Bachelor of Science (BSCI) - BSc

QTAC code (Australian and New Zealand applicants): Information Technology (Toowoomba campus and Distance education: 906779); Physical Sciences (Distance education: 906125); Biology (Fraser Coast campus and Distance education: 916831; Toowoomba campus and Distance education: 906839); Mathematics and Statistics (Toowoomba campus: 906351; Distance education: 906355); Computing (Fraser Coast campus and Distance education: 916761; Toowoomba campus and Distance education: 906769); Environment and Sustainability (Toowoomba campus: 906261; Distance education: 906265); Human Physiology (Fraser Coast campus and Distance education: 916821; Toowoomba campus and Distance education: 906829); Psychology and Human Physiology (Toowoomba campus: 906321); Mathematics (Toowoomba campus and Distance education: 906819; Fraser Coast campus and Distance education: 916811); Psychology (Toowoomba campus: 906331; Distance education: 906335); Human Biology (Toowoomba campus: 906431; Fraser Coast campus: 916431)

CRICOS code (International applicants): 042230E

	On-campus#^+**	Distance education*^
Semester intake:	Semester 1 (March) Semester 2 (July)	Semester 1 (March) Semester 2 (July) Semester 3 (November)
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:	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.

^ Students may commence studying the Human Biology major in Semester 3, studying courses via distance education and on-campus and then continuing the program next year at the Toowoomba campus. Note: the full complement of courses are not available in S3, therefore full-time students may not be able to complete in 3 years if commencing in semester 3.

+ Please note: Fraser Coast campus students can only study first year Bachelor of Science (Biology) and Bachelor of Science (Human Biology) at Fraser Coast campus. Students will then need to transfer to the Toowoomba campus to complete their studies. Both these programs are 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.

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

* The majors in Human Biology, 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 640 678 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 2285Email: usqassist@usq.edu.au

Human biology major (16-unit major)

Students are able to focus on improving their knowledge of the human body. Students undertake specialist courses in physiology, biochemistry, genetics, microbiology, cell biology and molecular biology. Students are able to elect to study further courses human-related such as pharmacology, pathophysiology and psychology.

Career opportunities

Medical, Clinical or Research Technicians in Hospital Laboratories, University and Health or Biotechnology Industry; Pharmaceutical/Biotechnology Industry and Medical Technologies Marketing, Clinical Physiology and Diagnostic Industries, Pathology Laboratory Scientist, Medical Scientist, Research Scientist. The Bachelor of Biomedical Science is an excellent pathway to seek entry into graduate medical programs.

Mathematics and statistics major (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 major (12-unit major)

The Information Technology major will develop students' skills and knowledge in software development, programming languages, networking and the design and implementation of computer systems and information systems.

Career opportunities

Application of Computing to Business, Information Systems Manager, Computer Sales Representative, Computer Consultant, Information Manager, Computer Systems Officer, Chief Information Officer, Information Centre Manager, Systems Analyst/Programmer, System Development Coordinator, Computer Educator, Commercial Application Developer.

Psychology major study (12-unit major)

Psychologists study people and their behaviour. Their professional training helps them to understand how people develop throughout their lives; behave in groups, organisations and communities; see, think, hear, feel, learn and remember; relate and interact with others; and cope with anxiety, ageing, death, divorce, disability, disaster, accidents and other life events. The Psychology Major in USQ's Bachelor of Science is accredited by the Australian Psychology Accreditation Council (APAC) as providing the first three years of the necessary requirements for full membership for membership of the Australian Psychological Society (APS) and the first three years of the necessary requirements for full registration as a psychologist in Queensland. Full membership of the Australian Psychological Society requires six years of appropriate University study: an Honours year plus a Masters degree, or substantial progress towards a Doctorate. Full registration as a psychologist requires: an Honours year plus two years of supervised practice or an Honours year plus a Masters or Doctorate degree.

Career opportunities

Psychologist (with further study), Welfare Officer, Counselling, Vocational and Occupational Guidance, Training and Development, and other related areas in Administration and Research in the Public and Private sectors, Clinical, Educational, Counselling, Sports, Organisational or Forensic Psychologist, Human Resource Management, Police Service, Corrective Services.

Biology (8-unit major)

This major provides students with a broad knowledge in biology, chemistry and communications, and a more detailed knowledge in disciplines such as biochemistry, genetics, microbiology and physiology.

Career opportunities

Research Officer (Universities, Defence, CSIRO, DPI, Industry, Government, Health), Technical Officer (Labs), Technical/Sales Representative in Pharmaceutical, Medical and Biotechnological Industries. Molecular Biologists, Microbiologists. After further study: Biotechnologist, Dietitian, Research Scientist, Secondary Science Teaching, Medicine. Employment opportunities also exist in Laboratory work in Agricultural, Food, Health, Medical, Veterinary, Educational and Industrial settings, Plant Breeding, Science Journalism, National Banks.

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 opportunities

Computer Scientist, Computer Programmer, Computer Systems Officer, Database Management System Administrator, Game Developer, LAN Manager, Network Administrator, Network Designer and Specialist, Network Security Analyst, Simulator, Database/Web/Network Developer, Software Designer, Systems Architect, Computer Systems Developer, Software Developer, Applications Specialist, Software Engineer.

