

Bachelor of Engineering and Bachelor of Science (BEBS) - BEng BSc

QTAC code (Australian and New Zealand applicants): Toowoomba campus: 907362

CRICOS code (International applicants): 034159G

	On-campus	Distance education
Semester intake:	Semester 1 (February) Semester 2 (July)	Semester 1 (February) Semester 2 (July)
Campus:	Toowoomba	-
Fees:	Commonwealth supported place Domestic full fee paying place International full fee paying place	Commonwealth supported place Domestic full fee paying place International full fee paying place
Standard duration:	5 years full-time, 8 years part-time or external	
Program articulation:	From: Associate Degree of Engineering ; Bachelor of Engineering Technology ; Bachelor of Engineering	

Notes:

See note on part-time study below within Admission requirements.

Contact us

Future Australian and New Zealand students	Future International students	Current students
Ask a question Freecall (within Australia): 1800 269 500 Phone (from outside Australia): +61 7 4631 5315 Email: studyeng@usq.edu.au	Ask a question Phone: +61 7 4631 5543 Email: international@usq.edu.au	Ask a question Freecall (within Australia): 1800 007 252 Phone (from outside Australia): +61 7 4631 2285 Email usq.support@usq.edu.au

Program focus

This program is designed to attract well-qualified students who see their career spanning two disciplines. The program offers students a high level of flexibility, as they are able to choose the combination that best suits their career aspirations. Students will be able to select one of nine Engineering majors and combine it with one of the following Science majors: Biology, Computing, Environment and Sustainability, Human Physiology, Mathematics and Physical Sciences. The award may be conferred with Honours to high-achieving students.

Career opportunities

Professional engineer with expertise in a science discipline.

Professional accreditation

A graduate of this program is eligible to apply for membership of Engineers Australia as a graduate Engineer. After further professional development, a graduate member with a Bachelor of Engineering may apply for chartered status as a Professional Engineer and, when granted, may use the post-nominal MIEAust CPEng.

The Bachelor of Engineering program is accredited by Engineers Australia and, through an agreement reached between the professional engineering bodies of other countries (the Washington Accord), is also recognised in the United Kingdom, the United States of America, Canada, Ireland, Hong Kong, New Zealand and South Africa.

The Computer major of Bachelor of Science is accredited at professional level by the Australian Computer Society and through the Seoul Accord is recognised in other countries.

Program aims

This program provides students with the opportunity to become qualified Engineers with a strong background in one branch of Science. The program offers students a high level of flexibility as they are able to select one of the nine Engineering majors and combine it with one of six Science majors.

Program objectives

Graduates of the Bachelor of Engineering and Bachelor of Science program will have met the separate objectives of the [Bachelor of Engineering](#) and the [Bachelor of Science](#) programs.

Admission requirements

Applicants shall normally:

- have studied four semester units and achieved an exit assessment of “Sound Achievement” or better in each of the following Queensland Senior Secondary School subjects: English and Mathematics B. It is recommended that applicants should also have satisfactorily completed the subject: Physics, or
- be able to demonstrate that they have achieved an equivalent standard in these subjects at another institution, and
- **Australian applicants:** have achieved a Queensland Overall Position (OP) band, or an equivalent Rank based on qualifications and previous work experience, at or above the specified cut-off level.
- **International applicants:** must have met the University's [English language](#) requirements or have completed the University's [ELICOS/EAP](#) programs.

To be admitted to the program, students who intend studying part-time (i.e. less than six units per year) must be eligible to receive at least 16 units of exemptions. This is necessary to ensure that these students are able to complete the program within the maximum duration of eight years.

How to apply

Domestic students

[Application for undergraduate programs](#) may be made through the Queensland Tertiary Admissions Centre (QTAC). The same procedure applies whether you plan to study on-campus or by distance education.

If you completed Year 12 at a Queensland secondary school you will be assessed for entry on the basis of your Overall Position (OP) or equivalent score. Year 12 students from other states or territories are considered for entry on the basis of their UAI, ENTER or TER and the subject prerequisites indicated. Other applicants will be based on their overall Rank.

International students

This program is offered to international students. An international student is a person who is not an Australian or New Zealand citizen and not an Australian permanent resident. Please refer to [USQ International](#) for information about entry requirements, visa arrangements and how to apply.

Program fees

Commonwealth supported place

A Commonwealth supported place is where the Australian Government makes a contribution towards the cost of your higher education and you as a student pay a [student contribution amount](#), which varies depending on the courses undertaken. You are able to calculate the fees for a particular course via the [Course Fee Finder](#). Commonwealth Supported students may be eligible to defer their fees through a Government loan called [HECS-HELP](#).

