spanish.

GLOBAL ISSUES
The Diploma in Global Issues will appeal to you if you wish to pursue a career in an area where having a global perspective on the environment, economics, politics, and social change will be of advantage. In this program, you will learn how individuals, societies and countries are all interconnected. One exciting feature is the opportunity to make the most of UQ’s extensive international connections through study at one of our partner universities.

How to enrol in a concurrent diploma
If you are interested in the Diploma in Music Performance or the Diploma in Languages, you can apply for these programs directly to UQ once QTAC offers you a UQ place.
If you wish to do the Diploma in Global Issues, you will need to complete one year (#16 units) of undergraduate studies before applying.
To find out more about undergraduate diplomas, please contact the Faculty of Humanities and Social Sciences.

Faculty of Humanities and Social Sciences
www.uq.edu.au/study
Email hass@uq.edu.au
Phone 07 3365 1333
A dual degree program gives you the flexibility to study two areas of interest at once. The additional knowledge and skills gained give you a competitive edge in the workplace and significantly broaden your career possibilities. Dual programs can also be completed more quickly than two separate degrees.

Applicants for UQ dual programs must satisfy prerequisites and entry score requirements for both programs. You apply through normal QTAC application procedures.

Once you have been offered a place in a program, you may then apply to the faculty for permission to enrol in the two programs making up the dual degree program. The Enrolment Pack sent with an offer provides details about this process.

In some programs you can choose to undertake additional courses in some years to finish the program in five rather than five and a half years.

**Engineering (Honours) / Arts (BE (Hons) / BA)**
Program duration: 5.5 years
This program allows combinations of the humanities and engineering. It is an excellent plan if you wish to combine languages, cultural studies and the behavioural sciences.

**Engineering (Honours) / Biotechnology (BE (Hons) / BBiotech (Hons))**
Program duration: 5.5 years
By combining these degrees you will be provided with an ideal combination of skills for the production side of modern biotechnology. This program is available with the BE (Chemical Engineering) and BBiotech (Process Technology) only.

**Engineering (Honours) / Business Management (BE (Hons) / BBusMan)**
Program duration: 5.5 years
By combining these two areas of study, you will attain not only a high level of engineering proficiency but also gain additional valuable knowledge and skills to assist in effective and successful business management.

**Engineering (Honours) / Commerce (BE(Hons) / BCom)**
Program duration: 5.5 years
By combining these two areas of study in a dual degree, you will be given a focused background in commerce, along with specific practical and theoretical understandings relevant to your chosen field in engineering.

**Engineering (Honours) / Economics (BE(Hons) / BEcon)**
Program duration: 5.5 years
An excellent combination if you want an option of working in business or government interfacing with engineering and technology-based industry.

**Engineering (Honours) / Information Technology (BE(Hons) / BInfTech)**
Program duration: 5.5 years
Ideal if you wish to combine the theory and practice of modern computing with another field in engineering. This program is available with some dual and extended majors, and all single majors except Software Engineering.

**Engineering (Honours) / Science (BE(Hons) / BSc)**
Program duration: 5 years
Engineering and science are complementary areas of study. Engineering considers the practical and useful applications of scientific knowledge, Science is about understanding the natural and physical world. This dual degree provides you with an extended science base for engineering if you are interested in knowing more about science and mathematics underpinning engineering. This program is available with all engineering majors. Popular fields of study in the BSc for dual degree students include mathematics, physics and chemistry.

*Note: All dual programs are available with all single majors unless otherwise indicated. Engineering dual or extended majors are only available within the Bachelor of Engineering (Honours) or Bachelor of Engineering (Honours)/Bachelor of Science or (for some majors) with the Bachelor of Engineering (Honours)/Bachelor of Information Technology.
UQ offers a range of scholarship options to make university study more affordable. Check out what you may be eligible for before you start.

**SCHOLARSHIPS**

UQ scholarships are awarded to recognise academic excellence combined with outstanding leadership; to assist students from families experiencing significant financial hardship; to support elite athletes; to help offset the costs of overseas study; and to aid students wishing to gain valuable research experience.

Scholarships are not only funded by the University, but are also generously supported by industry partners, private donors and the government.

**Academic scholarships**

Academic scholarships aim to reward very high-achieving school leavers who, in their senior years, have also demonstrated outstanding community service and/or significant leadership potential. Three categories are offered: UQ Vice-Chancellor’s, UQ Excellence and UQ Merit. Applications open in August and close on 31 October each year.

