

Bachelor of Spatial Science (BSPS) - BSpSc

QTAC code (Australian and New Zealand applicants): Toowoomba campus: 907222; External: 907225

CRICOS code (International applicants): 053511E

This program is offered only to continuing students. No new admissions will be accepted. Students who are interested in this study area should consider the [Bachelor of Spatial Science \(Honours\)](#) which will be offered from S1 2014.

	On-campus	External
Start:	No new admissions	No new admissions
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:	4 years full-time, 8 years part-time or external	
Program articulation:	From: Associate Degree of Spatial Science ; Bachelor of Spatial Science Technology To: ; Master of Spatial Science Technology	

Contact us

Current students
Ask a question Freecall (within Australia): 1800 007 252 Phone (from outside Australia): +61 7 4631 2285 Email usq.support@usq.edu.au

Professional accreditation

The Bachelor of Spatial Science (Surveying) is fully 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 and/or licensing as a professional surveyor with the Boards of Surveyors in Australia and New Zealand.

Provisional accreditation of the Bachelor of Spatial Science (Urban and Regional Planning) will be sought from the Planning Institute of Australia during 2013.

Graduates from the Bachelor of Spatial Science are eligible to apply for membership with the [Surveying and Spatial Science Institute Australia](#)

Program aims

The Bachelor of Spatial Science program provides students with the educational requirements to become a professional spatial scientist and the ability to undertake postgraduate studies. The program equips students with a core of basic theoretical, scientific, analytical, managerial, professional, research and communication skills that will permit them to undertake an in-depth study of the fundamental science and practice of spatial science in one of three fields: Geographic Information Systems (GIS), Surveying or Urban and Regional Planning.

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.

The program is designed to identify, and award honours to, students who have the capacity to undertake study at an advanced level and to make an original contribution to the fundamental science and practice of spatial science. The award of honours will be determined by academic performance and is normally based on a student's grade point average (GPA).

Program objectives

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

- a broad knowledge of basic scientific and technical skills
- a high level of computer literacy skills appropriate to their field of study
- a high level of written and oral communication skills
- a capacity for analysis, evaluation and synthesis
- an understanding of, and ability to undertake, the processes required to collect, store, and manipulate a variety of spatial data
- a capacity to adapt to change and to apply innovation
- an understanding of the natural, social, professional, industrial and technical environments in which they will practice
- a knowledge of professional journals and other information sources related to the spatial science industry, the skills required to access information from those sources, and an aptitude to undertake further learning and study
- an ability to undertake applied research in a field of the spatial science discipline
- a knowledge of the financial and management principles and practices that are used to manage a professional office
- a knowledge of surveying, spatial information systems or urban and regional planning of sufficient depth to gain employment, certification and, where appropriate, registration as a Professional Surveyor, Spatial Scientist or Planner.

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:

- Geographic Information Systems and Surveying majors: have studied four semester units and achieved an exit assessment of 'Sound Achievement' or better in each of the following Queensland Senior Secondary School subjects: English and Mathematics B. It is recommended that applicants should also have satisfactorily completed the subject: Physics
- Urban and Regional Planning Major: have studied four semester units and achieved an exit assessment of 'Sound Achievement' or better in each of the following Queensland Senior Secondary subjects: English and Mathematics A.

or

- be able to demonstrate that they have achieved an equivalent standard in these subjects at another institution

and

- **Australian applicants:** have achieved a Queensland Overall Position (OP) band, or an equivalent Rank based on qualifications and previous work experience, at or above the specified cut-off level

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 [English language program](#). On successful completion of the English language program, students may be admitted to an award program.

Program fees

Commonwealth supported place

A Commonwealth supported place is where the Australian Government makes a contribution towards the cost of a students' higher education and students pay a [student contribution amount](#), which varies depending on the courses undertaken. Students are able to calculate the fees for a particular course via the [Course Fee Schedules](#).

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 Schedule](#)

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 Schedules](#).

Program structure

The Bachelor of Spatial Science is a 32-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. The 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 Program normally involves four years of full-time study or eight years of part-time study.

Students must complete the program within a maximum period of six years of full-time study, or 12 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 courses 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 six years to complete this program. Part-time students have a maximum of 12 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 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

The attendance requirement of residential schools within this degree is indicated by the following letters: 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](#).

