Bachelor of Science (BSCI) - BSc

QTAC code (Australian and New Zealand applicants): Wine Studies (Toowoomba campus and Distance education: 906115); Information Technology (Toowoomba campus and Distance education: 906779); Physical Sciences (Distance education: 906125); Biology (Toowoomba campus and Distance education: 906839; Fraser Coast campus: 916831); Computing (Toowoomba campus and Distance education: 906769); Environment and Sustainability (Toowoomba campus: 906261; Distance education: 906265; Fraser Coast campus: 916261); Human Physiology (Toowoomba campus and Distance education: 906829; Fraser Coast campus: 916821); Psychology and Human Physiology (Toowoomba campus: 906321); Mathematics (Toowoomba campus and Distance education: 906819); Mathematics & Statistics (Toowoomba campus: 906351; Distance education: 906355); Psychology (Toowoomba campus: 906331; Distance education: 906335)

CRICOS code (International applicants): 042230E

	On-campus#+^†	Distance education*
Semester intake:	Semester 1 (February) Semester 2 (July) Semester 3 (November)	Semester 1 (February) Semester 2 (July) Semester 3 (November)
Campus:	Fraser Coast, 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:	3 years full-time, 6 years part-time, 9 years maximum	

Footnotes

\#   First year Psychology will be offered by mixed mode with four non-Psychology courses offered on-campus at Fraser Coast, and four Psychology courses in the external mode.

+   Please note: Fraser Coast campus students can only study first year Bachelor of Science (Biology) at Fraser Coast campus. Students will then need to transfer to the Toowoomba campus to complete their studies. This program is only available for the Semester 1 intake at the Fraser Coast campus. Semester 2 intake is only applicable to students studying at the Toowoomba campus. Following completion of the first year, Bachelor of Science (Environment and Sustainability) students may wish to relocate to Toowoomba or continue in external mode with the option of taking 2nd and 3rd year electives in on-campus mode at Fraser Coast.

^   The Physical Sciences major is only offered by distance education.

†   Not all majors are available to commence in third semester at Toowoomba campus.

*   The majors in Biology and Human Physiology are not available by distance education.

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: studysci@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

Mathematics and Statistics (12-unit major)

This major allows students to develop skills in mathematics and statistics and examine the fundamentals of pure and applied mathematics, theoretical and applied statistics, mathematical modelling and operations research. Students will learn how to use computational methods as an aid to the processes of analysis, modelling and decision-making.

Career opportunities

Statistics, Biometrics, Operations Research and Management, Actuary, Industrial Mathematics, Teaching (following Teacher Training), Mathematician, Mathematical Modelling, Operations Management, Financial Analyst, Systems Analyst, Risk or Focus Analyst, Business Systems Analyst, Data Mining, Cryptography, Biostatistician, Epidemiologist, Hydrology Modeller, Data Mining Researcher, Speech Processing Researcher, Market Researcher, Quantitative Risk Analyst, Statistical Analyst, Data Analyst, Actuarial Business Analyst, Research Officer, Social Researcher, Survey Researcher, Psychological Statistician, Measurement Scientist, Research Scientist in Mapping & Monitoring, Financial Modelling, Environmental Modelling, Engineering Modelling, Research Economist, Finance Consultant, Business Analyst, Psychometrician.

Information Technology (12-unit major)

The Information Technology major will develop students' skills and knowledge in software de

Computing (8-unit major)

This major provides flexibility to meet the needs of students wishing to combine some computing studies with other science disciplines. This major is of particular value to students who wish to pursue a career in teaching secondary science and computing.

Career opporvides fle

Analyst. Employment opportunities also exist in the Australian Bureau of Statistics, different banks, insurance companies, computing, logistics and engineering, and financial institutions.

Physical Sciences (8-unit major)

The physical sciences major provides students with a kno

Physical Sciences

Recommended study: Biological Science, Chemistry, Physics or Multi-strand science or equivalent.