**Equity scholarships**

UQ is keen to support students from financially disadvantaged backgrounds to realise their tertiary study aspirations.

More than 100 UQ-Link Access Scholarships, valued at $12,000 over four years, are awarded each year to commencing students who demonstrate significant financial hardship. If you wish to be considered for one of these scholarships, you should complete the Financial Hardship section of QTAC’s Educational Access Scheme when submitting your QTAC application.

**Centrelink scholarships**

If you receive a study support payment such as Youth Allowance or ABODY, you may be able to access the Student Start-Up Scholarship through Centrelink. Relocation Scholarships are also available to regional/remote students needing to relocate from home to attend university; contact Centrelink at www.humanservices.gov.au for more information.

**Field of study scholarships**

Thanks to generous financial support from industry partners and University donors, UQ is able to offer a wide range of scholarships across most study areas. In general, you must complete at least one year of study before you can apply, although some faculties do offer entry scholarships for commencing students.

**Scholarships for Women in Engineering**

If you are a prospective female student applying to study Engineering at UQ, you may be eligible for a specific first year women in engineering scholarship. The Parsons Brinckerhoff Scholarship, valued at $5000 for one year, is offered to encourage and support female students who have been educationally disadvantaged as a result of their financial circumstances and/or geographic isolation. Also on offer is the Leanne Bond Scholarship, valued at $5000 for one year, which is offered to encourage and support a female student undertaking the first year of an engineering dual program with business or economics.

**Scholarships for Indigenous students**

There are many scholarships for Aboriginal and Torres Strait Islander students. Indigenous Access Scholarships (IAS) provide a one-off payment of more than $4700 to assist with the costs of starting university (please note that preference is given to commencing students who have to relocate). IAS recipients may also be eligible for other Commonwealth-funded Indigenous Scholarships.

**Undergraduate research scholarships**

UQ’s Summer and Winter Research Programs provide an opportunity to gain research experience working alongside some of UQ’s most talented researchers. Projects are available in most disciplines for six-to-ten weeks over the summer break and four-to-six weeks over the winter break. You can apply for scholarships valued at up to $3000 for the UQ Summer Research Program and up to $1000 for the UQ Winter Research Program.

**Scholarships for overseas study**

An overseas study experience is a great way to build global networks, increase employability, learn a new language, and experience a new culture. Through UQ Abroad, UQ’s student exchange program, you can study overseas for a semester or a year on exchange while gaining credit towards your UQ degree. Scholarships valued at up to $3000 are available to help with travel and other costs.

**Global experiences and professional development**

UQ is committed to providing opportunities for you to realise your aspirations, become a leader in your chosen field, and make a positive impact on society. UQ Advantage Grants of up to $1000 can provide financial assistance to support your participation in professional development and co-curricular activities such as internships, volunteering, short-term study programs, conference presentations and more.

**Sponsorship scholarships**

If you play sport at an elite level, the following scholarships are available:

- UQ Sports Achievement Scholarship, valued at $6000 for one year
- Clem Jones Sporting Scholarship, valued at $6000 a year for up to three years.

Sporting scholarship recipients also receive free access to the University’s sporting facilities and services.

Apply online by 31 October each year via the UQ Sport website.

If you have represented at open, national or international level in your chosen sport, you can apply for the UQ Sport Scholarship Ambassador Program, worth $1500 per year. Please visit www.uq.edu.au/scholarships for more detailed information on any of the above as well as other scholarship opportunities available at UQ.

Undergraduate Scholarships and Prizes Office
www.uq.edu.au/study/scholarships
Email ugsscholarships@uq.edu.au
Phone 07 3365 7113

UQ Abroad
www.uq.edu.au/ujet

UQ Sport
www.uqsport.com.au
Phone 07 3365 6243
RWH HAWKEN SCHOLARS

The Hawken Scholars Program welcomes, supports and gives special opportunities to the Faculty of Engineering, Architecture and Information Technology’s best and brightest students.

The program emulates the vision of Professor RWH Hawken (a founding Professor of Civil Engineering at UQ) who believed that the complete student should have an education that takes in a combination of wide-ranging and cultural insights, coupled with academic excellence.

It encourages academically gifted scholars in selected faculty course work degrees in engineering, architecture and information technology to aspire to take their degree to the highest possible level.

