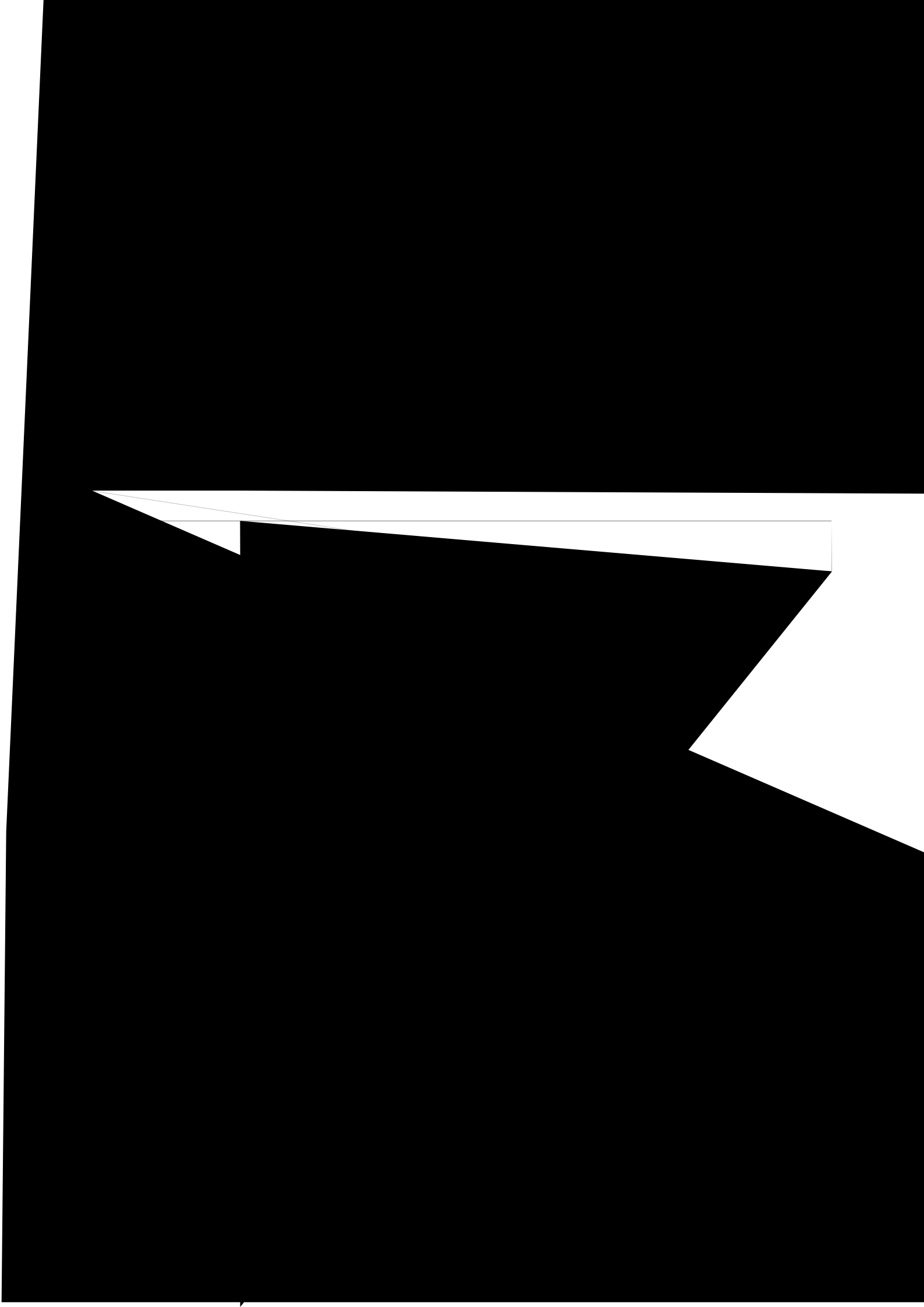


students with a core of theoretical, scientific, analytical, managerial, professional, research and communication skills that will permit them to undertake an in-depth study of the fundamental science and practice of spatial science in one of two fields: Geographic Information Systems (GIS) or Surveying. The program provides students with sufficient knowledge of surveying and spatial information systems to be eligible to gain employment, certification and, where appropriate, registration as a Professional Surveyor or Spatial Scientist.

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 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 class of honours will be determined by academic performance. Refer to the Honours section of this entry for further details.