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 shown except with the permission of the Faculty of Health, Engineering and Sciences. In some cases students may enrol in two Practice courses in one term so they can complete the two residential schools in a two-week period. The actual dates for each residential school are shown in the [Residential School schedule](#) in this Handbook.

Safety boots are compulsory in engineering laboratories for several of the Practice courses and are strongly recommended for all other Practice courses.

Practice courses

The majority of the practical and professional experience requirements for the program are contained within the major recommended enrolment pattern in the following table. These are zero unit courses, which are a **compulsory part** of the program, however they do not attract a student contribution charge for Australian Residents or a tuition fee for international students.

Elective courses

Elective courses are included in the list of Academic courses. Students should select these courses from the Electives list. Students may undertake only one appropriate level five or level eight course from this program or another program in the area of Engineering and Built Environment as an Elective with the approval of the Faculty of Health, Engineering and Sciences.

Articulation

Graduates of an Associate Degree in Spatial Science majoring in Surveying or GIS, 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. Graduates of an Associate Degree in Spatial Science majoring in Urban and Regional Planning would normally be eligible for up to 16 courses of credit towards the Bachelor of Spatial Science within the same field.

Students who have completed an associate degree or certificate program in surveying more 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 study undertaken.

The programs in Surveying, Geographic Information Systems and Urban and Regional Planning also articulate to and from each other and enable students to move between Surveying, Geographic Information Systems and Regional Planning degrees, whilst still retaining a significant amount of credit.

Prospective students who wish to upgrade an existing qualification should contact the Faculty to obtain information about likely exemptions and recommended enrolment patterns for their upgrade program.

Exit points

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

Honours

The Bachelor of Spatial Science may be awarded with Honours. The class of honours to be awarded to a student is dependent upon:

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

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

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

Footnotes

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

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

Geographic Information Systems Major recommended enrolment pattern

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.

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

for our Toowoomba campus. Students following a non-standard enrolment pattern should consult the [course specification](#) to ascertain if a course is offered in another term.

Geographic Information Systems Major recommended enrolment pattern

Major study: Geographic Information Systems (Major Study Code: 15407)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses								
ENM1600 Engineering Mathematics	1	1	1	1,2				
GIS1402 Geographic Information Systems	1	1	1	1,3				
SVY1102 Surveying A	1	1	2	1				
ENG1101	1	1	2	1,2				
GIS1401 Geographic Data Presentation	1	2	1	2				
ENG1002 Introduction to Engineering and Built Environment Applications	1	1,2	1	1,2				
SVY1110 Introduction to Global Positioning System	1	2	2	2				
CSC1401 Foundation Programming	1	2	2	1,2				
Elective (Select from Electives list)	2	1	3	1				
SVY3202 Photogrammetry and Remote Sensing	2	1	3	1				
GIS3407 GIS Programming and Visualisation	2	1	4	1				Pre-requisite: GIS1402 and CSC1401 or Students must be enrolled in one of the following Programs: GDST or MSST or GCST or MENS or MSPT
ENG2002 Technology, Sustainability and Society	2	1	4	1,2,3				
URP3201 Sustainable Urban Design and Development	2	2	3	2				
ENG2102	2	2	3	2,3				
SVY3200 Land Administration	2	2	4	2				
GIS3405 Spatial Analysis and Modelling	2	2	4	2				
CIS2002	3	1	5	1,3				
ENV2201 Land Studies	3	1	5	1				
SVY4309 Practice Management for Spatial Scientists	3	1	6	1				
Elective (Select from the Electives list)	3	2	5	2				
GIS3406 Remote Sensing and Image Processing	3	2	5	2				
ENG4110 Engineering Research Methodology	3	2	7	2				
GIS4407 Web Based Geographic Information System	3	2	6	2				Pre-requisite: GIS1402 or Students must be enrolled in one of the following Programs: GCST or GDST or MSST or MSPT or GCNS or GDNS or MENS
Elective (Select from the Electives list)	4	1	7	1				
CSC2402 Object-Oriented Programming in C++	4	1	7	1,3				Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: GDTI or GCSC or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN
ENG4111 Research Project Part 1 ^{^+}	4	1	8	1				Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or