The Hawken Scholars Program membership is open to fulltime students who are high academic achievers and comprise the top five per cent of academic performance (as measured by Grade Point Average) in the faculty’s course work student cohort.

The program provides Hawken Scholars with enhanced academic, industry and cultural experiences. Through exposing this motivated and elite group of the faculty’s top 200 students to new networks and opportunities, we aim to further develop their skills, knowledge and experiences, in preparation for long-term leadership positions.

Program requirements

The program is only available to an eligible student while they are enrolled full-time in one of the following degree programs:
- Bachelor of Architectural Design
- Bachelor of Engineering (Honours)
- Bachelor of Engineering (Honours) dual degrees including the integrated Bachelor and Master of Engineering,
- Bachelor of Information Technology
- Bachelor of Information Technology dual degrees
- Bachelor of Multimedia Design.

How to apply

High-achieving students who enrol in an Engineering, Architecture, Multimedia Design, or Information Technology degree and receive a UQ Vice-Chancellor’s or UQ Excellence Scholarship automatically become a Hawken Scholar for the first calendar year of their enrolment.

You must apply for a UQ Excellence Scholarship through the Undergraduate Scholarships and Prizes Office at www.uq.edu.au/study/scholarships. If you then enrol in one of the above undergraduate degrees you will be invited to enter the RWH Hawken Scholars program.


ROGER WILLIAM HERCULES HAWKEN (1878-1947) was the first Professor and lecturer in Civil Engineering at The University of Queensland. Professor Hawken played a leading role in the formation of Engineers Australia in 1919 and worked on many major projects including Brisbane’s Story Bridge. He was an inspiring member of The University of Queensland academic staff for more than 35 years.
ADMISSION INFORMATION

Admission requirements
To gain admission to undergraduate programs, you must satisfy prerequisites and have a sufficient entry score (OP/Rank).

But there are alternative pathways for entry if you do not meet the requirements, and you can upgrade your score.

Prerequisites
Subject prerequisites are the Queensland Year 12 subjects required for individual programs. You may also gain admission to programs with subject equivalents from interstate or overseas schooling, selected bridging programs, or tertiary studies. Some programs have additional prerequisites, e.g., the Undergraduate Medicine and Health Sciences Admission Test (UMAT).

Entry scores
Entry scores include Overall Positions (OP) and entry ranks. Eligible applicants are selected for admission to a program in order of merit based on entry scores. Those with the highest entry scores are selected first, and so on until the program quota is filled.

The minimum OP or rank required for entry varies from year to year and is determined once applications have been processed and places allocated. While it is difficult to predict exactly what OP or rank will be needed for entry to a program, you can use the previous year’s cut-off points as a guide.

Current Queensland Year 12 students receive an OP on the basis of their overall achievement at school in comparison with other students. OPs are determined by the Queensland Studies Authority and range from 1 to 25, with 1 being the highest.

All other applicants are allocated a rank on a scale of 1-99, with 99 being the highest. This common ranking scale allows many different types of qualifications to be compared, such as:

- the Australian Tertiary Admissions Rank (ATAR), which is used to calculate a rank for interstate Year 12 students
- the Combined Rank by QTAC, which is used to rank Australian International Baccalaureate (IB) students (see page 92)
- Entry rank for non-school leavers (including previous Queensland Year 12 students who qualified for an OP) and OP-ineligible Year 12 school leavers based on previous secondary, tertiary, bridging and preparatory studies, and/or work experience.

UQ OP Guarantee
If you achieve an OP score in the range of 1-5 (or entry rank equivalent) and have completed required prerequisite subjects, you are guaranteed a place in the majority of UQ’s undergraduate programs, regardless of the published program cut-offs. See www.uq.edu.au/study/?page=194794.

English language requirements
If you are from a non-English speaking background, you will need to provide evidence of English proficiency. You can do this by passing Queensland Year 12 English (or interstate equivalent), or by other means detailed in the Entry Options booklet available at: www.uq.edu.au/study/docs/domestic/entry-options.pdf.

Alternative entry
If you did not complete Year 12, did not achieve a high enough entry score for your preferred program, or are a mature-aged applicant, there are alternative entry pathways to UQ. Contact UQ Admissions for advice.

