

Engineering

Operations Research Technical Electives

	Hours per week	
	S1	S2
18.671G Decision Theory	2	or 2
18.764G Management of Distribution Systems	2	or 2
18.765G Optimization of Networks	2	or 2
18.777G Time Series and Forecasting	2	or 2
18.864G Applied Geometric Programming	2	or 2
18.874G Dynamic Programming	2	or 2
18.878G Industrial Application of Mathematical Programming	2	or 2

Note: The graduate subjects listed are of particular interest to undergraduate students; with approval, other graduate subjects from this and other Schools may be taken.

a result of the more flexible University policy towards leave of absence for students; elimination of the formally assessed professional training period in the present course; greater numbers of technical electives in the fourth year of study; further development of the Land Studies area: land development, inventory, law, tenure, and utilization, in continuing recognition of the growing importance of this area to surveyors; development of a formal strand to improve students' written and spoken communication skills.

Throughout the course the theoretical studies are complemented by practical exercises in the field and the laboratory. Students make use of the most modern measuring instruments and computing equipment.

The Bachelor of Surveying degree may be awarded as a Pass degree, Honours Class I, or Honours Class II in two divisions. Honours are awarded in recognition of superior performance throughout the course.

Students wishing to become Registered Surveyors after graduation are advised to gain practical experience under a Registered Surveyor. Some reduction in the period of practical experience required before registration may be granted because of practical experience gained during the University course, provided the New South Wales Surveyors' Board is informed in the prescribed manner. Details are obtainable from the Registrar, Surveyors' Board, Department of Lands, Bridge Street, Sydney 2000. The degree of Bachelor of Surveying confers exemption from all written examinations of the Surveyors' Board.

Students enrolled in the Bachelor of Surveying degree course are required to equip themselves with an electronic calculator. Details of the features required are available from the School.

School of Surveying

Head of School

Professor P. V. Angus-Leppan

Administrative Officer

J. V. Fonseka

The School of Surveying offers a full-time course of four years' duration leading to the Degree of Bachelor of Surveying. Alternatively, the course may be taken in a Sandwich form in which a student may, after completing the first year of the course on a full-time basis, alternate his or her studies with periods of employment by taking leaves of absence of up to two consecutive sessions at a time thereafter. The course taken in this form requires a maximum period of seven years. The part-time course is no longer available.

The Bachelor of Surveying is a well-rounded course with a strong surveying base, aimed at preparing the graduate for a broad range of career opportunities, including land boundary surveying, engineering surveying, photogrammetry, cartography, mining surveying, hydrographic surveying, geodesy and geodetic surveying, computing and systems development, management and development of land, land information systems and resource assessment systems. The course recognizes the diversity of possible roles of a graduate who may be called on during his career to act as practitioner, consultant, manager, teacher or researcher.

The course has undergone comprehensive revision and 1979 and 1980 are the transition years in the implementation of the new course.

Features of the revisions include: retention of the course on a session basis for all subjects lectured within the School; integration of the sandwich course with the full-time course as

3740 Surveying — Full-time Course

Bachelor of Surveying BSurv

Year 1

Session 1	Hours per week
1.971 Physics I	6
5.0102 Introduction to Engineering Design	2
10.001 Mathematics I	6
29.001 Surveying I	4½
29.800 Survey Draughting	3
29.700 Professional Orientation*	1½
29.191 Survey Camp I†	1½
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	24½
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*Three half-day excursions are an essential part of this subject.

†Students are required to attend a one-week Survey Camp equivalent to 1½ class contact hours per week in each session.