Students who have completed four semesters of Mathematics B in the Queensland Senior School Certificate or equivalent will select two electives in place of two Mathematics courses.

International applicants must also have met the University's English language requirements or have completed the University's ELICOS/EAP programs .

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.

- two 8 unit majors*
  and 4 units of elective courses.
- one 8 unit major and 12 units of elective courses negotiated with the Program Coordinator.

*   The second 8-unit major can be chosen from any approved 8-unit major in the University. Students should ensure that they complete the appropriate courses in their second major in order to graduate with a double major in the Bachelor of Science.

^   The Information Technology and Computing Majors, and the Mathematics and the Mathematics and Statistics majors cannot be combined towards a double major in the program.

At least four courses in the program will be at level 3. Where two majors are chosen which have some compulsory courses in common, the overlap will be made up by taking extra electives defined in those majors.

Required time limits

Students have a maximum of 9 years to complete this program.

Core courses

Foundation Studies

Communication Studies	CMS1000 Communication and Scholarship **or** CMS1100 Communicating in the Sciences
Computing Studies	CSC1402 Foundation Computing **or** CSC1401 Foundation Programming
Statistics	STA2300 Data Analysis
	MAT1000 Mathematics Fundamentals **and** MAT1100 Foundation Mathematics **or** MAT1102 Algebra and Calculus I

- Information Technology
- Psychology.

Courses	Semester(s) Offered	Mode	Year of Offer
MAT1102 Algebra and Calculus I	1	ONC, EXT	All
STA2302 Statistical Inference	2	ONC, EXT	All
MAT1200 Operations Research 1	2	ONC, EXT	All
MAT2100 Algebra and Calculus II	2	ONC, EXT	All
MAT2409 High Performance Numerical Computing	1	ONC, EXT	All
MAT3201 Operations Research 2*	1	ONC, EXT	**odd years only**
STA2301 Distribution Theory	1	ONC, EXT	All
MAT3103 Mathematical Modelling for Dynamics**	2	ONC, EXT	**even years only**
MAT3104 Mathematical Modelling in Financial Economics*	2	ONC, EXT	**odd years only**
MAT3105 Harmony of Partial Differential Equations**	1	ONC, EXT	**even years only**
STA3300 Experimental Design	1	ONC, EXT	All
STA3301 Statistical Models	2	ONC, EXT	All

Footnotes

*   This course is offered in odd years only .
**   This course is offered in even years only.

To complete the award, students taking a 12-unit major must undertake one of the following:

- one 8 unit second major, excluding the Mathematics major
- 8 units of electives.

Second Major

Second majors can be chosen from any of the eight-unit majors defined below for the Bachelor of Science (except Mathematics), or (with the approval of the Program Coordinator) from other eight-unit majors from other undergraduate programs in the University.

Minor Studies

Minor studies are a set of courses as defined in the Option Studies section of the Handbook.

Electives

Electives are courses chosen from other Lev

- work as a professional in the Information Technology industry
- demonstrate a sound understanding of several key areas of computing
- have a broad knowledge in computing
- have basic skills in software development and computer systems
- demonstrate sound presentation and communication skills required in the computing industry
- satisfy academic admission requirements for membership of relevant professional bodies.

Information Technology Major Courses

This is a 12-unit major.

For various reasons, the following courses will not be approved as electives for students majoring in Information Technology in the Bachelor of Science program:

CSC1402, CIS2000, and CIS2002 .

Psychology major study (12-unit major)

Psychology Major Objectives

Graduates who have completed the major in Psychology will be able to:

- demonstrate a sound understanding of the scope and focus of the major fields in contemporary Psychology
- gain employment in the public and private sectors as behavioural science graduates or as graduates with a broad range of skills
- satisfy the minimum requirements for affiliate membership of relevant professional bodies, most notably the Australian Psychological Society
- conduct research and report the findings to lay persons and the scientific community at large.