Program objectives

A student who successfully completes the Bachelor of Spatial Science (Honours) should be able to apply:

- advanced knowledge in the theories, concepts, methods and technologies in the areas of surveying and spatial science
- skills and knowledge in the analysis, synthesis and evaluation of appropriate technologies, methods and processes to solve and complete a range of surveying and spatial science
- development of advanced technical and cognitive skills to create innovative and sustainable solutions utilising cutting-edge technologies, supported by research to collect, store and manipulate spatial data
- knowledge and skills to accept responsibility and autonomously apply well-informed judgements regarding professional practices, theories and processes
- advanced oral and written communication skills to transmit and convey the necessary information and ideas to relevant stakeholders
- consistent adaptation and application of academic norms and ethical standards in decision making when working collaboratively in a professional capacity
- knowledge of surveying and spatial information systems of sufficient depth to be eligible for emplo

- English Language Proficiency requirements for Category 2.

Applicants are advised to also address the following:

- Recommended Prior Study: Physics (Units 3 & 4, C) or equivalent.

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.

^ These are determined by the University for specific programs each Semester. The 2023 ATAR and tertiary entrance ranks are based on agreed QTAC schedules which assess formal study at Year 12 or equivalent level, tertiary, preparatory, professional or vocational qualifications or work experience, as detailed in the QTAC Assessment of Qualifications Manual and QTAC

Electives/Approved courses

Approved courses are part of the Academic program and students must select approved courses from a specified list.

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.

Practical experience

Work experience is desirable and encouraged but is not required for the completion of the Bachelor of Spatial Science (Honours) program. Students are encouraged to obtain work experience during vacation periods.

IT requirements

For information technology requirements, please refer to the minimum computing standards.

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.

Students are required to undertake practical and professional activities relevant to their program through enrolment in a series of Practice courses in the program. Practice courses are zero unit courses that may be undertaken in either on-campus or external mode and the final grades available are Pass (P)/Fail (F) only. They are a compulsory part of the program and do not attract a student contribution charge for Australian residents or a tuition fee for international students. The recommended enrolment schedule for Practice courses is shown in the Recommended Enrolment Pattern for the program in this Handbook.

External students must attend a number of residential schools during their program to obtain experience in practical and professional activities appropriate to the program. The residential schools are included in Practice courses which are conducted in Semester 3 or during the recess periods. The dates for each residential school Practice course are shown in the Residential School schedule in this Handbook and external students should ensure they are able to attend the residential school prior to enrolling in a Practice course. Personal protective equipment is compulsory in many engineering, construction and spatial science laboratories, students should confirm the requirements before attending residential schools for Practice courses.

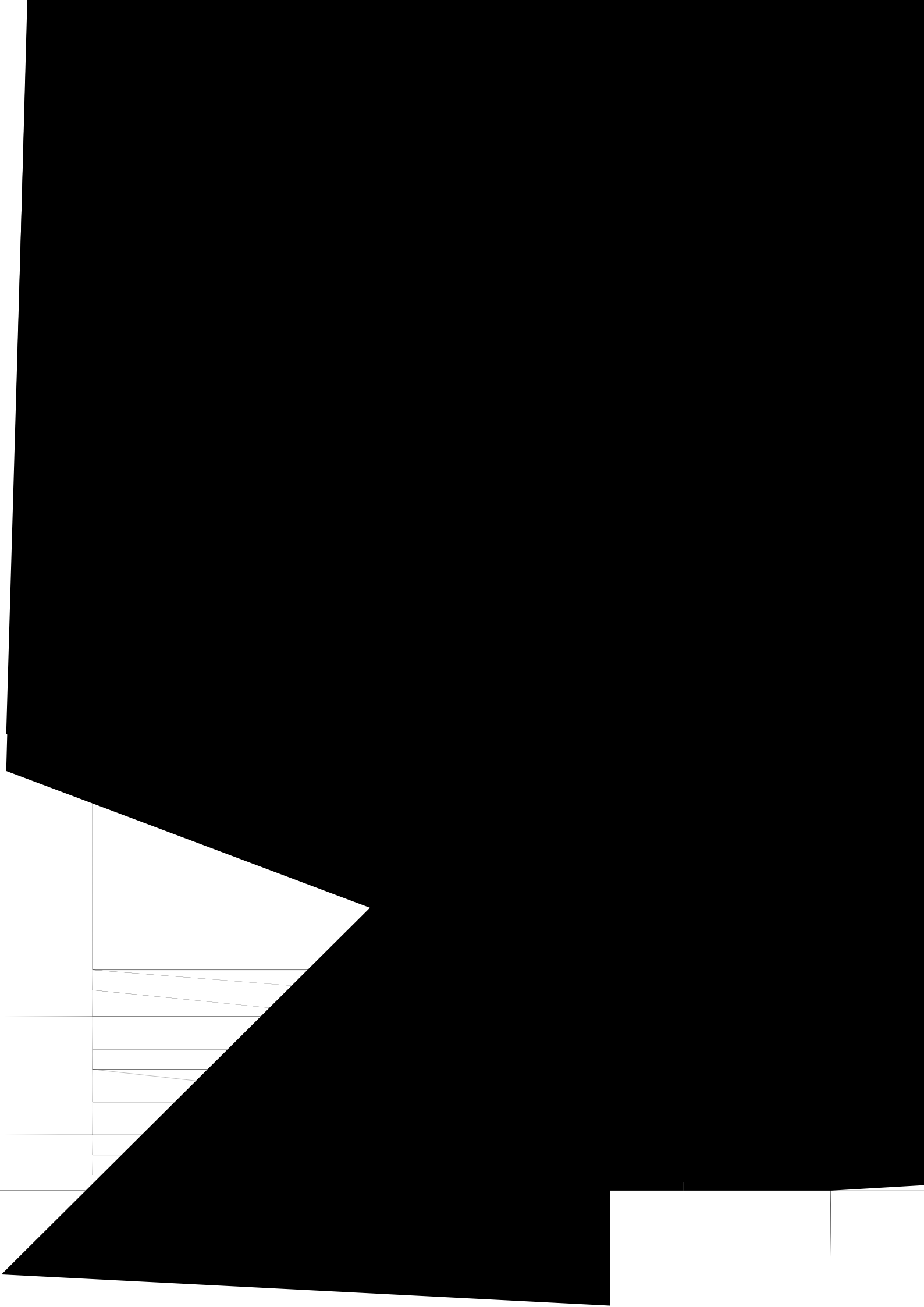
Students who enrol in on-campus mode for Practice courses normally undertake a series of weekly activities and/or attend a compulsory residential school.

