



UNSW Engineering

Bachelor of Engineering (Honours) (Surveying)

What do surveyors do?

Surveying supports all construction activity and infrastructure engineering in urban and rural environments. Surveyors work alongside engineers, architects and land developers to define legal land boundaries and provide essential engineering support for urban development, large infrastructure projects, the development and operation of mines and the management of the environment and resources.

What will your study involve?

You'll learn how to use a range of high-tech surveying tools such as GPS, laser scanners, mapping drones and surveying robots to create high-definition 3D models of the built and natural environment. You'll also learn how to apply maths and powerful software to deliver products for a range of applications. You'll choose a targeted final year thesis

project, sometimes in conjunction with an external industry partner to increase your career-readiness. Your thesis will help you understand real-world industry needs and form crucial professional networks you can leverage after graduating. Your thesis project will also help you develop sought-after research skills and let you broaden your knowledge in an area that sparks your interest.

UNSW Civil & Environmental Engineering

- 1st in Australia and 24th globally for Civil and Structural Engineering (QS Subject Rankings 2025).
- We have close links with key professional, commercial and industrial organisations, allowing us to offer exciting and innovative student-led projects and industry-based training.
- Our degrees place a strong emphasis on practical design and problem-solving.

Program details

Lowest Selection Rank (2025): 92.00

Duration: Four-year embedded honours degree

Study areas: Engineering and Mining Surveying, Cadastral Surveying and Land Law, Modern Geodesy, Navigation and Earth Observation, Precise GPS/GNSS Positioning, Satellite and Airborne Imaging, Laser scanning and drone mapping, Surveying Applications and Design, Business Management, Sustainable Land Development and Management, Water and Soil Engineering

Assumed knowledge: Mathematics Extension 1

Portfolio Entry: UNSW offers the Faculty of Engineering Admission Scheme (FEAS) which is a pathway for students interested in studying undergraduate engineering to support their academic results, find out more at unsw.to/feas

Accreditation

Your Bachelor of Engineering (Honours) degree is recognised globally, accredited with Engineers Australia, and acknowledged by the Washington Accord which lets you work in over 20 countries across the globe upon graduation.

Career options

Surveying is a global profession facing a big skills shortage. There are excellent career

opportunities available in government, mining and private surveying as well as construction and civil engineering firms. Graduates can work in land management and planning, cadastral surveying and land law, hydrographic surveying, aerial imaging and cartography.

Student Testimonials

"They say working as a surveyor is half in the field and half in the office, and I love being outdoors. I think it would be awesome to have a job where I could travel through different countries – maybe to remote areas where they haven't got terrific maps – so I could do surveys for topographic drawings. That'd be the dream."

– Hannah Pearce
Surveying

Example Study Plan



Year 1		Year 2		Year 3		Year 4	
Term 1	DESN1000 Engineering Design and Innovation	Term 1	GMAT2500 Surveying Computations A	Term 1	GMAT3100 Surveying & Application Design	Term 1	CVEN4951 (4 UoC) Research Thesis A^
	PHYS1121 Physics 1A <u>OR</u> PHYS1131 Higher Physics 1A		ENGG2500 Fluid Mechanics for Engineers		GMAT3150 Field Projects 1		CVEN3501 Water Resources Engineering
	MATH1131 Mathematics 1A <u>OR</u> MATH1141 Higher Mathematics 1A		MATH2018 Engineering Mathematics 2D <u>OR</u> MATH2019 Mathematics 2D (2E)		GMAT3220 Geospatial Information Systems		Discipline Elective Course
Term 2	MATH1231 Mathematics 1B <u>OR</u> MATH1241 Higher Mathematics 1B	Term 2	DESN2000 Engineering Design and Professional Practice	Term 2	GMAT3700 Geodetic Positioning & Applications	Term 2	CVEN4952 (4 UoC) Research Thesis B^
	Free Elective Course		CVEN2002 Engineering Computations		Free Elective Course		Discipline Elective Course*
	GMAT1110 Surveying and Geospatial Engineering		GMAT2700 Foundations of Geodesy & Geospatial Ref Frames				General Education Cours
Term 3	General Education Course	Term 3	GMAT2120 Surveying and Geospatial Technology	Term 3	GMAT3420 Cadastral Surveying & Land Law	Term 3	CVEN4953 (4 UoC) Research Thesis C^
	ENGG1811 Computing for Engineers		GMAT2550 Surveying Computations B		CVEN3101 Engineering Operations and Control		GMAT4150 Field Projects 2
					GMAT3500 Remote Sensing & Photogram		Discipline Elective Course*

NOTES

You'll be required to complete 60 days of Industrial Training throughout your degree.

This degree example is indicative only and subject to change at any time without prior notice.
For the latest degree information visit the relevant UNSW Handbook page at www.handbook.unsw.edu.au.

UNSW's new 'flex-semester' calendar is scheduled to start in 2028.
For more information see <https://www.unsw.edu.au/academic-calendar-project>.



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Degree
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