Improving an entry score (upgrading)
If you are not offered a place in your preferred program and want to improve your entry score or meet subject prerequisites, you can accept an offer in a less competitive program with fewer prerequisites and try to improve your entry score. This is called upgrading.

We recommend that you complete one full year of bachelor degree study to upgrade to higher demand programs (such as dentistry or veterinary science) because the entry ranks allocated to attempts totalling less than one full-time year are capped. Depending on your academic performance your new entry rank could be higher than your previous rank.

For more information on how to improve your entry score, contact UQ Admissions.

Special entry programs
If you are of Australian Aboriginal and/or Torres Strait Islander descent, or have suffered financial hardship or severe disadvantage beyond your control that has affected previously satisfactory results, you may be eligible for special entry to UQ. Contact UQ Admissions for more information.

UQ’s Bonus Rank Scheme gives current Year 12 high school students bonus points towards their entry score for completing certain approved subjects or courses. Contact UQ Admissions for more information.

Programs for high-school students
UQ’s Enhanced Studies Program (ESP) is the perfect opportunity to test-drive a tertiary-level course before you start university. While still in Year 12, you can complete a university course, attend lectures and tutorials, and access UQ facilities. Once you pass the course, you may get credit towards a UQ program and can also boost your university entry rank through the Bonus Rank Scheme: see www.uq.edu.au/esp.

The Young Scholars Program is another opportunity to discover, learn and engage with UQ’s academic community and like-minded students from across Queensland. See www.uq.edu.au/youngscholars.

How to apply
You can apply for admission to undergraduate programs at UQ through the Queensland Tertiary Admissions Centre (QTAC).

Check the QTAC Guide for details on how to apply and what entry requirements you need. Free copies are given to all current Queensland Year 12 students and some interstate schools. You can also buy a copy from some newsagents or through QTAC.

Check the QTAC website for the 2015 application deadlines.

Current Year 12 students
– lodge an application online via QTAC’s Twelve-to-Tertiary (TTT) web application service at www.qtac.edu.au

International students studying Year 12 in Australia
– visit www.uq.edu.au/international-students/year-12-international-students for more information on application procedures and entry requirements

Other prospective students
– lodge an online application using QTAC’s Apply-by-Web service at www.qtac.edu.au

Enrollment
Once you have been offered a place in a UQ program, you can formally accept the offer by lodging a response with QTAC. You can then enrol at UQ by using the UQ link from QTAC’s Current Applicant online service.

The UQ enrollment website at www.uq.edu.au/startingatuq/ provides information about the enrolment process to help you get started.

QTAC
www.qtac.edu.au
Phone 1300 GO QTAC (1300 467 822)

UQ Admissions
www.uq.edu.au/study/admissions
Email admissionsenquiries@uq.edu.au
Phone (07) 3346 7376

International Admissions Section
www.uq.edu.au/international
Queensland Year 12 students
Phone (07) 3346 7376

Interstate Year 12 students
Phone 1800 671 980
MONEY MATTERS

Budgeting skills will help you manage your new life...

FEES AND COSTS

Course fees and student contributions

When you study at University, at the start of each semester or teaching period (study period) you are charged a fee for each course in which you enrol.

Most undergraduate places at UQ are Commonwealth supported, i.e. funded partly by the Australian Government (Commonwealth support) and partly by you (student contribution). You are eligible for Commonwealth support if you are an Australian or New Zealand citizen, or an Australian permanent resident and have a Commonwealth supported place (CSP). (International students pay full tuition fees.)

If you have a CSP, the amount you pay for a course (your student contribution amount) depends on the fee band level of the course (see table below for 2014 fee bands).

As fees are charged according to the courses you undertake, not the program in which you are enrolled, it is not possible to publish a fixed fee for a program. "Indicative" annual fees (based on average first-year enrolment patterns) are listed on our Courses and Programs website to help you plan your budget.

Courses and Programs
www.uq.edu.au/study

Fees calculator

To help you estimate your course fees for a study period, UQ has an online Fees Calculator, available on the Courses and Programs website.

The Fees Calculator shows individual course fees and lets you add them to a list to estimate the overall fee for your enrolment. Before you enrol, Academic Advisors can help you develop a study plan.