PSG3900 Professional Week 1** and ENG4110 Engineering Research Methodology are to be studied in the student's penultimate year. After completing PSG3900 Professional Week 1, students must study the following courses;PSG4111 Research Project A and PSG4112 Research Project B and PSG4900 Professional Week 2** in the same academic year.

** The residential school for PSG3900 Professional Week 1 and PSG4900 Professional Week 2 will be held at the Springfield Campus.

Exit points

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



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		
Year 4, Semester 1								
Academic Courses								
Approved course (Select from the approved courses list)	4	1				1		
CSC2402 Object-Oriented Programming in C++	4	1				1	St	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
PSG4111 Research Project A^+	4					1		Pre-requisite: (PSG3900 or ENG3902) and ENG4110 and Students must be enrolled in one of the following Programs: BSPS or BSPH or BURP. Students must complete PSG4111 and PSG4112 in the same year.
LAW2107 Environmental Law**	4					2		Pre-requisite: LAW1501 or LAW1101 or LAW1500 or ENG2002 or REN1201 or (Students enrolled in BEDU (Legal Studies) or BLAW or LLBP or BALW or

Footnotes

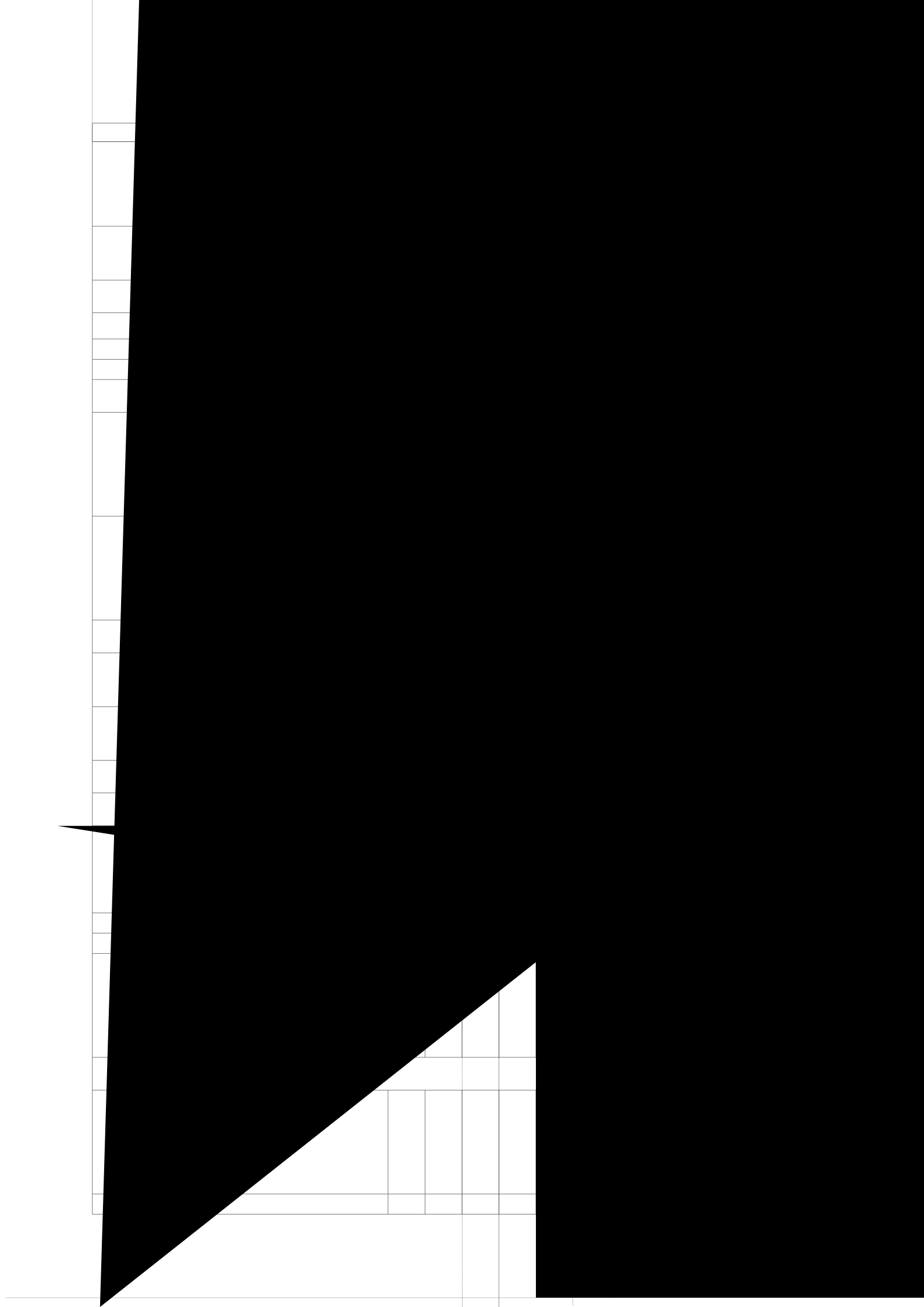
£	In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024
$	Unavailable online S2 2023
#	Not available in S3 2023
~	The residential school for PSG3900 and PSG4900 will be held at the Springfield Campus.
^	It is recommended that these courses are undertaken in the same academic year.
+	It is recommended that students should have completed PSG3900 prior to undertaking this course.
**	Course is offered in the interim trimester layer, please consult for interim trimester dates.
++	It is recommended that students should also be enrolled in PSG4900 while undertaking this course.
§	Unavailable online in S3 2023

Notes:

Other courses may be admissible as an approved course. 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 lev

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		
Year 7, Semester 2								
Approved course (Select from the approved courses list)	7	2				2		
CSC2406 Web Technology 1	7	2				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
Year 8, Semester 1								
PSG4111 Research Project A^+						1		Pre-requisite: (PSG3900 or ENG3902) and ENG4110 and Students must be enrolled in one of the following Programs: BSPS or BSPH or BURP. Students must complete PSG4111 and PSG4112 in the same year.
								Pre-requisite: LAW15

	Year of program and semester in which course is normally studied						Residential or school	Enrolment requirements



Major study: Surveying (Major Study Code: 15408)								
	Year of program						Residential school	Enrolment requirements

Footnotes

£ In Semester 3, 2023 this course will be delivered as a Transition (9 week) semester, commencing on 13 November 2023 and concluding on 12 January 2024
$ Unavailable online S2 2023
^^ Students should study the course appropriate to their intended jurisdiction of practice.
~ The residential school for PSG3900 and PSG4900 will be held at the Springfield Campus.
^ It is recommended that these courses are undertaken in the same academic year.
+ It is recommended that students should have completed PSG3900 prior to undertaking this course.
^* Unavailable Semester 2, 2023 Springfield On-campus and Toowoomba On-campus
++ It is recommended that students should also be enrolled in PSG4900 while undertaking this course.
** The alternative to the previously completed Cadastral core course may be taken as an elective/approved course.
§ Unavailable online in S3 2023
* Course is offered in the interim trimester layer, please consult for interim trimester dates.

Notes:

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.