Environment and Sustainability major (8-unit major)

The Environment and Sustainability major draws on the disciplines of climatology, ecology and conservation to provide a relevant and applied understanding of the natural environment, its biodiversity and human impacts. The major focuses on practical approaches to resource management, biodiversity conservation and climate change mitigation and adaptation. This major will provide completing students with a detailed knowledge of major environmental issues, key climate mechanisms, core ecological principles and human (socio-political) factors impacting upon the global environment and enable them to apply this knowledge in natural resource management and related disciplines.

Career opportunities

Climatologist, Climate Scientist, Climate Policy Analysts, Conservation and Biodiversity Management, Ecotourism, Environmental Consultant, Environmental Scientist, Natural Resource Management, National Parks, Research Scientist working in universities, defence organisations, CSIRO, Federal and State Government Departments of Primary Industries, Environment, Natural Resources, and the Australian Greenhouse Office, Australian Bureau of Meteorology, and Australian Bureau of Resource Sciences, or in private industry companies active in fields, such as agriculture, insurance, energy, weather information, and water services; Science Teacher with further study; Science Journalism.

Human physiology

Students may combine this major with another discipline area such as psychology to strengthen their appreciation of the connections between psychological and physiological aspects of human health.

Career opportunities

In conjunction with a psychology major, this combination would be a major advantage in any careers involving the promotion of people's health and well-being.

Mathematics (8-unit major)

This major is typically taken by students who decide to pursue a double major or double degree path. It enables them to combine the rigour and logic of a scientific approach, which is an integral part of mathematical studies,

with the specifics of a professional area of a particular interest. Second majors can be chosen from any of the other eight course majors defined for the Bachelor of Science, or (with the approval of the Program Coordinator) from other eight course majors from other undergraduate programs in the University.

Career opportunities

Statistics, Biometrics, Operations Research and Management, Actuary, Industrial Mathematics, Teaching (following Teacher Training), Mathematician, Mathematical Modelling, Operations Management, Financial Analyst, Mathematics Journalism, Systems Analyst, Supply Chain Analyst, Quality Control, Quantative Analyst, Risk or Focus Analyst, Business Systems Analyst, Data Mining, Cryptography, Secondary or Tertiary Teacher (when combined with relevant postgraduate studies), Commercial Property, Biostatistician, Manager for Risk Analytics, Epidemiologist, Hydrology Modeller, Data Mining Researcher, Speech Processing Researcher, Market Researcher, Quantitative Risk Analyst, Statistical Analyst, Data Analyst, Actuarial Business 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 knowledge of physics and its application in the physical sciences. The major is aimed at providing an appropriate grounding for those pursuing a career as a physics teacher or a scientist. As part of this major students are also able to gain understanding of our planet and its climate, and learn physical principles relevant to the health sciences. Elective courses provide opportunities for broader study.

Career opportunities

Science Teacher (with further study), Scientist or Research Officer (Universities, Defence, CSIRO, DPI, Industry, Environment, Government, Health), Science Communicator, Technical Officer (Labs or Field Work).

Professional accreditation

The Information Technology major and the Computing major are accredited by the professional body of the Australian Computer Society.

The Bachelor of Science (Psychology) major is fully accredited by the Australian Psychology Accreditation Council as a three-year sequence of study.

Program objectives

On completion of this program graduates will:

- possess more than a basic competence in at least one chosen discipline
- possess skill in drawing upon the growing content of knowledge in these disciplines
- understand the principles underlying these disciplines
- be capable of applying these principles to the solving of problems, particularly practical problems
- be capable of working with people trained in other disciplines towards the solution of common problems
- be motivated to sustain adaptive, independent learning
- be aware of the social, moral and legal responsibilities of professional scientists
- be skilled in the communication of ideas and concepts.

Admission requirements

To be eligible for a place in this program, applicants will have achieved a level of Sound Achievement over four semesters in Queensland Senior (Year 12) English or equivalent.

Information Technology and Computing

Recommended study: Mathematics A or Mathematics B or equivalent.

Mathematics and Statistics

Applicants for the majors are also required to have achieved a level of Sound Achievement over four semesters in Queensland Senior (Year 12) Mathematics B or equivalent.

Biology, Human Biology, Human Physiology

Recommended study: Mathematics B, Biological Science, Chemistry or Physics. If students do not have the recommended Mathematics B Level for entry then they will be required to undertake MAT1000 Mathematics Fundamentals as an elective.

Environment and Sustainability

Recommended study: Biological Science, Mathematics B, Chemistry or Physics.

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.

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. 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.
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 Bachelor of Science consists of 24 units comprising four units of Foundation Studies courses with combinations of 16, 12 or 8 unit majors, 4 unit minors and elective courses as follows:

- one 16 unit major and 4 units of elective courses
- one 16 unit major and one 4 unit minor study
- one 12 unit major and one 8 unit major*^
- one 12 unit major, one 4 unit minor study and 4 units of elective courses
- one 12 unit major and 8 units of elective courses, or
- 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.
^ 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
Enabling Studies	MAT1000 Mathematics Fundamentals **and** MAT1100 Foundation Mathematics **or** MAT1102 Algebra and Calculus I **or** MAT1101 Discrete Mathematics for Computing **or** PSY1030 Cross-Cultural and Indigenous Psychology

In general, Foundation Studies courses will be selected according to major as follows except with the permission of the Program Coordinator.