Course Outlines

Session 2		Hpw
1.971	Physics I	6
5.030	Engineering C*	6
10.001	Mathematics I	6
29.002	Surveying II	5
29.191	Survey Camp I†	1½

		24½

*Introduction to Systems and Computers option

†Students are required to attend a one-week Survey Camp equivalent to 1½ class contact hours per week in each session

Session 2		Hpw
29.006	Surveying VI	3
29.211	Geodesy I	4
29.311	Astronomy I	3
29.511	Photogrammetry I	4
29.652	Land Development II	3
29.631	Land Inventory I	2
29.662	Cadastral Surveying and Land Law II	3
29.195	Survey Camp III**	6

		28

** Students are required to attend a two-week survey camp which is equivalent to 6 class contact hours per week

Year 2

Session 1		Hpw
1.962	Physics of Measurement	3
10.022	Engineering Mathematics II (1st part)	4
10.341A	Statistics SU	2
27.295	Physical Geography for Surveyors†	4
29.003	Surveying III	5
29.151	Survey Computations I	4
29.192	Survey Camp II*	1½

		23½

*Students are required to attend a one-week survey camp which is equivalent to 1½ class contact hours per week in each session

†One-day field tutorial is an essential part of this course

Year 4

Session 1		Hpw
29.212	Geodesy II	3
29.312	Astronomy II	2
29.512	Photogrammetry II	3
29.653	Land Development III	3
29.704	Management I	2
29.702	Seminar II	1
	Electives*	6
29.196	Survey Camp IV**	6

		26

*See Year 4 Electives, immediately below

** Two weeks of office computations equivalent to 6 class contact hours per week

Session 2		Hpw
8.711	Engineering for Surveyors I	3
10.022	Engineering Mathematics II (2nd part)	4
10.341B	Statistics SU	2
29.004	Surveying IV	4½
29.801	Cartography I	3
29.701	Seminar I	1
29.121	Electronics for Surveyors	2
29.192	Survey Camp II*	1½
	General Studies Elective	3

		24

*Students are required to attend a one-week survey camp which is equivalent to 1½ class contact hours per week in each session

Session 2		Hpw
29.705	Management II	2
29.703	Seminar III	1
	Electives*	15

		18

*See Year 4 Electives, immediately below

Year 3

Session 1		Hpw
8.712	Engineering for Surveyors II	3
29.005	Surveying V	5
29.152	Survey Computations II	4
29.651	Land Development I	3
29.661	Cadastral Surveying and Land Law I	2
36.411	Town Planning	2
	General Studies Elective	3

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Year 4: Electives

Total of two General Studies Advanced Electives and five technical electives in any combination which results in 6 hours for Session 1 and 15 hours for Session 2. Technical electives (of 3 hours per week each, except 29.174) are chosen from:

29.031	Electronic Distance Measurement
29.032	Precise Surveying in Industry and Engineering
29.033	Characteristics of Modern Theodolites and Levels
29.034	Mine Surveying
29.035	History of Surveying
29.153	Adjustment of Control Surveys
29.161	Hydrographic Surveying I
29.162	Hydrographic Surveying II
29.173	Project
29.174	Major Project (6 hours per week)
29.213	Geodesy III
29.231	Geophysics for Surveyors
29.232	Atmospheric Effects on Geodetic Measurement

Engineering

29.313	Astronomy III
29.513	Photogrammetry III
29.514	Remote Sensing Principles
27.043	Remote Sensing Applications
29.654	Land Development IV
29.632	Land Inventory II
29.663	Cadastral Surveying and Land Law III
29.664	Modern Title Concepts
29.802	Cartography II
29.803	Mapping Technology

Not all electives are offered in any one year. Subjects from other Schools and Faculties may be substituted with the approval of the Head of School.

Transitional arrangements in 1980 for students who wish to graduate under the old course.

Part 8† (Old Course)

	Hpw	
29.006	Surveying VI	3
29.212	Geodesy II	3
29.312	Astronomy II	2
29.512	Photogrammetry II	3
29.653	Land Development III	3
29.662	Cadastral Surveying and Land Law II	3
29.704	Management I	2
29.196	Survey Camp II**	
	Two Electives*	6
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		25
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†Offered in Session 1, 1980 only.

**Two weeks of office computations equivalent to 84 class contact hours.

***Electives chosen from:**

29.161	Hydrographic Surveying I
29.173	Project
29.514	Principles of Remote Sensing
29.802	Cartography II
29.034	Mine Surveying