Fees calculator
www.uq.edu.au/study (under What It Costs/UQ Toolkit)

Student Services and Amenities Fee (SSAF)

In 2011 the Australian Parliament passed legislation allowing universities and other higher education providers to charge a fee for non-academic services such as sporting and recreation activities, employment and career advice, child care, financial advice, and food services. UQ levies the SSAF – which is capped at a maximum of $280 for 2014 – according to whether you are an internal or external student, or enrolled full-time or part-time. The fee is indexed annually.

SSAF

Living costs

As a university student, you will also need to consider other costs of living, especially if you are living away from home for the first time. These include accommodation, books and study requirements, transport, and parking. Fortunately, a wide range of assistance is available.

UQU, the student union, has a secondhand bookshop at St Lucia, and provides many low-cost entertainment activities plus an employment service. UQ's Student Services offer help with accommodation.

And the Australian Government provides financial support for low-income earners, as well as fee repayment options for most students.

Centrelink
www.humanservices.gov.au
Youth Allowance, Austudy, PES, Health Care Card, CCB, Fares: Phone 132 490
ABSTUDY: Phone 1800 132 317

OTHER GOVERNMENT ASSISTANCE

HECS-HELP

If you have a Commonwealth supported place, you may be eligible to receive HECS-HELP.

HECS-HELP is an Australian Government loan scheme that allows an eligible Australian citizen or permanent humanitarian visa holder in Australia to defer repayment of all or part of their student contribution amount until their income meets a specific threshold. This means you do not have to start repaying your HECS-HELP debt until you earn above a certain income level ($51,309 for the 2013-14 financial year). Loan repayments are then taken out of your pay as additional tax. You need to supply your tax file number if you wish to obtain a HECS-HELP loan.

SA-HELP

SA-HELP is a loan scheme that helps you pay for all or part of the Student Services and Amenities Fee (SSAF). If you use SA-HELP, the amount will be added to your accumulated HELP debt. You can take out a SA-HELP loan even if you do not wish to take out any other HELP loan. You require a tax file number to obtain SA-HELP.

HECS-HELP and SA-HELP information
www.studyassist.gov.au

CENTRELINK STUDENT SERVICES

The Australian Government’s Centrelink provides three income-support payments for Australian tertiary students: Youth Allowance, Austudy, and ABSTUDY.

You can apply for these payments at any Centrelink Customer Service Centre. Other schemes include:

- an interest-free advance loan for students, where you are paid part of your allowance as a lump-sum advance
- the Pensioner Education Supplement (PES)
- the Health Care Card, which enables Commonwealth health concessions, such as low-cost pharmaceuticals, under the Pharmaceutical Benefits Scheme (PBS)
- Fares Allowance
- Child Care Benefit (CCB) or Rebate (if you have children in your care).

Centrelink
www.humanservices.gov.au
Youth Allowance, Austudy, PES, Health Care Card, CCB, Fares: Phone 132 490
ABSTUDY: Phone 1800 132 317

2014* Student contribution bands and amounts

<table>
<thead>
<tr>
<th>BAND</th>
<th>AREA OF STUDY</th>
<th>ANNUAL* STUDENT CONTRIBUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Accounting, Administration, Commerce, Dentistry, Economics, Law, Medicine, Tourism, Veterinary Science</td>
<td>$10,085</td>
</tr>
<tr>
<td>2</td>
<td>Agriculture, Allied Health, Built Environment, Computing, Engineering, Mathematics, Other Health, Science, Statistics, Surveying</td>
<td>$8613</td>
</tr>
<tr>
<td>1</td>
<td>Behavioural Science, Clinical Psychology, Education, Foreign Languages, Humanities, Nursing, Social Studies, Visual and Performing Arts</td>
<td>$6044</td>
</tr>
</tbody>
</table>

* 2014 figures only, based on full-time (16-unit) workload; figures indexed annually.
WHAT DO WE MEAN?

You will hear a lot of new terms at University: here is an explanation of some of them...

Bachelor degree
A qualification awarded for the first level of study undertaken at university, generally requiring three to five years of study.

Course (formerly known as subject)
A component of study within a program, similar to a subject at school. Full-time students usually study four courses per semester.

Dual program
A combination of two UQ degree programs undertaken at the same time (sometimes called dual, parallel, combined, or double degrees).

Elective
A course that you can choose to study from a set of options. Some UQ programs allow electives from outside your main area of study, or from other programs.