	Computing, Information Technology	Human Biology, Human Physiology, Biology^	Mathematics, Mathematics and Statistics	Psychology	Environment and Sustainability	Physical Sciences
Communication Studies	CMS1000	CMS1100*	CMS1000	CMS1000	CMS1100* or CMS1000	CMS1100* or CMS1000
Computing Studies	CSC1401	CSC1402	CSC1401	CSC1402	CSC1402	CSC1402 or CSC1401
Statistics	STA2300	STA2300	STA2300	STA2300	STA2300	STA2300
Enabling Studies	MAT1101		MAT1101	PSY1030	MAT1100#or MAT1102***	MAT1000**MAT1100

Footnotes

^ If students do not have the recommended Mathematics B level for entry then they will be required to undertake MAT1000 as an elective.

* Students can study CMS1000 externally instead of CMS1100 in Semester 3.

This course in equivalent to MAT1500.

*** Students that wish to combine the Environment and Sustainability Major with the major in Mathematics and Statistics need to enrol in MAT1102 Algebra and Calculus I in semester 1 and STA2300 Data Analysisin semester 2.

** It is recommended students who have gained an Exit Level of Very High Achievement (VHA) in Mathematics B in Queensland Grade 12 or its equivalent OR an Exit Level of High Achievement (HA) in Mathematics B AND High Achievement (HA) in Mathematics C in Queensland Grade 12 or its equivalent, enrol in STA2300 in semester 1 and MAT1100 in semester 2 after gaining approval from the Program Coordinator.

Major studies

The following majors are available in the Bachelor of Science:

16-unit major *(contain at least four Level 3 courses)*

- Human Biology

12-unit majors *(contain at least three Level 3 courses)*

- Mathematics & Statistics
- Information Technology
- Psychology.

8-unit majors *(contain at least two Level 3 courses)*

- Biology
- Computing
- Human Physiology
- Mathematics
- Environment and Sustainability
- Physical Sciences.

Human biology major (16-unit major)

Human Biology Major Objectives

Graduates who have completed the major in Human Biology will:

- have a sound grounding in the major subject areas central to the biological sciences
- have sufficient specialisation to be acceptable to employers who are currently offering positions to three-year trained biology graduates
- have demonstrated competence in laboratory and field techniques and the use of instrumentation relevant to general biological science
- have the capacity to research biological topics in scientific literature and to prepare concise, accurate reports of experimental work
- have an awareness of the principles of laboratory and field safety as they apply in biological laboratories and during field work
- be qualified for admission to an appropriate professional body.

Human Biology Major Courses

This is a 16-unit major. Along with the Foundation Studies courses prescribed above, students must take the following 16 units of courses:

Courses	Semester(s) Offered	Mode	Year of Offer
BIO1101 Biology 1	1	ONC, EXT	All
CHE1110 Chemistry 1	1	ONC, EXT	All
BIO2103 Biology 2	2	ONC, EXT	All
CHE2120 Chemistry 2	2	ONC, EXT	All

BIO2201 Biochemistry 1	1	ONC	All
BIO2203 Human Physiology	1	ONC	All
BIO2205 Introductory Microbiology	2	ONC	All
BIO2207 Genetics	2	ONC	All
BIO2209 Cell Biology	1	ONC	All
BIO3301 Biochemistry 2	2	ONC	All
BIO2213 Pharmacology	2	ONC	All
BIO3309 Molecular Biology	2	ONC	All
BIO3313 Human Physiology and Pharmacology in Disease 1	1	ONC	All
BIO3315 Medical Microbiology 2	1	ONC	All
BIO3317 Medical Microbiology 1	1	ONC	All
BIO3323 Human Physiology and Pharmacology in Disease 2	2	ONC	All

To complete the award, students taking a 16-unit major must undertake 3 Foundation Studies and 5 units of elective courses or one 4 unit minor and 1 elective course.

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 Level 1, 2 or 3 courses in the University.

Mathematics and statistics major (12-unit major)

Mathematics and Statistics Major Objectives

Graduates who have completed the major in Mathematics and Statistics will be able to:

- demonstrate an understanding of the fundamentals of mathematical analysis at the undergraduate level
- demonstrate a sound knowledge of important theories and techniques of applied mathematics, statistics and computing
- demonstrate an ability to apply their knowledge to solve practical problems that they are likely to encounter in science, industry, business or government instrumentalities
- continue to develop their abilities through research, discussion and private study
- use computer packages to solve problems in statistics, mathematics and modelling
- satisfy the minimum requirements for graduate membership of relevant professional bodies.

Mathematics and Statistics 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:

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
CSC2409 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 Random Processes to Financial Mathematics*	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 (2011).
** This course is offered in even years only (2010, 2012).

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
- 4 units of elective courses and one 4 unit minor study; with at least one being a level three course, or
- 8 units of electives with at least one being a level three course.

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 Level 1, 2 or 3 courses in the University.

Unsuitable Electives

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

MGT2100, MGT2102, MAT1100, MAC1901, CIS1000, CIS1001, CIS2000, CIS2002, CIS2003.

In addition, students will require their Program Coordinator's approval if they wish to count both STA3300 Experimental Design and STA3302 Statistics for Researchers towards a Bachelor of Science program.