Psychology Major Courses

This is a 12-unit major. Along with the Foundation Studies courses prescribed above, students must take the following 12 units of courses:

Students intending to take a second major should begin enrolment in these courses in the first year of full-time enrolment, or the second year of part-time enrolment.

Minor Studies

Minor studies are a set of courses as defined in the Minor Studies section of the Handbook.

Electives

Electives can be selected from the table of psychology electives below or from any courses at Levels 1, 2 and 3 offered by USQ subject to satisfaction of pre-requisite requirements, timetabling constraints, quotas and program requirements.

Psychology Elective Courses

Course	Semester of Offer
PSY3080 Human Factors	1
PSY3101 Career Assessment and Development	3
PSY3120 History and Systems of Psychology	3
PSY3250 Sport Psychology	2
PSY3730 Industrial and Organisational Psychology	1

Note: The psychology electives offered changes from year to year. For information about what psychology electives are being offered in any particular year students are directed to the course specification site for that particular year. Students are responsible for ensuring that they do not enrol in, or continue to be enrolled in, courses for which they have not satisfied the enrolment requirements (e.g., the necessary pre-requisites).

The recommended enrolment patterns for students with no exemptions, and the enrolment requirements for courses in the major, is given in the table that follows. If students are granted exemptions from specific compulsory courses or from approved elective courses, they may need to modify the recommended enrolment pattern.

Eight-unit majors

Eight-unit major objectives

The eight-unit majors are designed to:

-

REN2200 Ecology for Sustainability	1	ONC, EXT	All
CHE1110 Chemistry 1	1	ONC, EXT	All
CHE2120 Chemistry 2	2	ONC, EXT	All
Four of the following courses, with at least two being Level 3 courses (provided prerequisites have been met):			
BIO2202 Plant Physiology	2	ONC, EXT	All
BIO2118 Human Physiology and Pharmacology 1	1	ONC, EXT	All
BIO2107 Cell and Molecular Biology 1	1	ONC, EXT	All
BIO3219 Human Biochemistry 2	2	ONC, EXT	All
BIO3207 Cell and Molecular Biology 2	2	ONC, EXT	All
BIO2218 Human Physiology and Pharmacology 2	2	ONC, EXT	All
BIO3206 Medical Microbiology and Immunology 3	2	ONC, EXT	All
BIO2106 Medical Microbiology and Immunology 2	1	ONC, EXT	All
BIO3333 Cardiorespiratory and Sports Physiology	2	ONC	All
REN1201 Environmental Studies	1	ONC, EXT	All
REN2200 Ecology for Sustainability	1	ONC, EXT	All
REN3301 Biodiversity and Conservation	2	ONC,EXT	All
REN3302 Sustainable Resource Use	2	ONC, EXT	All

To complete the award, students taking an eight-unit major must undertake either:

- one further 8 unit second major and 5 units of elective courses or
- a further 13 units of elective courses negotiated with the Program Coordinator.

Second Major

Second majors can be chosen from any of the other eight-unit majors defined for the /ted with the ProgramR Tm(gotiated