Entry scores
Undergraduate students are given an entry score based on high school studies or other post-secondary studies: OP for Queensland Year 12s, Interstate Transfer Index (ITI) for Year 12s from other Australian states, and Rank for all others. Once you complete the equivalent of one full-time year of tertiary study (Bachelor level or higher), your OP or ranking is converted to a rank based on Grade Point Average (GPA).

Faculty
A major organisational unit within UQ, with responsibility for academic programs, e.g., Faculty of Science. Faculties may have a number of sub-faculty academic units called Schools, e.g., School of ... The head of a faculty is called an Executive Dean.

Grade Point Average (GPA)
The average grade of your results, weighted by the unit value of each course. GPA is determined on a semester basis and ranges from 1 (lowest) to 7 (highest).

Honours
At UQ, Honours may be awarded as a one-year Bachelor Honours degree following completion of a bachelor degree; or as a four-year Bachelor Honours degree. Some undergraduate programs allow eligible students to transfer to a Bachelor Honours degree at a defined point in the Bachelor degree.

International student
A student who is not an Australian citizen or permanent resident, nor a New Zealand citizen, and is enrolled or proposes to enrol at an institution in Australia. Temporary residents of Australia are classified as international students.

Major
An area of specialised study within a program of at least #12 units, e.g., History in Arts, which may be a formal requirement. Extended majors and dual majors are when the specialised study comprises a higher proportion of the degree.

Minor
A small group of courses in a discipline. A minor is worth approximately half the value of a major.

Overall Position (OP)
Overall Positions, or OPs, provide a State-wide rank order of students from 1-25 (1 highest), based on achievement in Authority subjects studied for the Queensland Senior Certificate. Your OP shows how well you have performed in your senior studies when compared with the performances of all other OP-eligible students in Queensland.

Placements
A course requiring you to undertake a period of practical, work-related experience, usually at an organisation external to the University, designed to enable you to practise the skills of the profession in a real-life setting.

Postgraduate programs
Programs studied after graduating from undergraduate degrees which include graduate certificates and diplomas, masters, and doctorates.

Program (formerly known as course)
A sequence of study involving enrolment, study and graduation, normally awarded with a qualification such as a bachelor degree, graduate diploma, or certificate.

Program code
A unique identifying number assigned by the University to a program.

QTAC
Queensland Tertiary Admissions Centre (QTAC), the central admissions body for most Queensland undergraduate programs: see www.qtac.edu.au.

Semester
The University teaching year is divided into three semesters: Semester 1, Semester 2, and Summer Semester. Most programs only require you to be enrolled in Semesters 1 and 2 each year.

Study Abroad (Exchange to UQ)
A program where students enrolled at an overseas university study at UQ for one or two semesters as part of their home university degrees.

Undergraduate programs
Usually refers to first-time university programs including diplomas and bachelor degrees.

Unit
The value of a course (#). Most courses at UQ are worth two units but some are higher.

UQ Abroad (Exchange from UQ)
A program where students enrolled at UQ may be eligible to study in another country under UQ’s student exchange program.

UQ Terminology
www.uq.edu.au/study/terminology.html
INTERNATIONAL STUDENTS

You are an International student if you are a:
- Temporary Resident (visa status) of Australia
- Permanent Resident (visa status) of New Zealand, or
- Resident or Citizen of any other country.

Eligibility for UQ study
For admission into undergraduate programs at UQ, you must have:
- completed recognised upper secondary or equivalent Year 12 studies to the required standard
- satisfied individual program requirements (e.g., specific subject prerequisites, auditions or interviews)
- satisfied English language requirements.

If you do not meet these criteria, you might consider taking the Foundation Year bridging course offered by International Education Services (IES) or English language training offered by the Institute of Continuing and TESOL Education (ICTE).

Study Abroad and Incoming Exchange
If you are an international student currently enrolled at an accredited overseas university, you may be eligible to study at UQ for one or two semesters under the Study Abroad or Incoming Exchange program. Credit gained at UQ is usually transferred towards your degree at your home university, where you will continue to pay your tuition fees.

Fees, charges and expenses
All international students applying to study in Australia must have a student visa and study full-time, on-campus.

More information
www.uq.edu.au/international-students/application-instructions

Department of Immigration and Border Protection (DIBP)
www.immi.gov.au

Fee information
www.uq.edu.au/international/fees

Fee calculator
www.uq.edu.au/study/feecalculator

Services for international students
UQ’s Student Services can arrange to collect you from the airport, organise your orientation, and schedule your academic preparation sessions. International Student Advisors can help you quickly settle into life as a UQ student and can also answer your questions about health services, family matters, schooling or childcare, social events, and cultural or religious organisations.