Information technology major (12-unit major)

Information Technology Major Objectives

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

- 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. Along with the Foundation Studies courses prescribed above, students must take the following 12 units of courses:

Courses	Semester(s) Offered	Mode	Year of Offer
ELE1301 Computer Engineering	1	ONC, EXT	All
CSC2401 Algorithms and Data Structures	2	ONC, EXT	All
CIS1000 Information System Concepts	1, 2, 3	ONC, EXT	All
CSC2402 Object-Oriented Programming in C++	1	ONC, EXT	All
CSC2408 Software Development Tools	1, 2	ONC, EXT	All
Seven of the following, with at least three being Level 3 courses :			
CSC3420 Mobile Internet Technology	1	ONC, EXT	All
CSC2404 Operating Systems	2	ONC, EXT	All
CSC3412 System and Security Administration	1	ONC, EXT	All
CSC2406 Web Technology	2	ONC, EXT	All
CSC2407 Introduction to Software Engineering	2	ONC, EXT	All
CSC3400 Database Systems	1	ONC, EXT	All
CSC3403 Comparative Programming Languages	1	ONC, EXT	All
CSC3407 Network Fundamentals and Routing	1	ONC, EXT	All
CSC3419 XML and the Web	2	ONC, EXT	All
CSC3413 Network Design and Analysis	2	ONC, EXT	All
CSC3427 Switching, Wireless and WAN Technologies	2	ONC, EXT	All

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

- one 8 unit second major, excluding the Computing major
- 4 units of elective courses and one 4 unit minor study; with at least one being a level three course, or
- 8 units of electives with at least one being a level three course.

Second Major

Second majors can be chosen from any of the eight-unit majors defined below for the Bachelor of Science (except Computing), 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 Minor Studies section of the Handbook.

Electives

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

Unsuitable Electives

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, CIS1001, CIS2000, CIS2002, CIS2003, MGT2100, MGT2102.

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:

Courses	Semester(s) Offered	Mode	Year of Offer
PSY1010 Foundation Psychology A	1, 3	ONC, EXT	All
PSY1020 Foundation Psychology B	1, 2	ONC, EXT	All
PSY2010 Social Processes of Behaviour	1	ONC, EXT	All
PSY2020 Motivation and Emotion	1	ONC, EXT	All
PSY2030 Developmental Psychology	2	ONC, EXT	All
PSY2040 Human Information Processing	2	ONC, EXT	All
PSY2100 Research Methods in Psychology A	1	ONC, EXT	All
PSY3010 Assessment of Behaviour	1	ONC, EXT	All
PSY3030 Abnormal Behaviour	1	ONC, EXT	All
PSY3050 Counselling Psychology	2	ONC, EXT	All
PSY3110 Clinical Health Psychology	2	ONC, EXT	All
PSY3111 Research Methods in Psychology B	2	ONC, EXT	All

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

- one further 8 unit second major
- 4 units of elective courses and one 4 unit minor study , or
- 8 units of electives.

Second Major

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

The double major Psychology and Human Physiology, will provide an appreciation of the connections between psychological and physiological aspects of human health and is highly recommended by the Department of Psychology.

Other majors in the University which have been taken as a second major with psychology include Human Resource Management, Management and Leadership, Administrative Management, Anthropology, History, Visual Arts Practice, Marketing and English Literature.

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
PSY3040 Individual Differences	2
PSY3080 Human Factors	1
PSY3100 Advanced Research Methods and Statistics	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:

- allow students to receive a broad-based education
- allow students to study at least one discipline area to Third Level
- prepare students for teaching in appropriate areas to Grade 12 level in Secondary Schools, subject to further study
- cater for students who aspire to professional studies that require a general first degree for admission
- form a basis for study at postgraduate diploma level, honours level or higher.

Biology (8-unit major)

Biology Major Courses

Courses	Semester(s) Offered	Mode	Year of Offer
BIO1101 Biology 1	1	ONC, EXT	All
BIO2103 Biology 2	2	ONC, EXT	All
Two of the following six courses :			
BIO2201 Biochemistry 1	1	ONC	All
BIO2205 Introductory Microbiology	2	ONC	All
BIO2207 Genetics	2	ONC	All
BIO2208 *	1	ONC	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 :			
BIO2202 Plant Physiology	2	ONC, EXT	All
BIO2203 Human Physiology	1	ONC	All
BIO2209 Cell Biology	1	ONC	All
BIO3301 Biochemistry 2	2	ONC	All

BIO3309 Molecular Biology	2	ONC	All
BIO2213 Pharmacology	2	ONC	All
BIO3315 Medical Microbiology 2	1	ONC	All
BIO3317 Medical Microbiology 1	1	ONC	All
BIO3333 Cardiorespiratory and Sports Physiology	2	ONC	All
REN1201 Environmental Studies	1	ONC, EXT	All
REN3301 Biodiversity and Conservation^	2	ONC,EXT	All
REN3302 Sustainable Resource Use	2	ONC	All

Footnotes

* To be replaced with REN2200 in 2011

^ Only available on—campus at Springfield Campus

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

- one further 8 unit second major and 4 units of elective courses or
- a further 12 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 Bachelor of Science, 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 Minor Studies section of the Handbook.

Electives

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

Computing (8-unit major)

Computing Major Courses

Courses	Semester(s) Offered	Mode	Year of Offer
ELE1301 Computer Engineering	1	ONC, EXT	All
CSC2401 Algorithms and Data Structures	2	ONC, EXT	All
CSC2402 Object-Oriented Programming in C++	1	ONC, EXT	All
CSC2408 Software Development Tools	1, 2	ONC, EXT	All
CIS1000 Information System Concepts	1, 2, 3	ONC, EXT	All
Three of the following courses:			
CSC3400 Database Systems	1	ONC, EXT	All
CSC3403 Comparative Programming Languages	1	ONC, EXT	All
CSC3407 Network Fundamentals and Routing	1	ONC, EXT	All
CSC3412 System and Security Administration	1	ONC, EXT	All
CSC3413 Network Design and Analysis	2	ONC, EXT	All
CSC3419 XML and the Web	2	ONC,EXT	All
CSC3420 Mobile Internet Technology	1	ONC, EXT	All
CSC3427 Switching, Wireless and WAN Technologies	2	ONC, EXT	All

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

- one further 8 unit second major and 4 units of elective courses or
- a further 12 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 Bachelor of Science, 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 Minor Studies section of the Handbook.