Major study: Geographic Information Systems (Major Study Code: 15407)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
								BEHB or BEHI or BEHS or BENG or BENH	
LAW2107 Environmental Law *						8	1	Co-requisite: LAW1101 or LAW1500 or ENG2002 or REN1201 or (Students enrolled in BEDU (Legal Studies) or BLAW or LLBP or BALW or BBLA or BCLA or BCLW & Co-requisite LAW1201 or LAW1111) or (Students enrolled in DJUR & Co-requisite LAW5501 or LAW5111)	
ACC1101 Accounting for Decision-Making	4	2	7	1,2,3					
CSC2406 Web Technology 1	4	2	6	2				Pre-requisite: CSC1401 or Students must be enrolled in one of the following Programs: UCCC or GDTI or GCEN or METC or MCOT or MCTE or MCOP or MPIT or MCTN or BSED	
Elective (Select from the Electives list)	4	2	8	2					
ENG4112 Research Project Part 2 ^{^++}	4	2	8	2				Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH	
Practice Courses									
SVY1901 Surveying and Spatial Science Practice 1	1	1	2	1				C	
SVY2902 Surveying and Spatial Science Practice 2 [#]	2	1	4	3				C	Pre-requisite: SVY1901 and SVY1104 and SVY1110 and GIS1401
SVY2903 Surveying and Spatial Science Practice 3 ^{>}	3	2	5	3				C	Pre-requisite: SVY1901 and SVY2301 and SVY2106 and SVY3202
ENG3902 Professional Practice 1	3	2	7	2				C	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
ENG4903 Professional Practice 2	4	1	8	2				C	Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester.
Electives (Select from the following)									
CIS3001		1		1					
CIV2701 Road Design and Location		1		1				Pre-requisite: MAT1500 or ENG1500 or ENM1500 or	

Major study: Geographic Information Systems (Major Study Code: 15407)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
							ENM1600 or Students must be enrolled in one of the following Programs: GCST or GDST or GCEN or GEPR	
ENV4204 Environmental Technology		1		1			Pre-requisite: ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS	
ENG3003 Engineering Management [†]		1,3		1,3				
MGT1000 Organisational Behaviour		1		1,2,3				
MKT1001 Introduction to Marketing		1		1,2,3				
MAT1102 Algebra and Calculus I ^{^^}		1		1				
AGR2301 Agricultural Science		2		2				
REN1201 Environmental Studies		1		1			Enrolment is not permitted in REN1201 if REN8101 has been previously completed.	
REN3302 Sustainable Resource Use		2						
SVY1104 Survey Computations A		2		2			Pre-requisite: SVY1102 or SVY1500 or Students must be enrolled in one of the following Programs: GCST or GDST or MSPT	

Footnotes

- ^ It is recommended that these courses are undertaken in the same academic year.
- + It is recommended that students in the Bachelor of Spatial Science should have completed [ENG3902](#) prior to undertaking this course.
- * Springfield campus only
- ++ It is recommended that students in the Bachelor of Spatial Science should also be enrolled in [ENG4903](#) while undertaking this course.
- # Students who have completed GIS2901 do not need to undertake [SVY2902](#).
- > Students who have completed GIS3901 do not need to undertake [SVY2903](#).
- † The semester 3 offering of this course is offered in odd numbered years only.
- ^^ Replaces MAT1502 in the previous Handbook. Students should enrol in this course only if they have completed MAT1500 and Not MAT1502. Students undertaking ENM1600 are not required to complete MAT1502 and should choose an elective course in place of MAT1502

Notes:

For students transferring from one program to another a complete list of enrolment requirements are available in the [course specification](#).

Other courses may be admissible as an Elective. However students must obtain approval from the Faculty of Health, Engineering and Sciences prior to enrolling in the course. Students may undertake only one appropriate level five or level eight course from this program or another program in the area of Engineering and Built Environment as an Elective with the approval of the Faculty of Health, Engineering and Sciences.

Surveying Major recommended enrolment pattern

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.

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 for our Toowoomba campus. Students following a non-standard enrolment pattern should consult the [course specification](#) to ascertain if a course is offered in another term.

