Bachelor of Spatial Science Technology (BSST) - BSpScTech

QTAC code (Australian and New Zealand applicants): Toowoomba campus: 907802; Distance education: 907805

CRICOS code (International applicants): 053512D

	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:	3 years full-time, 6 years part-time or external	
Program articulation:	From: Associate Degree of Spatial Science To: Bachelor of Spatial Science; Master of Spatial Science Technology	

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

Geographic information systems major

Geographic Information Systems (GIS) is a powerful new technology having a major impact on many professions. It is an information system that uses computer-based maps generated from data collected in the field in person, by photographs or by satellite. GIS can help people manage resources more effectively, manage local government assets more economically and analyse data precisely. The greatest impact of GIS has been on the mapping industry. This major provides students with the skills to analyse geographic data and help people with decision-making in a range of areas, such as engineering, planning, environmental science, commerce and surveying.

Career opportunities

Geographic Information Systems Manager or Spatial Information Analyst in Local Government, State and Commonwealth Government agencies and private sector organisations in applications such as environmental assessment, planning and land development.

Surveying major

This program provides students with the opportunity to apply new and increasingly sophisticated computing technology to surveying and mapping projects. In addition to the core analytical and scientific skills, students undertake studies in global positioning systems, digital mapping, mine surveying, land planning and geographic information systems. The program provides students with a good mixture of practical and theoretical training in surveying and mapping.

Career opportunities

Surveying Technologist with private organisations, a Mine Surveyor, Supervising Engineering Surveyor and with experience, Manager of Survey Operations in Commonwealth, State and Local Government, or construction organisations.

Professional accreditation

The Bachelor of Spatial Science Technology (Surveying) program is accredited by the Surveyors Board of Queensland and is recognised in every Australian state and in New Zealand through reciprocal arrangements. The degree, together with relevant industry experience, enables registration as a graduate surveyor with the Queensland Surveyors Board. The degree, together with relevant industry experience, enables registration and/or licensing as a professional mining surveyor with the Surveyors Boards of Queensland and New South Wales.

The Spatial Science Institute has accredited both program majors and graduates are eligible for membership with the Surveying and Spatial Sciences Institute Australia.

Program aims

The Bachelor of Spatial Science Technology program equips students with a core of basic technical, scientific, analytical, business administration and communication skills that will permit them to undertake further study of the science and practice of spatial science in one of two fields: Geographic Information Systems (GIS) or Surveying.

In addition, students obtain knowledge of the natural, legal, commercial, industrial and social environments in which they will function as professionals. The program instils in students the need for continuing professional development and gives them the ability to adapt to change.

Program objectives

A student who successfully completes the Bachelor of Spatial Science Technology should be able to demonstrate:

- a broad knowledge of basic scientific and technical skills
- a level of computer literacy skills appropriate to their field of study
- appropriate written and oral communication skills
- the capacity to analyse technical problems and propose solutions
- an understanding of, and the ability to undertake, the processes required to collect, store, and manipulate a variety of spatial data
- a capacity to adapt to change and to master new technologies as they emerge
- an understanding of the natural, social, professional, industrial and technical environments in which they will practice
- the skills required to access information and an aptitude to undertake further learning and study
- a knowledge of surveying or spatial information systems of sufficient depth to gain employment, certification and, where appropriate, registration as a Graduate Surveyor or GIS Spatial Scientist.

Admission requirements

Applicants shall normally:

- have studied four semester units and achieved an exit assessment of 'Sound Achievement' or better in the Queensland Senior Secondary School subject: English. It is recommended that applicants should also have satisfactorily completed the subject: Mathematics B (Mathematics

- **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.

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 Bachelor of Spatial Science Technology is a 24 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 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.

Program completion requirements

The Bachelor of Spatial Science Technology Program normally involves three years of full-time study or six years of part-time study.

Students must complete the program within a maximum period of five years of full-time study or 10 years of part-time study from the date of their initial enrolment. To graduate from a particular major students must successfully complete all of the core course plus the specialist and Practice courses in that major, including the required number of Electives.

Required time limits

Full-time students have a maximum of five years to complete this program. Part-time students have a maximum of 10 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.

Practical experience

Practical experience is desirable and encouraged but is not required for the completion of the Bachelor of Spatial Science Technology program. Students are encouraged to obtain practical experience during vacation periods.

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. A notebook/laptop may be required for some courses.

Residential schools

External students are required to attend a number of residential schools during their program. These are associated with Practice Courses and are normally conducted at the end of Semester 3 (February), or during the mid-semester recess in Semester 2 (September/October).

Students enrolled in the external offer of a Practice Course **must attend** the residential school for that course. In some cases students enrolled in the on-campus mode may also be required to attend the residential school. Students should only enrol in a Practice Course when they are able to attend the residential school for that course. Practice Courses **may not** be taken earlier than show43 Tm(External ho)Tjt cj1 0 0 1 511.3wo at00of stu51.083.95

Articulation

Graduates of an Associate Degree in Spatial Science would normally be eligible for up to 16 units of credit towards the Bachelor of Spatial Science Technology within the same field. Similarly, Bachelor of Spatial Science Technology graduates would normally be eligible for up to 24 units of credit towards the Bachelor of Spatial Science degree within the same field. Students who have completed an associate degree or certificate program in surveying than five years ago are eligible to claim advanced standing. The number of units of advanced standing granted will depend upon the nature and currency of the studies undertaken, and on the major undertaken.

The programs in Surveying and Geographic Information Systems also articulate to and from each other and enable students to move between Surveying and Geographic Information Systems de

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\#   Students who have completed GIS2901 do not need to undertake SVY2902.

\>   Students who have completed GIS3901 do not need to undertake SVY2903.

Surveying Major recommended enrolment pattern

To satisfy the requirements of the program students must complete all of the Academic and Practice Courses in the following table that shows the recommended enrolment patterns for on-campus and external students. Students following a non-standard enrolment pattern should consult the course synopses section of this Handbook to ascertain if a course is offered in another term.