Electives

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

Unsuitable Electives

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

CSC1402, CIS1001, CIS2000, CIS2002, CIS2003, MGT2100, MGT2102

Environment and Sustainability Major (8-unit major)

Environment and Sustainability Major Objectives

Graduates who have completed the major in Environment and Sustainability will be able to:

- demonstrate more than a basic competence in climatology, physics, statistics and mathematics, environmental science, ecology and conservation, natural resource management and sustainability
- demonstrate a detailed knowledge of major environmental issues, human impacts and key climate mechanisms and apply this knowledge towards more sustainable environmental and resource management
- have a sound comprehension of the social, political and environmental implications of human impacts and global environmental changes
- apply the principles of sustainability in a wide diversity of professional opportunities

Environment and Sustainability Major Courses

Courses	Semester(s) Offered	Mode	Year of Offer
REN1201 Environmental Studies*	1	ONC, EXT	All
REN2200 Ecology for Sustainability	1	ONC,	From 2011
REN3301 Biodiversity and Conservation^	2	ONC, EXT	All
REN3302 Sustainable Resource Use****	2	ONC	All
CLI1110 Weather and Climate	1	ONC, EXT	All
CLI2201 Climate Change and Variability	2	ONC, EXT	All
CLI3301 Climate and Environment Risk Assessment**	1	ONC, EXT	From 2011
CLI3302 Adaptation to Climate Change**	2	ONC, EXT	From 2011

Footnotes

* Offered at Springfield on-campus in S1 from 2010
^ Only available on-campus at Springfield Campus
**** Offered external in S2 from 2011 and offered at Springfield oncampus in S2 from 2011
** Offered external and oncampus at Toowoomba from S1 2011

Second Major

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

There are a number of other courses, minors and majors with a focus on sustainability from other Faculties that students may wish to study.

Minor Studies

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

Electives

Electives are courses chosen from other Level 1, 2 or 3 courses in the University. It is recommended that students elect SCI3301 Science Project.

Human Physiology (8-unit major)

Human Physiology Major Courses

Courses	Semester(s) Offered	Mode	Year of Offer
BIO1101 Biology 1	1	ONC, EXT	All
BIO1203 Human Anatomy and Physiology	2 ,3	ONC, EXT	All
BIO2203 Human Physiology	1	ONC	All
BIO2213 Pharmacology	2	ONC	All
BIO3313 Human Physiology and Pharmacology in Disease 1	1	ONC	All
BIO3323 Human Physiology and Pharmacology in Disease 2	2	ONC	All
Two of the following four courses :			
BIO2103 Biology 2	2	ONC, EXT	All
BIO3333 Cardiorespiratory and Sports Physiology	2	ONC	All
BIO3620 Physiology and Pathophysiology 1	1	EXT	All
BIO3630 Physiology and Pathophysiology 2	2	EXT	All

Second Major

Second majors can be chosen from any of the other eight-unit majors defined for the Bachelor of Science, 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 Minor Studies section of the Handbook.

Electives

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

Mathematics (8-unit major)

Mathematics Major Courses

Courses	Semester(s) Offered	Mode	Year of Offer
MAT1102 Algebra and Calculus I	1	ONC, EXT	All
CSC2409 High Performance Numerical Computing	1	ONC, EXT	All
MAT1200 Operations Research 1	2	ONC, EXT	All
MAT2100 Algebra and Calculus II	2	ONC, EXT	All
MAT3103 Mathematical Modelling for Dynamics*	2	ONC, EXT	**even years only**
MAT3104 Random Processes to Financial Mathematics**	2	ONC, EXT	**odd years only**
MAT3105 Harmony of Partial Differential Equations*	1	ONC, EXT	**even years only**
MAT3201 Operations Research 2**	1	ONC, EXT	**odd years only**

Footnotes

* This course is offered in even years only (2010, 2012).

** This course is offered in odd years only (2011).

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

- one further 8 unit second major and 4 units of elective courses or
- a further 12 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 Bachelor of Science, 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 Minor Studies section of the Handbook.

Electives

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

Unsuitable Electives

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

MGT2100, MGT2102, MAT1100, MAC1901, CIS1000, CIS1001, CIS2000, CIS2002, CIS2003.

Physical Sciences (8-unit major)

Physical Sciences Major Courses

Courses	Semester(s) Offered	Mode	Year of Offer
PHY1104 Physics Concepts 1	1	EXT	All
PHY1911 Physics Concepts 2	2	EXT	All
PHY2204 Astronomy and Astrophysics	1	EXT	All
CLI2201 Climate Change and Variability	2	ONC, EXT	All

PHY2206 Medical Physics*	2	EXT	All
PHY3303 Modern Physics	1	EXT	All
PHYS312 Photonics**	2	EXT	All
One of the following courses			
SPX202 Biomechanics 1***	2	ONC	All
PHYS207 Fluid Mechanics**	1	EXT	All
PHYS211 Electronics**	1	EXT	All

Footnotes

* These courses are made available through USQ cross-institutionally to students from other Universities.

** These courses are offered by the University of New England and made available to USQ students (requiring cross-institutional enrolment into the specified university).

