

## SCHOOL OF SURVEYING

The School of Surveying offers a four year full-time course and a seven year part-time course both leading to the degree of Bachelor of Surveying. The degree is divided into eight parts of one session each and can also be attained through a combination of part-time and full-time study. Part 7 comprises professional training and a survey camp.

The course is designed to provide the appropriate academic training for a professional surveyor working in any of the many branches of surveying. Since these branches cover a wide range, the course is broad in its scope. First and second years are concerned mainly with the basic sciences, but the basic surveying subjects are also included. In the third year the major surveying subjects appear: geodesy, photogrammetry, astronomy and land studies. With the addition of some elective courses these are continued into fourth year. The graduate can take up cadastral or property surveying, engineering surveying, geodetic surveying, photogrammetry, cartography or hydrographic surveying. The course is also an appropriate first qualification for those wishing to specialize in astronomy, satellite geodesy, geodynamics, computing and systems analysis, town and regional planning, land and resources development or environmental sciences.

The full-time and part-time courses have undergone comprehensive revision. Features of the revisions include: decreased lecture time to allow use of teaching methods which involve more student participation; an extended period of professional experience in the final year; Land Studies, a group of subjects designed to provide a broad understanding of the ecology of land and its development; and a survey camp of six weeks in the final year. 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. As far as possible each stage of the part-time course is equivalent to one part (one session) of the full-time course. However Stage 7 includes the Survey Camp of Part 7 as well as subjects of Part 8.

The existing part-time course will be phased out over the period 1975-1980. It will be replaced by a sandwich course. Students attending the sandwich course will attend full-time for one session per year, and will be free to undertake full-time employment for the remainder of the year, approximately 35 weeks. The minimum time for completion of the sandwich course will be seven years, as for the present part-time course. It will also be possible for a student in the sandwich course to attend for both sessions in a year, thus decreasing the length of his course by one year.

The transition arrangements are as follows: part-time students who commenced before 1973 will be unaffected. Those who commenced in 1973 and 1974 will move into the sandwich system in 1975 and 1976 respectively and each year from then on will attend full-time for one session of each year. Students commencing the sandwich course in 1975 will have three alternative ways of completing Parts 1 and 2. They can attend full time for one year, take part-time (evening) classes for two years or they can attend Part 1 in Session 1 of 1975 followed by Part 2 in Session 2 of 1976. Thereafter they will follow the standard sandwich course. See diagram below: *Method of Implementation of Revised BSurv Course.*

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 has been 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.

## 374. SURVEYING – FULL-TIME COURSE

## Bachelor of Surveying

		Hours per week	
		Lec.	Lab. Tut.
<b>YEAR 1 – Session 1 (PART 1)</b>			
1.001	Physics I	3	3
5.030	Engineering C* (Session 1)	3	2
10.001	Mathematics I	4	2
29.001	Surveying IA	3	2½
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		13	9½
* Introduction to Systems and Computers Option.			
<b>YEAR 1 – Session 2 (PART 2)</b>			
1.001	Physics I	3	3
5.010	Engineering A*	4	2
10.001	Mathematics I	4	2
29.002	Surveying IB	1	5½
		<hr/>	<hr/>
		12	12½
* 4.901 Materials Option.			

		Hours per week	
		Lec.	Lab. Tut.
<b>YEAR 2 – Session 1 (PART 3)</b>			
10.022	Engineering Mathematics II	2	2
10.341	Statistics	1½	0
29.102	Surveying II	2	4
29.151	Survey Computations I	3½	2½
31.212	Geometrical Optics	1½	1½
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		10½	10
<b>YEAR 2 – Session 2 (PART 4)</b>			
6.822	Electronics	1	2
8.711	Engineering for Surveyors	3	0
10.022	Engineering Mathematics II	2	2
10.341	Statistics	1½	0
29.102	Surveying II	1½	1½
29.192	Survey Camp*	—	—
27.293	Physical Geography for Land Assessment†	2	2
29.161	Hydrographic Surveying-I } or	1	1
29.182	Cartography Elective } General Studies Elective	1	1
		<hr/>	<hr/>
		2	1
		<hr/>	<hr/>
		14	9½

\* Students are required to attend a two-week survey camp, held in October, which is equivalent to 80 class contact hours.

† A one-day field tutorial is an essential part of this course.

### YEAR 3 – Session 1 (PART 5)

8.712	Engineering for Surveyors	3	0
29.211	Geodesy I	4	2
29.311	Astronomy I	2	1
29.612	Land Studies II†	4	1
36.411	Town Planning	1½	1½
	General Studies Elective	2	1
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		16½	6½

† A one-day field tutorial is an essential part of this course.

### YEAR 3 – Session 2 (PART 6)

29.103	Surveying III	4	3
29.152	Survey Computations II	2	1
29.511	Photogrammetry I	3	3
29.613	Land Studies III	2	0
29.614	Land Studies Project	1	2
	General Studies Elective	2	1
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		14	10

### YEAR 4 – Session 1 (PART 7)

29.193	Professional Training	5 Months	
29.194	Survey Camp*	4 Weeks: Field 2 Weeks: Office	

\* Students are required to attend a four week survey camp, equivalent to 160 hours of class contact.