Surveying Major recommended enrolment pattern

Major study: Surveying (Major Study Code: 15408)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses								
ENM1600 Engineering Mathematics	1	1	1	1,2				
GIS1402 Geographic Information Systems	1	1	1	1,3				
SVY1102 Surveying A	1	1	2	1				
ENG1101	1	1	2	1,2				
SVY1110 Introduction to Global Positioning System	1	2	1	2				
ENG1002 Introduction to Engineering and Built Environment Applications	1	1,2	1	1,2				
SVY1104 Survey Computations A	1	2	2	2				Pre-requisite: SVY1102 or SVY1500 or Students must be enrolled in one of the following Programs: GCST or GDST or MSPT
GIS1401 Geographic Data Presentation	1	2	2	2				
SVY2301 Automated Surveying Systems	2	1	3	1				Pre-requisite: SVY1104 or Students must be enrolled in one of the following Programs: GCST or GDST or MSPT
SVY2106 Geodetic Surveying A	2	1	3	1				Pre-requisite: SVY1110 and SVY1102 or Students must be enrolled in one of the following Programs: GCNS or GCST or GDNS or GDST or MSST or MSPT or MENS
CIV2701 Road Design and Location	2	1	4	1				Pre-requisite: MAT1500 or ENG1500 or ENM1500 or ENM1600 or Students must be enrolled in one of the following Programs: GCST or GDST or GCEN or GEPR
Elective (Select from the Electives list)								
ENG2102	2	2	3	2,3				
SVY2303 Construction Surveying	2	2	3	2				Pre-requisite: SVY1104
CSC1401 Foundation Programming	2	2	4	1,2				
SVY3304 Cadastral Surveying (Queensland)	2	2	4	2				Pre-requisite: (SVY1102 and SVY1104) or Students must be enrolled in one of the following Programs: GCNS or GCST or GDNS or GDST or MSST or MSPT or MENS
SVY3202 Photogrammetry and Remote Sensing	3	1	5	1				
SVY2302 Mine Surveying	3	1	5	1				Pre-requisite: SVY1104 or Students must be enrolled in one of the following Programs: GCNS or GCST or GDNS or GDST or MSPT
ENV2201 Land Studies	3	1	6	1				
ENG2002 Technology, Sustainability and Society	3	1	6	1,2,3				
SVY2105 Survey Computations B	3	2	5	2				Pre-requisite: ENM1600 and SVY2106 or Students must be enrolled in one of the following Programs: GCNS or

Major study: Surveying (Major Study Code: 15408)									
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements	
	On-campus (ONC)		External (EXT)		Online (ONL)				
	Year	Sem	Year	Sem	Year	Sem			
								GCST or GDNS or GDST or MSST or MSPT or MENS	
ENG4110 Engineering Research Methodology	3	2	7	2					
URP3201 Sustainable Urban Design and Development	3	2	6	2					
SVY3107 Geodetic Surveying B	3	2	6	2				Pre-requisite: SVY1110 and SVY2105 or Students must be enrolled in one of the following Programs: GCNS or GCST or GDNS or GDST or MSST or MSPT	
SVY4309 Practice Management for Spatial Scientists	4	1	7	1					
ENG4111 Research Project Part 1⁺	4	1	7	1				Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH	
Elective (Select from the Electives list)	4	1	8	1					
ACC1101 Accounting for Decision-Making	4	2	5	1,2,3					
SVY4304 Land and Cadastral Law	4	2	7	2					
SVY3200 Land Administration	4	2	8	2					
ENG4112 Research Project Part 2⁺⁺	4	2	8	2				Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH	
Practice Courses									
SVY1901 Surveying and Spatial Science Practice 1	1	1	2	1			C		
SVY2902 Surveying and Spatial Science Practice 2	2	1	3	3			C	Pre-requisite: SVY1901 and SVY1104 and SVY1110 and GIS1401	
SVY2903 Surveying and Spatial Science Practice 3	2	2	4	3			C	Pre-requisite: SVY1901 and SVY2301 and SVY2106 and SVY3202	
SVY3904 Surveying and Spatial Science Practice 4[~]	3		6	2,3			C	Pre-requisite: SVY2902 or SVY2903 and SVY3304 or SVY3306 and SVY3202	
ENG3902 Professional Practice 1	3	2	7	2			C	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS	
ENG4903 Professional Practice 2	4	1	8	2			C	Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS. Students cannot enrol in ENG3902 and ENG4903 in the same semester.	