*** These courses or equivalent are offered by the University of the Sunshine Coast and made available to USQ students (requiring cross-institutional enrolment into the specified university).

Notes:

(1) Accreditation will be sought for this major from the Australian Institute of Physics. The accredited major will also require students to study MAT1102 Algebra and Calculus I, two 2nd or 3rd level maths courses (eg. MAT2100 & CSC2409), plus SCI3301 Science Project.

(2) Students who do not have four semesters of Mathematics B in the Queensland Senior School Certificate or equivalent will have to study the two Mathematics courses MAT1000 Mathematics Fundamentals and MAT1100 Foundation Mathematics.

Second Major

Second majors can be chosen from any of the other eight-unit majors defined for the Bachelor of Science, 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 Minor Studies section of the Handbook.

Electives

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

IT requirements

Students should visit the USQ Recommended Hardware and Recommended Software sites 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.

Related programs

Requirements for Entry to Graduate Diploma in Learning and Teaching

Students intending to become secondary school teachers are advised that they may need to complete the one-year Graduate Diploma in Learning and Teaching program or an equivalent program after completion of their undergraduate program. For further information, students should refer to the Faculty of Education's entry in this Handbook or address enquiries to the Faculty of Education.

Recommended enrolment pattern - Human biology

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
BIO1101 Biology 1*	1	1	1	1			C	
CHE1110 Chemistry 1*	1	1	1	1			C	
Elective†	1	1	1	1				
CMS1100 Communicating in the Sciences	1	1,2	1	2				
BIO2103 Biology 2*	1	2	1	2			C	Pre-requisite: BIO1101
CHE2120 Chemistry 2*	1	2	1	2			C	Pre-requisite: CHE1110
CSC1402 Foundation Computing	1	1,2	1	1,2,3				
Elective	1	2	1	2				
Year 2								
BIO2201 Biochemistry 1	2	1						Pre-requisite: CHE2120 **OE**
BIO2203 Human Physiology	2	1						Pre-requisite: BIO1203 or BIO2103
BIO2209 Cell Biology	2	1						Pre-requisite: BIO2103 Co-requisite: BIO2201
STA2300 Data Analysis	2	1,2	2	1,2,3			O	**OE**
BIO2205 Introductory Microbiology	2	2						Pre-requisite: BIO1101 **OE**
BIO2207 Genetics	2	2						Pre-requisite: BIO2103 and STA2300
BIO2213 Pharmacology	2	2						Pre-requisite: BIO2203
Elective	2	2						
Year 3								
BIO3313 Human Physiology and Pharmacology in Disease 1	3	1						Pre-requisite: BIO2203 and BIO2213
BIO3315 Medical Microbiology 2	3	1						Pre-requisite: BIO2205
BIO3317 Medical Microbiology 1	3	1						Pre-requisite: BIO2205
Elective	3	1						
BIO3301 Biochemistry 2	3	2						Pre-requisite: BIO2201
BIO3309 Molecular Biology	3	2						Pre-requisite: BIO2209 Co-requisite: BIO2205
BIO3323 Human Physiology and Pharmacology in Disease 2	3	2						Pre-requisite: BIO3313 or equivalent
Elective	3	2						

Footnotes

* If studied externally, residential school attendance on-campus in Toowoomba is compulsory.

† If students do not have the recommended Mathematics B level for entry then they will be required to undertake MAT1000 as an elective in semester 1 of the first year of enrolment.

OE Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

Recommended enrolment pattern - Information technology

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
CSC1401 Foundation Programming	1	1, 2	2	1, 2			O	

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
ELE1301 Computer Engineering	1	1	1	1			O	
CIS1000 Information System Concepts	1	1	2	1			O	**OE**
MAT1101 Discrete Mathematics for Computing	1	1	1	1			O	
One elective from the major	1	2	2	2				
CMS1000 Communication and Scholarship	1	2	1	2			O	
STA2300 Data Analysis	1	2	1	2			O	**OE**
CSC2401 Algorithms and Data Structures	1	2	2	2			O	Pre-requisite: (CSC1401 and CSC2402) or USQIT16 or S tudents must be enrolled in one of the following Program s: MPIT or MSBN or MSMS
Year 2								
CSC2402 Object-Oriented Programming in C++	2	1	3	1			O	Pre-requisite: CSC2401 or USQIT16 or Students must be enrolled in one of the fol lowing Programs: MPIT or GDGS or GCEN or GDET or METC
Three electives from the major*	2	1	3	1				
CSC2408 Software Development Tools	2	2	4	1, 2			O	**OE**
Three electives from the major*	2	2	4	2				
Year 3								
Eight general electives or courses from the second major	3	1, 2	5–6	1, 2			O	

Footnotes

* In total at least three courses chosen from the list of electives for the major must be at Level 3.

