

Bachelor of Engineering (Honours) Bachelor of Science (BEHS) - BEng(Hons) BSc

QTAC code (Australian and New Zealand applicants): Toowoomba campus: 907362; External: 907365;
Springfield campus: 927362

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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 from a wide range of Engineering majors and combine it with one of the numerous Science majors.

Program objectives

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

Australian Qualifications Framework

The Australian Qualifications Framework (AQF) is a single national, comprehensive system of qualifications offered by higher education institutions (including universities), vocational education and training institutions and secondary schools. Each AQF qualification has a set of descriptors which define the type and complexity of knowledge, skills and application of knowledge and skills that a graduate who has been awarded that qualification has attained, and the typical volume of learning associated with that qualification type.

This program is at AQF Qualification Level 08. Graduates at this level will have advanced knowledge and skills for professional or highly skilled work and/or further learning.

The full set of levels criteria and qualification type descriptors can be found by visiting www.aqf.edu.au.

Program Information Set

View USQ's admission criteria, student profiles and a summary of all offers made under [Course Admission Information Set](#) via the QTAC website.

Admission requirements

To be eligible for admission, applicants must satisfy the following requirements:

- Have achieved a minimum Overall Position (OP) **12**, tertiary entrance rank **75** or equivalent qualification.[^]
- Subject Pre-requisites: English (4,SA) and Mathematics B (4,SA) or equivalent.
- English Language Proficiency requirements for Category 2.

[^] These are determined by the University for specific programs each Semester. The 2020 OP and tertiary entrance ranks are based on agreed QTAC schedules which assess formal study at Year 12 or [equivalent level](#), tertiary, preparatory, professional or vocational qualifications or work experience, as detailed in the QTAC Assessment of Qualifications Manual and QTAC Assessor Guidelines. Special admissions may help you get into the program of your choice by increasing your Selection Rank. The additional points don't apply to all applicants or all programs. Please read the information about USQ's [Special Admissions](#) carefully to find out what you may be eligible for.

Applicants are advised to also note the following:

- Recommended Prior Study (Engineering): Physics (4,SA) or equivalent.
- Recommended Prior Study (Science): Applicants should refer to the [Bachelor of Science](#) for the recommended prior study for their selected Bachelor of Science major.

All students are required to satisfy the applicable [English language requirements](#).

If students do not meet the English language requirements they may apply to study a University-approved program. If students do not meet the English language requirements they may apply to study a University-approved program.

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. Students are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Domestic full fee paying students may be eligible to defer their fees through a Government loan called [FEE-HELP](#) provided they meet the residency and citizenship requirements.

Australian citizens, Permanent Humanitarian Visa holders, Permanent Resident visa holders and New Zealand citizens who will be resident outside Australia for the duration of their program pay full tuition fees and are not eligible for [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. Students 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.

Students may apply for admission to study part-time or externally, however applicants should ensure they are able to complete this program within the maximum duration of ten years. To achieve this, students will need to complete a minimum of four units of study per year. To complete the program part-time within the standard duration of eight years, students will need to complete a minimum of five units of study per year.

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 [Bachelor of Science](#) and [Bachelor of Engineering \(Honours\)](#) sections of this Handbook.

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

Academic courses are 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 Bachelor of Engineering (Honours) program consists of 32 units of study. To satisfy the requirements of the chosen Bachelor of Science major, in the Bachelor of Engineering (Honours) Bachelor of Science program students will require an additional 10–12 units of study, depending on the chosen Science major. To reduce the total study load to 40 units, students must reduce the required number of Approved courses from the chosen Engineering major by 2–4, depending on the chosen Science major. The courses required for each Science major are listed below

Civil Engineering
Computer Systems Engineering
Electrical and Electronic Engineering
Environmental Engineering
Instrumentation Control and Automation Engineering
Mechanical Engineering *
Power Engineering

Footnotes

* Students undertaking this Engineering major cannot complete the following Science major within 40 units: Computing.

Core courses

The courses in each of the Engineering majors are listed in the [Bachelor of Engineering \(Honours\)](#) section of this Handbook. Students enrolled in the Bachelor of Engineering (Honours) Bachelor of Science program study all of the Core courses listed in an Engineering major.

Course	Units
Academic Courses	
ENG1002 Introduction to Engineering and Built Environment Applications	1
ENG1004 Engineering Problem Solving Principles	1
ENG1100 Introduction to Engineering Design	1
ENG2002 Technology, Sustainability and Society	1
ENG3003 Engineering Management	1
ENG3104 Engineering Simulations and Computations	1
ENG4110 Engineering Research Methodology	1
ENG4111 Research Project Part 1	1
ENG4112 Research Project Part 2	1
Total	9
Practice Courses	
ENG1901 Engineering Practice 1	0
ENG3902 Professional Practice 1	0
ENG4903 Professional Practice 2	0
ENG4909 Work Experience - Professional	0

Three approved courses are to be deleted from the list of courses in each 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:
Plant Agricultural Science
Biology
Computing ^{^+}
Environment and Sustainability
Food Science
Human Physiology
Mathematics ⁺
Physical Sciences

Statistics ⁺
Wine Science

Footnotes

[^] Students undertaking this Science major cannot complete the following Engineering major within 40 units: Mechanical Engineering.