More information
www.uq.edu.au/student-services/new2uq/getting-started

Applying to UQ
For instructions on how to apply to UQ and to download an application form, go to www.uq.edu.au/international-students/application-instructions.

International Enquiries
Email (online enquiry form) www.uq.edu.au/international-students/enquire-online
Phone +61 3 8676 7004 (outside Australia)
1800 671 980 (within Australia)
### ACADEMIC PROGRAMS

<table>
<thead>
<tr>
<th>QTAC CODE</th>
<th>BACHELOR DEGREE IN</th>
<th>DURATION (YEARS)</th>
<th>DELIVERY MODE</th>
<th>LOCATION</th>
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1 - Commonwealth Supported Place
UQ’s campuses are renowned as being among the most beautiful and well-equipped in Australia.

UQ ST LUCIA
Situated on the Brisbane River just seven kilometres from the central business district, UQ St Lucia is one of Australia’s most attractive campuses. With its striking sandstone buildings and beautiful parklands, it is the ideal setting for both study and recreation. You can find just about everything you need on-site, including excellent sporting venues, shops and cafes.

UQ GATTON
UQ Gatton delivers excellence in agricultural and natural resource sciences in a relaxed, friendly atmosphere. Just over an hour’s drive west of Brisbane, the campus offers a unique blend of recreational amenities, support services, modern teaching facilities, state-of-the-art laboratories and historic buildings, along with the $100 million School of Veterinary Science.

UQ IPSWICH
UQ Ipswich provides a high-quality teaching and learning environment in a supportive, friendly campus community. Students benefit from small classes held in purpose-designed teaching spaces and enjoy a range of support, amenities and recreational services, including a bookshop, cafés, sports court, oval and gym. UQ Ipswich is also home to UQ College, an academic preparation centre.

UQ HERSTON
Herston is UQ’s core clinical health teaching and research site. The campus is close to Brisbane city and is located alongside the Royal Brisbane and Women’s Hospital and the Royal Children’s Hospital. Its proximity to a major hospital demonstrates UQ’s commitment to working closely with health professionals to deliver innovative and contemporary research and education programs.
KEY DATES

Tertiary Studies Expo (TSXPO)
RNA Showgrounds
Saturday and Sunday, 19-20 July 2014

UQ Open Day
UQ St Lucia
Sunday, 3 August 2014
UQ Ipswich
Wednesday, 6 August 2014
UQ Gatton
Sunday, 17 August 2014

QTAC closing date
Check website for details:
www.qtac.edu.au

Semester 1, 2015
Classes commence
Monday, 2 March 2015

CONTACT DETAILS AND FURTHER INFORMATION

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Brisbane Qld 4072
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Fax (07) 3365 2061
Email admissionsenquiries@uq.edu.au
Web www.uq.edu.au/study

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Email study@uq.edu.au
Web www.uq.edu.au/international

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Email q tac@qtac.edu.au
Web www.qtac.edu.au

Undergraduate Scholarships and Prizes Office
Phone (07) 3365 7113
Fax (07) 3365 7559
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Web www.uq.edu.au/study/scholarships

Student Services-Accessibility
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Brisbane Qld 4072
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Phone (07) 3365 1704
Fax (07) 3365 1702
Email disability@uq.edu.au
Web www.uq.edu.au/myadvisor/students-with-a-disability

If you have a disability, please contact a Disability Advisor in Student Services at the start of semester to learn about the services and alternative academic arrangements available to you as a UQ student.

UQ publications
UQ Admissions holds several publications that can help you find out more about UQ programs, campuses, student services, admissions procedures and fees, including:
– UQ Guide: Australian Undergraduate
– UQ Guide: International

Campus tours
If you would like to experience UQ through a hosted campus tour, please contact the UQ School Liaison team (details below).
Campus tours of UQ Ipswich and UQ Gatton are available all year round. UQ St Lucia tours are provided during Queensland school holidays, and you can download a self-guided discovery tour map for visits at any other time.
Phone (07) 3346 9649
Email school liaison@uq.edu.au

In the event of any conflict arising from information contained in this publication, the material approved by The University of Queensland Senate shall prevail.

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