OE Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

Recommended enrolment pattern - Mathematics and statistics

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
CSC1401 Foundation Programming	1	1, 2	1	1, 2			O	
Elective	1	1	1	1				
MAT1101 Discrete Mathematics for Computing	1	1	2	1			O	
MAT1102 Algebra and Calculus I	1	1	2	1			O	**OE**
MAT1200 Operations Research 1	1	2	1	2			O	
MAT2100 Algebra and Calculus II	1	2	2	2			O	Pre-requisite: (MAT1102 or MAT1502) or Students must be enrolled in one of the fol lowing Programs: MSBI or GCEN or GDET or METC
STA2300 Data Analysis	1	1, 2	1	1, 2, 3			O	**OE**
CMS1000 Communication and Scholarship	1	1, 2	2	1, 2, 3			O	
Year 2								
CSC2409 High Performance Numerical Computing	2	1	3	1			O	Pre-requisite: CSC1401 and MAT1102 or Students must be enrolled in one of the fol

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
								lowing Programs: MPIT or MSBN or MSMS
MAT3201 Operations Research 2*	2	1	4	1			O	
STA2301 Distribution Theory	2	1	3	1			O	Pre-requisite: (STA2300 and MAT1102) or Students must be enrolled in one of the fol lowing Programs: MSBN or MSMS
one of the following two courses :								
MAT3105 Harmony of Partial Differential Equations+	2	1	4	1			O	Pre-requisite: MAT2100 or MAT2500
Elective	2	1	3	1				
Elective	2	2	3	2				
STA2302 Statistical Inference	2	2	4	2				Pre-requisite: STA2301 or S tudents must be enrolled in the following Program: MSBN
Elective	2	2	4	2				
one of the following two courses :								
MAT3103 Mathematical Modelling for Dynamics+	2	2	4	2				Pre-requisite: MAT2100
MAT3104 Random Processes to Financial Mathematics*	2	2	3	2				
Year 3								
STA3300 Experimental Design	3	1	6	1			C	Pre-requisite: STA2300 or S tudents must be enrolled in one of the following Program s: MSBN or MSMS
Elective	3	1	6	1				
Elective	3	1	6	1				
one of the following two courses :								
MAT3105 Harmony of Partial Differential Equations+	3	1	5	1			O	Pre-requisite: MAT2100 or MAT2500
Elective	3	1	6	1				
STA3301 Statistical Models	3	2	5	2			O	Pre-requisite: STA2302 or S tudents must be enrolled in one of the following Program s: MSBN or MSMS
Elective	3	2	6	2				
Elective	3	2	6	2				
one of the following two courses :								
MAT3103 Mathematical Modelling for Dynamics+	3	2	5	2			O	Pre-requisite: MAT2100
MAT3104 Random Processes to Financial Mathematics*	3	2	5	2			O	

Footnotes

* This course is offered in odd-numbered years only (e.g. 2011, 2013).

\+ This course is offered in even-numbered years only (e.g. 2010, 2012).

OE Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

Recommended enrolment pattern - Psychology

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
CSC1402 Foundation Computing	1	1	2	1			O	
CMS1000 Communication and Scholarship	1	1	1	1			O	
PSY1010 Foundation Psychology A	1	1	1	1				
Elective	1	1	2	1				
PSY1030 Cross-Cultural and Indigenous Psychology	1	2	1	2				
PSY1020 Foundation Psychology B	1	2	1	2				
STA2300 Data Analysis*	1	2	2	2			O	**OE**
Elective	1	2	2	2				
Year 2								
PSY2010 Social Processes of Behaviour	2	1	3	1			O	Pre-requisite: PSY1010 **OE**
PSY2020 Motivation and Emotion	2	1	3	1				Pre-requisite: PSY1010 or S tudents must be enrolled in the following Program: GDPS
PSY2100 Research Methods in Psychology A	2	1	4	1			O	Pre-requisite: PSY1010 or S tudents must be enrolled in the following Program: GDPS **OE**
Elective	2	1	4	1				
PSY2030 Developmental Psychology	2	2	3	2			O	Pre-requisite: PSY1010 or S tudents must be enrolled in the following Program: GDPS
PSY2040 Human Information Processing	2	2	3	2			O	Pre-requisite: PSY1020 and (PSY2100 or STA2300) or Students must be enrolled in the following program: GDPS.
PSY3111 Research Methods in Psychology B	2	2	4	2			O	Pre-requisite: PSY2100
Elective	2	2	4	2				
Year 3								
PSY3010 Assessment of Behaviour	3	1	5	1			O	Pre-requisite: PSY2100 or S tudents must be enrolled in the following Program: GDPS
PSY3030 Abnormal Behaviour	3	1	5	1			O	Pre-requisite: PSY2020 or S tudents must be enrolled in the following program: GDPS.
Elective	3	1	6	1				
Elective	3	1	6	1				
PSY3050 Counselling Psychology	3	2	5	2			O	Pre-requisite: PSY2020 or S tudents must be enrolled in the following program: GDPS.
PSY3110 Clinical Health Psychology	3	2	5	2				Pre-requisite: PSY3030 or S tudents must be enrolled in the following program: GDPS.
Elective	3	2	6	2				
Elective	3	2	6	2				

Footnotes

* STA2300 should be taken in Year 1, Semester 2 (full-time students) and Year 2, Semester 2 (part-time and external students).

OE Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

Recommended enrolment pattern - 8-unit majors - Biology, Computing, Environment and Sustainability, Human Physiology, Mathematics, Physical Sciences

Students undertaking an eight-unit major as a first major should:

- study the beginning of this section that describes the program structure and requirements for the award of the Bachelor of Science
- select at least one major from the eight-unit majors listed in the previous pages. Select courses from that/those major(s) bearing in mind the requirements for the award, etc
- select elective courses. Students should refer to the courses in the Minor Studies section of the Handbook to help with the selection of elective courses. Students may select their electives as a package as described in the Minor Studies section, or they may select any four courses of interest providing they obtain approval from the Program Coordinator listed in Enquiries above
- construct a table similar to the following and insert the courses selected in appropriate year/semester sections
- contact the appropriate Program Coordinator when they arrive at the University, or before they arrive to verify that their selection is appropriate.