Domestic full fee paying place

Domestic full fee paying places are funded entirely through the full fees paid by the student. Full fees vary depending on the courses that are taken. You are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Permanent Humanitarian Visa holders, Permanent Resident visa holders and New Zealand citizens who reside outside Australia pay full tuition fees.

Domestic full fee paying students may be eligible to defer their fees through a Government loan called [FEE-HELP](#).

International full fee paying place

International students pay full fees. Full fees vary depending on the courses that are taken and whether they are studied on-campus, via distance education/online. You are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Program structure

The program involves five years of full-time study and to be eligible for the combined award, full-time students must complete the requirements of the program within seven years of their initial enrolment in the program.

The program is not available by part-time study or by distance education except for students who are eligible to enter the program with advanced standing of 16 or more units. Students who are eligible to study part-time or by distance must complete the program within eight years of their initial enrolment.

Where students intend to complete the program using a combination of full-time and part-time study the maximum time for completion will be calculated on a pro-rata basis.

For more details of the two programs that comprise this award, applicants are asked to refer to the Faculty of Sciences ([Bachelor of Science](#)) and Faculty of Engineering and Surveying ([Bachelor of Engineering](#)) parts of this Handbook.

The Bachelor of Engineering and Bachelor of Science is a 40-unit program consisting of Academic courses and Practice courses.

Academic courses are normally one-unit courses and involve approximately 155 hours of student work per unit.

Practice courses are zero unit courses and each involves approximately 50 hours of student work. The only grades available for a Practice Course are Pass (P) and Fail (F). A Practice Course is designed to enable students to acquire specific competencies associated with their Engineering major study. These competencies range from specific practical and communication skills through to generic competencies relating to ethical and social responsibility, awareness of the environment, teamwork, etc. For an external student a Practice Course generally involves attendance on-campus for a one-week [residential school](#).

The components of the program are shown in the following table:

Program Component	Academic Courses		Practice Courses	
	Number of Courses	Units	Number of Courses	Units
Core Studies	14	14	4	0
Engineering Major Study	18	18	3-5 depending on the major	0
Science Major Study	8	8	0	0
Total	40	40	6-8	0

Required time limits

Full-time students have a maximum of seven years to complete this program. Part-time students have a maximum of eight years to complete this program.

A pro-rata adjustment of the maximum time period will apply for those students who transfer from one mode of study to another. A pro-rata reduction in the maximum time period will apply to students who are admitted to a program with advanced standing.

Core courses

The courses that comprise the core studies program are the same as those for the [Bachelor of Engineering](#) except for the addition of the course [STA2300 Data Analysis](#). The core courses are shown in the following table:

Course	Units
Academic Courses	
MAT1500 Engineering Mathematics 1	1
MAT1502 Engineering Mathematics 2	1
MAT2500 Engineering Mathematics 3	1
ENG1002 Introduction to Engineering and Spatial Science Applications	1
ENG2002 Technology, Sustainability and Society	1
ENG3003 Engineering Management	1
ENG1100 Introduction to Engineering Design	1
ENG1101 Introduction to Engineering Problem Solving	1
ENG2102 Engineering Problem Solving and Analysis	1
ENG4104 Engineering Problem Solving Simulations	1
ENG3103 Engineering Problem Solving Computations	1
ENG4111 Research Project Part 1	1
ENG4112 Research Project Part 2	1
STA2300 Data Analysis	1
Total	14
Practice Courses	
ENG1901 Engineering Practice 1	0
ENG3902 Professional Practice 1	0
ENG4903 Professional Practice 2	0
ENG4909 Work Experience - Professional	0

Students who enrol in the Bachelor of Science program must complete four core courses, the course [STA2300 Data Analysis](#), and one course from each of three other categories: Communication Studies; Computing Studies; and Enabling Studies. The courses students study in each of these categories depend on the Science major they undertake (refer to the Bachelor of Science Handbook entry).

Major studies

Engineering majors

An Engineering major study provides students with knowledge and skills in a particular engineering discipline. Students must select one of the following nine majors as their Engineering major. Students enrolled in the Bachelor of Engineering and Bachelor of Science program study only 18 of the 19 courses listed in an Engineering major. An Elective course is to be deleted from the list of courses in each major.

Engineering major studies:
Agricultural Engineering*
Civil Engineering*
Computer Systems Engineering

Electrical and Electronic Engineering*
Environmental Engineering
Instrumentation and Control Engineering
Mechanical Engineering*
Mechatronic Engineering*
Power Engineering

The courses in each of the Engineering majors are listed in the [Bachelor of Engineering](#) entry in the Faculty of Engineering and Surveying section of this Handbook. Students enrolled in the Bachelor of Engineering and Bachelor of Science program study only 18 of the 19 courses listed in an Engineering major. An Elective course is to be deleted from the list of courses in each major.