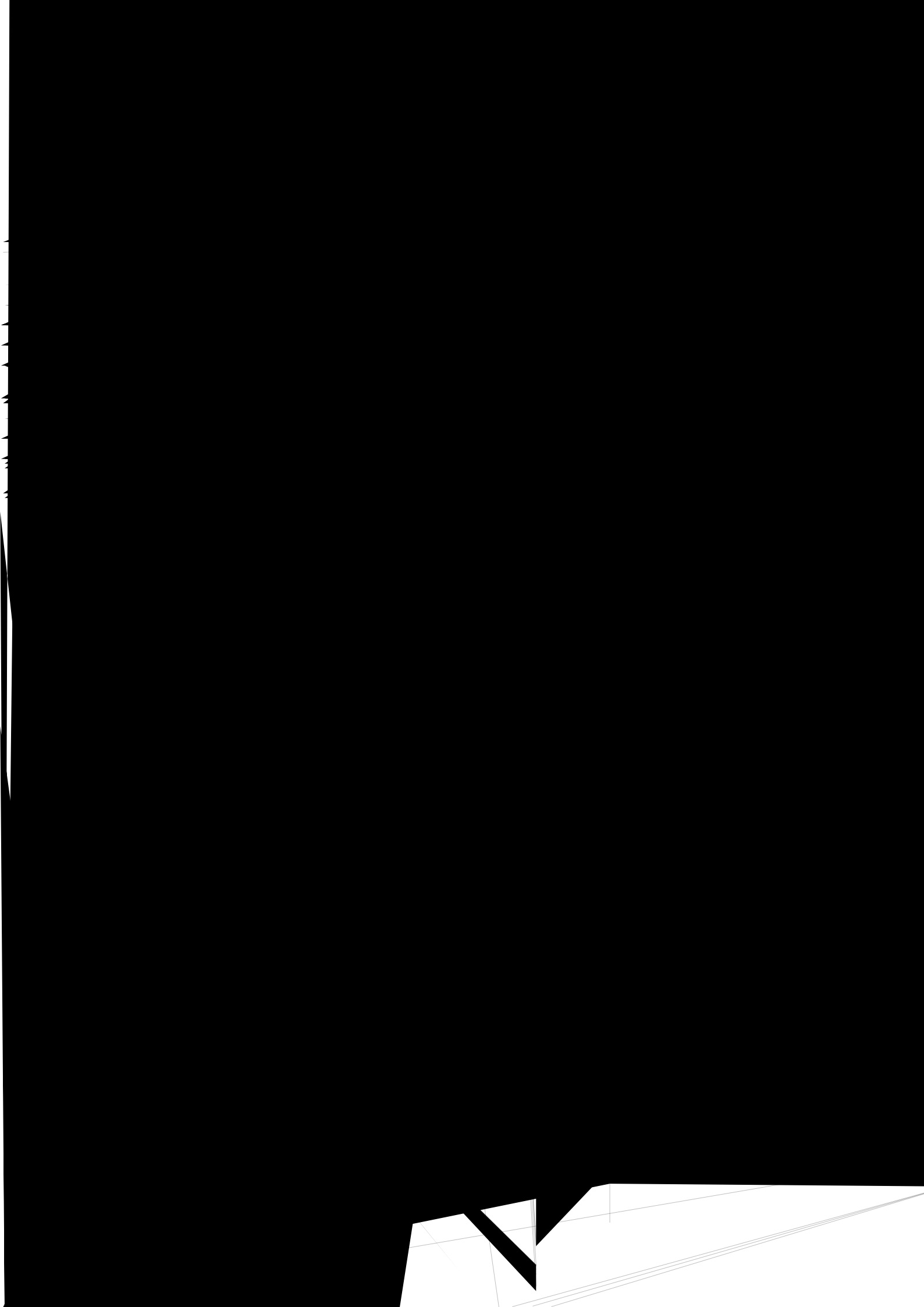| BIO3630 Physiology and Pathophysiology 2	2	EXT	All

Second Major

Second majors can be chosen from any of the othe8 l4m727. 0 1 225.796 709.088 To488.241 752.257 Tm(All2o0 0 1 rg0

For various reasons, the follo

Electives are courses chosen from other Level 1, 2 or 3 courses in the University.

IT requirements

Students should visit the USQ minimum computing standards to check that their computers are capable of running the appropriate software and versions of Internet web browsers and to check the minimum and recommended standards for software.

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	O_-TR^afd (ONC)		Ei eVc_R] (EXT)		O_]ZV (ONL)		
	RVRc	SV^	RVRc	SV^	RVRc	SV^	
Year 2							
CSC2402 Object-Oriented Programming in C++	2	1	3	1			Pre-requisite: CSC1401 or USQIT16 or Students must be enrolled in one of the following Programs: GDTI

Recommended Enr

\#   These courses are offered by the University of New England requiring cross institution enrolment by students and form part of the USQ program by collaborative agreement.