Year	Semester 1	Semester 2
1	CMS1000 Communication and Scholarship **or** CMS1100 Communicating in the Sciences	CSC1402 Foundation Computing
	MAT1000 Mathematics Fundamentals plus	MAT1100 Foundation Mathematics
	Two courses selected from Major study areas and electives	Two courses selected from Major study areas and electives
2	STA2300 Data Analysis plus	Four courses selected from Major study areas and electives
	Three courses selected from Major study areas and electives	
3	Four courses selected from Major study areas and electives	Four courses selected from Major study areas and electives

There is sufficient flexibility in the Bachelor of Science requirements to allow individual students to design a program well suited to their needs. Students should contact the Program Coordinator to discuss their program structure as major combinations are timetable dependent.

Recommended Enrolment Pattern - 8 unit major - Environment and Sustainability

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
REN1201 Environmental Studies	1	1	1	1				**OE**
CLI1110 Weather and Climate	1	1	1	1				
Elective (or major 2)	1	1	1	1				
CMS1000 Communication and Scholarship*	1	1	1	1				
CSC1402 Foundation Computing	1	2	1	2, 3				
STA2300 Data Analysis	1	2	1	2, 3			O	**OE**
MAT1100 Foundation Mathematics**	1	2	1	2				**OE**
Elective (or major 2)	1	2	2	2, 3				
Year 2								
REN2200 Ecology for Sustainability	2	1						
Elective (or major 2)	2	1	2	1				

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Elective (or major 2)	2	1	2	1				
Elective (or major 2)	2	1	2	1				
REN3302 Sustainable Resource Use	2	2	2	2				**OE**
CLI2201 Climate Change and Variability	2	2	2	2				
Elective (or major 2)	2	2	2	2				
Elective (or major 2)	2	2	2	2				
Year 3								
CLI3301 Climate and Environment Risk Assessment	3	1	3	1				
Elective (or major 2)	3	1	3	1				
Elective (or major 2)	3	1	3	1				
Elective (or major 2)	3	1	3	1				
CLI3302 Adaptation to Climate Change	3	2	3	2				
REN3301 Biodiversity and Conservation^	3	2	3	2				**OE**
Elective (or major 2)	3	2	3	2				
Elective (or major 2)	3	2	3	2				

Footnotes

* Students may choose CMS1100 Communicating in the Sciences in lieu of CMS1000 Communication and Scholarship

** Students who wish to combine the Environment and Sustainability Major with the majors in Mathematics and Statistics need to enrol in MAT1102 Algebra and Calculus I in semester 1 and replace MAT1100 with an elective in semester 2.

^ Only available on-campus at Springfield Campus

OE Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.

Recommended Enrolment Pattern - 8 unit major - Physical Sciences

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Year 1								
PHY1104 Physics Concepts 1			1	1				
MAT1102 Algebra and Calculus I*^	1	1	1	1				**OE**
CMS1000 Communication and Scholarship	1	1, 2	1	1, 2				
Course selected from 2nd major area or minor or electives	1	2	1	2				
PHY1911 Physics Concepts 2			1	2				
MAT2100 Algebra and Calculus II*^	1	2	1	2				Pre-requisite: (MAT1102 or MAT1502) or Students must be enrolled in one of the fol lowing Programs: MSBI or GCEN or GDET or METC
Choose one of the following two courses:								
CSC1402 Foundation Computing	1	1, 2	1	1, 2				
CSC1401 Foundation Programming	1	1, 2	1	1, 2				
Course selected from 2nd major area or minor or electives	1	2	1	2				
Year 2								
PHY2204 Astronomy and Astrophysics			2	1				**OE**
Choose one of the following two courses:								
PHYS211 Electronics#			2	1				
PHYS207 Fluid Mechanics#			2	1				

Course	Year of program and semester in which course is normally studied						Residential school (compulsory /optional)	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
STA2300 Data Analysis	2	1, 2	2	1, 2				**OE**
CSC2409 High Performance Numerical Computing*	2	1	2	1				Pre-requisite: CSC1401 and MAT1102 or Students must be enrolled in one of the fol lowing Programs: MPIT or MSBN or MSMS
PHY2206 Medical Physics			2	2				
CLI2201 Climate Change and Variability			2	2				
Two courses selected from 2nd major area or minor or electives	2	2	2	2				
Year 3								
PHY3303 Modern Physics			3	1			C	**OE**
Three courses selected from 2nd major area or minor or electives	3	1	3	1				
PHYS312 Applied Photonics#			3	2			C	
Choose one of the following two courses:								
SCI3301 Science Project			3	1, 2				**OE**
Elective			3	1, 2				
Two courses selected from 2nd major area or minor or electives	3	2	3	2				

Footnotes

* These courses are required for the major for which accreditation will be sought from the Australian Institute of Physics (AIP). Students who are studying the Physical Sciences major without the AIP accreditation can replace CSC2409 and MAT2100 with another course.

^ Students who do not have four semesters of Mathematics B in the Queensland Senior School Certificate or equivalent will have to study the two Mathematics courses MAT1000 Mathematics Fundamentals and MAT1100 Foundation Mathematics here, studying MAT1102 and MAT2100 in second year shifting STA2300 to S2 of year 2.

\# 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.

OE Before enrolling in this course students must check that they have satisfied the 'Recommended prior study' or 'Other enrolment' requirements set out in the Other requisites section of the course specification.