Major study: Surveying (Major Study Code: 15408)								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Electives (Select from the following)								
CIV2605 Construction Engineering		1		1				
ENV2103 Hydraulics I		1		1			Pre-requisite: CIV1500 or CIV1501 or Students must be enrolled in the following Program: GCEN or GEPR	
ENV4204 Environmental Technology		1		1			Pre-requisite: ENV2105 or Students must be enrolled in one of the following Programs: PDEV or GCEN or METC or MEPR or GCNS or GDNS or MENS	
GIS3407 GIS Programming and Visualisation		1		1			Pre-requisite: GIS1402 and CSC1401 or Students must be enrolled in one of the following Programs: GDST or MSST or GCST or MENS or MSPT	
MGT1000 Organisational Behaviour		1		1,2,3				
MAT1102 Algebra and Calculus I[^]		1		1				
CIV3703 Transport Engineering		2		2				
CIV1501 Engineering Statics		2		2,3			Pre-requisite: ENM1600 or (ENM1500 and CIV1500) or Students must be enrolled in one of the following Programs: MEPR or GCEN or GEPR	
CIV2702 Municipal Services		2		2			Pre-requisite: ENV2103 or ENV1101	
GIS3405 Spatial Analysis and Modelling		2		2				
GIS3406 Remote Sensing and Image Processing		2		2				
GIS4407 Web Based Geographic Information System		2		2			Pre-requisite: GIS1402 or Students must be enrolled in one of the following Programs: GCST or GDST or MSST or MSPT or GCNS or GDNS or MENS	
LAW2107 Environmental Law[*]		1				1	Co-requisite: LAW1101 or LAW1500 or ENG2002 or REN1201 or (Students enrolled in BEDU (Legal Studies) or BLAW or LLBP or BALW or BBLA or BCLA or BCLW & Co-requisite LAW1201 or LAW1111) or (Students enrolled in DJUR & Co-requisite LAW5501 or LAW5111)	
REN1201 Environmental Studies		1		1			Enrolment is not permitted in REN1201 if REN8101 has been previously completed.	
REN3302 Sustainable Resource Use		2						

Footnotes

- + It is recommended that students in the Bachelor of Spatial Science should have completed [ENG3902](#) prior to undertaking this course.
- ++ It is recommended that students in the Bachelor of Spatial Science should also be enrolled in [ENG4903](#) while undertaking this course.
- ~ On-campus students should enrol in the external offering of this course.

- ^^ Replaces MAT1502 in the previous Handbook. Students should enrol in this course only if they have completed MAT1500 and Not MAT1502. Students undertaking ENM1600 are not required to complete MAT1502 and should choose an elective course in place of MAT1502
- * Springfield campus only

Notes:

For students transferring from one program to another a complete list of enrolment requirements are available in the [course specification](#).

Students may undertake only one appropriate level five or level eight course from this program or another program in the area of Engineering and Built Environment as an Elective with the approval of the Faculty of Health, Engineering and Sciences.

Urban and Regional Planning major recommended enrolment pattern

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.

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 for our Toowoomba campus. Students following a non-standard enrolment pattern should consult the [course specification](#) to ascertain if a course is offered in another term.

Urban and Regional Planning recommended enrolment pattern

Major study: Major Study Code 16735								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
Academic Courses								
SVY1102 Surveying A	1	1	1	1				
GIS1402 Geographic Information Systems	1	1	1	1,3				
URP1001 Introduction to Urban and Regional Planning	1	1	2	1				
ENG1101	1	1	2	1,2				
GIS1401 Geographic Data Presentation	1	2	1	2				
ENG1002 Introduction to Engineering and Built Environment Applications	1	2	1	1,2				
LAW1101	1	2	2	2				
CMG1001 Introduction to Construction Management and the Built Environment	1	2	2	2				
ENV2201 Land Studies	2	1	3	1				
ECO1000 Economics	2	1	3	1				
PRL2002 Community Consultation and Development	2	1	4	1				
URP2001 Planning Structures and Statutory Planning	2	1	4	1				
URP2002 Local Government Planning Practice and Technology	2	2	3	2				
SVY1110 Introduction to Global Positioning System	2		3	2				
ENG2102	2	2	4	2,3				
Elective (Select from the Electives list)	2	2	4	2				
SVY3202 Photogrammetry and Remote Sensing	3	1	5	1				
ACC1101 Accounting for Decision-Making	3	1	5	1				
ECO2000 The Macro-economy and Business	3	1	6	1				
Elective (Select from the Electives list)	3	1	6	1				
REN3302 Sustainable Resource Use	3	2	5	2				
STA3100 Data Analysis in the Social Sciences	3	2	5	2				
URP3201 Sustainable Urban Design and Development	3	2	6	2				
ENG4110 Engineering Research Methodology	3	2	7	2				
SVY4309 Practice Management for Spatial Scientists	4	1	7	1				
Elective (Select from the Electives list)	4	1	8	1				
ENG4111 Research Project Part 1 ^{^+}	4	1	8	1				Pre-requisite: ENG3902 and ENG4110 and Students must be enrolled in one of the fol