To satisfy the requirements for the award students completing one of the majors marked with an asterisk (*) must complete a course offered by the Faculty of Sciences as one of their Electives. The course [CSC1402 Foundation Computing](#) should not be studied as it will not satisfy this requirement.

Elective courses may be selected from the courses offered by the Faculty of Engineering and Surveying. Students should refer to the list of recommended Elective courses for their Engineering major.

Science majors

The Science major will enable students to increase their knowledge and skills in a particular field of science. Students must select one of the following eight-unit majors as their Science major.

Science major studies:
Biology
Computing
Environment and Sustainability
Human Physiology
Mathematics
Physical Sciences

The courses comprising each of the Science majors are listed in the Bachelor of Science entry in the Faculty of Sciences section of this Handbook.

Students who select the Mathematics major need to replace [MAT2100 Algebra and Calculus II](#) in that major with another mathematics third level course as [MAT2100 Algebra and Calculus II](#) is equivalent to [MAT2500 Engineering Mathematics 3](#).

Where a course listed in a student's Science major is also listed in the core studies component of the program or in their Engineering major, then the student must select another course from the Science major or, with the approval of the program coordinator, another course offered by the Faculty of Sciences.

IT requirements

Students should refer to the section entitled [Access to Information Technology Facilities](#) in the General Faculty and Program Information section of this Handbook.

Exit points

Students who, for whatever reason, are unable to complete the Bachelor of Engineering and Bachelor of Science and who satisfy all of the requirements of either the [Bachelor of Engineering](#), the [Bachelor of Engineering Technology](#), the [Associate Degree of Engineering](#) or the [Diploma of Engineering Studies](#) may be permitted to exit with that award.

Course transfers

Students may enter the program with advanced standing. Students who are enrolled in either the [Bachelor of Engineering](#) program or the [Bachelor of Science](#) program may transfer to the program. If they have completed up to one year of one of those programs they would normally be able to complete the program in the minimum time, after four more years of full-time study. Other students may require longer than the minimum time.

Honours

The Bachelor of Engineering and Bachelor of Science may be awarded with Honours in the engineering component of the award. The class of honours to be awarded to a student is dependant upon:

- the Grade Point Average calculated from the grades achieved in the courses studied in, or transferred to, the program;
- the grade achieved by the student in the courses [ENG4111](#) Research Project Part 1 and [ENG4112](#) Research project Part 2 (unless the student is exempted from these courses).

The minimum levels of achievement normally required for each class of honours are shown in the following table. To be assured of achieving a particular class of honours students must have achieved the specified grade in the research project courses and the minimum GPA requirements for all of the courses studied, for the last 16 courses studied, or for the last eight courses studied.

Class of Honours	GPA Calculated from the Grades Achieved in:			Minimum Grade Achieved in Research Project Courses
	All Courses Studied in the Program	The Last 16 Courses Studied*#	The Last Eight Courses Studied*#	
First Class Honours	6.0	6.2	6.5	A
Second Class Honours - Division A	5.5	5.7	5.9	B
Second Class Honours - Division B	5.0	5.1	5.3	C
Minimum number of courses required	20	16	8	

Footnotes

* The results from courses [ENG4111](#) and [ENG4112](#) must be included (unless the student is exempted from these courses).

The best results in a semester are to be used when not all of the results from a semester are required.

Other information

To be eligible to graduate from the Bachelor of Engineering, students must obtain an aggregate of at least 60 days of suitable practical experience during their program. This experience may be in an engineering office or laboratory where the student would be working principally with professional engineers and engineering associates. It may, however, be preferable for students to spend some time in field or factory activities to gain insight into industrial practice and to see what is involved in converting designs into finished products. Students are required to enrol in [ENG4909 Work Experience - Professional](#) in the latter part of their program and keep a record of appropriate experience as specified in the Course Specification. The work experience is to be endorsed by an appropriate person in the organisation providing the experience and submitted to the examiner. The student must meet all costs associated with the acquisition of practical experience to satisfy this requirement. The record of work experience must be made available for perusal by the Head of Discipline upon request. The acceptability or otherwise of employment experience, and the period of that type of experience that may be credited towards the 60 days, will be determined by the Examiner of [ENG4909 Work Experience - Professional](#).

Recommended enrolment pattern

Due to the large number of combinations of Engineering and Sciences majors available separate recommended enrolment pattern tables are not printed in this Handbook.

Commencing on-campus students should enrol in the standard first year courses in the engineering major that they have selected. Towards the end of their first year they should consult their Program Coordinator for advice on the enrolment pattern to be followed in later years of their program.