⁺ Students who select this major cannot undertake CSC1402 as an approved course.

Core courses

The eight courses comprising each of the Science majors are listed in the [Bachelor of Science](#) section of this Handbook.

Students enrolled in the Bachelor of Engineering (Honours) Bachelor of Science program study all of the Core courses listed in a Science major. Students must also complete the following Core courses for each major; these should be completed early in the program, as noted in the Recommended Enrolment Pattern for the relevant Science major. Students completing [ENM1600 Engineering Mathematics](#) and [ENM2600 Advanced Engineering Mathematics](#) should additionally refer to the Recommended Enrolment Pattern for their Engineering major.

Science Major	Core courses to be studied	Reduction in required number of Approved Courses in Engineering major
Biology	<ul style="list-style-type: none"> • ENM1600 Engineering Mathematics • ENM2600 Advanced Engineering Mathematics • CMS1100 Communicating in the Sciences • SCI1001 Succeeding in Science • STA2300 Data Analysis 	3
Computing	<ul style="list-style-type: none"> • ENM1600 Engineering Mathematics • ENM2600 Advanced Engineering Mathematics • CMS1000 Communication and Scholarship • CSC1401 Foundation Programming • STA2300 Data Analysis • MAT1101 Discrete Mathematics for Computing 	4
Environment and Sustainability	<ul style="list-style-type: none"> • ENM1600 Engineering Mathematics • ENM2600 Advanced Engineering Mathematics • CMS1100 Communicating in the Sciences • SCI1001 Succeeding in Science • STA2300 Data Analysis 	3

Food Science	<ul style="list-style-type: none"> • ENM1600 Engineering Mathematics • ENM2600 Advanced Engineering Mathematics • CMS1100 Communicating in the Sciences • SCI1001 Succeeding in Science • STA2300 Data Analysis 	3
Human Physiology	<ul style="list-style-type: none"> • ENM1600 Engineering Mathematics • ENM2600 Advanced Engineering Mathematics • CMS1100 Communicating in the Sciences • SCI1001 Succeeding in Science • STA2300 Data Analysis 	3
Mathematics	<ul style="list-style-type: none"> • CMS1100 Communicating in the Sciences • CSC2410 Computational Thinking with Python • STA2300 Data Analysis • SCI1001 Succeeding in Science • Students study MAT1102 Algebra and Calculus I and MAT2100 Algebra and Calculus II as part of this Science Major, therefore do not study the equivalent courses ENM1600 Engineering Mathematics nor ENM2600 Advanced Engineering Mathematics. 	2
Physical Sciences	<ul style="list-style-type: none"> • ENM1600 Engineering Mathematics • ENM2600 Advanced Engineering Mathematics • CMS1100 Communicating in the Sciences • CSC2410 Computational Thinking with Python • STA2300 Data Analysis 	3

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 work experience to satisfy this requirement. The record of work experience must be made available for perusal by the Faculty of Health, Engineering and Sciences 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](#).

Credit or exemptions for [ENG4909 Work Experience - Professional](#) will not normally be considered.

IT requirements

Access to an up-to-date computer is necessary. On-campus students can access appropriately equipped laboratories, but should consider acquisition of their own computer. External students should be able to access a computer with the following [minimum standards](#) as advised by the University. All students should have access to email and the Internet via a computer running the latest versions of Internet web browsers such as Internet Explorer or Firefox. The University has a wireless network for on-campus students' computers. In order to take advantage of this facility and further enhance their on-campus learning environment, students should consider purchasing a notebook/laptop computer with wireless connectivity. Specialist software is required for some courses.

Residential schools

The attendance requirement of residential schools within this degree is indicated by the following letters: V = Voluntary; O = Optional; C = Compulsory; R = Recommended; HR = Highly Recommended; M = Mandatory. To find out more about [residential schools](#), visit the [Residential School Schedule](#) to view specific dates for your degree, or visit the [Policy and Procedure Library](#).

Students are required to undertake practical and professional activities relevant to their program through enrolment in a series of Practice courses in the program. Practice courses are zero unit courses that may be undertaken in either on-campus or external mode and the final grades available are Pass (P)/F1 0cated by 1 189.35 45mrau

Credit

Exemptions/credit will be assessed based on the [USQ Credit and Exemption Procedure](#).

Work Experience

Work and industrial experience that has not been formally assessed, does not normally qualify for course credit in the Bachelor of Engineering (Honours) Bachelor of Science program. Existing work experience may be used to satisfy the practical/work experience requirements when completing the [ENG4909 Work Experience - Professional](#) practice course.

Course transfers

Students may enter the program with advanced standing. Students who are enrolled in either the [Bachelor of Engineering \(Honours\)](#) 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 level of honours awarded will be determined based on the USQ procedure. Please refer to the [Class of Honours Standard Schedule](#).

Recommended enrolment patterns

Students are able to enrol in any offered mode of a course (on-campus, external or online), regardless of the program mode of study they enrolled in.

Due to the large number of combinations of Engineering and Science 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 the Faculty of Health, Engineering and Sciences for advice on the enrolment pattern to be followed in later years of their program.