Major study: Major Study Code 16735								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
								lowing Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
URP4001 Movement Network Planning	4	2	7	2				Pre-requisite: URP1001 or SVY4203 or Students must be enrolled in one of the following Programs: BENH or MEPR
SVY3200 Land Administration	4	2	6	2				
GIS4407 Web Based Geographic Information System	4	2	8	2				Pre-requisite: GIS1402 or Students must be enrolled in one of the following Programs: GCST or GDST or MSST or MSPT or GCNS or GDNS or MENS
ENG4112 Research Project Part 2^{^++}	4	2	8	2				Pre-requisite: ENG4111 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH
Practice Courses								
SVY1901 Surveying and Spatial Science Practice 1	1	1	2	1			C	
SVY2902 Surveying and Spatial Science Practice 2	2	1	3	3			C	Pre-requisite: SVY1901 and SVY1104 and SVY1110 and GIS1401
SVY2903 Surveying and Spatial Science Practice 3	3	2	6	3			C	Pre-requisite: SVY1901 and SVY2301 and SVY2106 and SVY3202
ENG3902 Professional Practice 1	3	2	7	2			C	Pre-requisite: Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS
ENG4903 Professional Practice 2	4	1	8	2			C	Pre-requisite: ENG3902 and Students must be enrolled in one of the following Programs: BCNH or BCON or BEBB or BEBC or BEHB or BEHI or BEHS or BENG or BENH or MENS . Students cannot enrol in ENG3902 and ENG4903 in the same semester.
Electives (Select from the following)								
ANT1001 Cultural Diversity: an Introduction to Anthropology		1		1,3				
CLI1110 Weather and Climate		1		1				
AGR3304 Soil Science		1		1				
CLI3301 Climate and Environment Risk Assessment		1		1				
ECO3030 Sustainable Economies		1		1				
POL3013 Sustainability and Politics						1		
MGT1000 Organisational Behaviour		1		1,2,3				

Major study: Major Study Code 16735								
Course	Year of program and semester in which course is normally studied						Residential school	Enrolment requirements
	On-campus (ONC)		External (EXT)		Online (ONL)			
	Year	Sem	Year	Sem	Year	Sem		
ANT3006 Indigenous Peoples in the Nation *		2		2				
CLI3302 Adaptation to Climate Change		2		2				
GIS3405 Spatial Analysis and Modelling		2		2				
GIS3406 Remote Sensing and Image Processing		2		2				
LAW2107 Environmental Law **		1				1	Co-requisite: LAW1101 or LAW1500 or ENG2002 or REN1201 or (Students enrolled in BEDU (Legal Studies) or BLAW or LLBP or BALW or BBLA or BCLA or BCLW & Co-requisite LAW1201 or LAW1111) or (Students enrolled in DJUR & Co-requisite LAW5501 or LAW5111)	
PRL3003 Public Sector and Public Service Communication		2		2				
SVY4304 Land and Cadastral Law		2		2				

Footnotes

- ^ It is recommended that these courses are undertaken in the same academic year.
 + It is recommended that students in the Bachelor of Spatial Science should have completed [ENG3902](#) prior to undertaking this course.
 ++ It is recommended that students in the Bachelor of Spatial Science should also be enrolled [ENG4903](#) while undertaking this course.
 * Offered odd years only.
 ** Springfield campus only

Notes:

For students transferring from one program to another a complete list of enrolment requirements are available in the [course specification](#) .
 Students may undertake only one appropriate level five or level eight course from this program or another program in the area of Engineering and Built Environment as an Elective with the approval of the Faculty of Health, Engineering and Sciences.