		Hours per week	
		Lec.	Lab. Tut.
<b>YEAR 4 – Session 2 (PART 8)</b>			
8.713	Management for Surveyors	2	0
29.212	Geodesy II	2	1
29.312	Astronomy II	2	1
29.512	Photogrammetry II	1½	1½
	General Studies Advanced Elective	2	1
	Two Electives †	4	2
		<hr/>	<hr/>
		13½	6½

† Electives chosen from:

29.162	Hydrographic Surveying*
29.183	Cartography Advanced Elective*
29.213	Geodesy III
29.313	Astronomy III
29.513	Photogrammetry III
29.615	Land Studies
29.173	Project

\* Not offered in 1975.

## 374. SURVEYING – SANDWICH COURSE

### Bachelor of Surveying

The first two parts of the Sandwich Course may be completed (a) Full-time, by taking one full-time year, or (b) Part-time, by taking Stages 1 and 2, or (c) Sandwich, by taking Part 1 in Session 1 and Part 2 in Session 2 of the following year. See diagram below.

a) Full-time  
See Year 1, Full-time course.

b) Part-time

		Hours per week				
		SESSION 1		SESSION 2		
		Lab.	Lab.	Lab.	Lab.	
		Lec.	Tut.	Lec.	Tut.	
<b>STAGE 1</b>	1.001	Physics I	3	3	3	3
	10.001	Mathematics I	4	2	4	2
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		7	5	7	5	

		Hours per week			
		SESSION 1		SESSION 2	
		Lab.	Tut.	Lab.	Tut.
		Lec.		Lec.	
<b>STAGE 2</b>					
5.010	Engineering A*	4	2	0	0
5.030	Engineering C**	0	0	3	2
29.001	Surveying IA	3	2½	0	0
29.002	Surveying IB	0	0	1	5½
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		7	4½	4	7½

\* 4.901 Materials Option.

\*\*Introduction to Systems and Computers Option.

c) Sandwich Course

**PART 1 – Offered in Session 1**

1.001	Physics I (Part 1)	3	3		
5.030	Engineering C†	3	2		
10.001	Mathematics I (Part 1)	4	2		
29.001	Surveying IA	3	2½		
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		13	9½		

† Introduction to Systems and Computers Option.

**PART 2 – Offered in Session 2\***

1.001	Physics I (Part 2)	3	3		
5.010	Engineering A†	4	2		
10.001	Mathematics I (Part 2)	4	2		
29.002	Surveying IB	1	5½		
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		12	12½		

\* Commences in 1976.

† 4.901 Materials Option.

**PART 3 – Offered in Session 1**

10.022	Mathematics II (Part 1)	2	2		
10.341	Statistics	3	0		
29.102	Surveying II	3½	5½		
29.151	Survey Computations I	3½	2½		
31.212	Geometrical Optics	1½	1½		
		<hr/>	<hr/>	<hr/>	<hr/>
		13½	11½		

**PARTS 4 to 8**

Not offered in 1975.

374. SURVEYING – PART-TIME COURSE

Bachelor of Surveying

**STAGE 3**

No longer offered.

		Hours per week			
		SESSION 1		SESSION 2	
		Lab.	Tut.	Lab.	Tut.
		Lec.		Lec.	
<b>STAGE 4</b>					
6.822	Electronics	0	0	1	2
8.711	Engineering for Surveyors	3	0	0	0
10.341	Statistics	3	0	0	0
27.293	Physical Geography for Land Assessment†	0	0	2	2
29.192	Survey Camp*	–	–	–	–
29.161	Hydrographic Surveying I				
	or				
29.182	Cartography Elective	0	0	1	1
31.212	Geometrical Optics	1½	1½	0	0
	General Studies Elective	1	½	1	½
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		8½	2	5	5½

\* Students are required to attend a two-week survey camp, held in October, equivalent to 80 class contact hours.

† A one-day field tutorial is an essential part of this course.

**STAGE 5**

8.712	Engineering for Surveyors	1½	0	1½	0
29.211	Geodesy I	2	1	2	1
29.311	Astronomy I	2	1	0	0
29.612	Land Studies II†	0	0	4	1
36.411	Town Planning	1½	1½	0	0
	General Studies Elective	1	½	1	½
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		8	4	8½	2½

† A one-day field tutorial is an essential part of this course.

**STAGE 6**

29.103	Surveying III	2	1½
29.152	Survey Computation II	1	½
29.511	Photogrammetry I	1½	1½
29.613	Land Studies III	1	0
29.614	Land Studies Project	½	1
	General Studies Elective	1	½
	General Studies Advanced Elective	1	½
		<hr/>	<hr/>
		8	5½

**STAGE 7\***

29.212	Geodesy II	1	½
29.312	Astronomy II	1	½
29.512	Photogrammetry II	1	½
8.713	Management for Surveyors	1	0
	Two Electives §	2	1
29.194	Survey Camp†		
		<hr/>	<hr/>
		6	2½

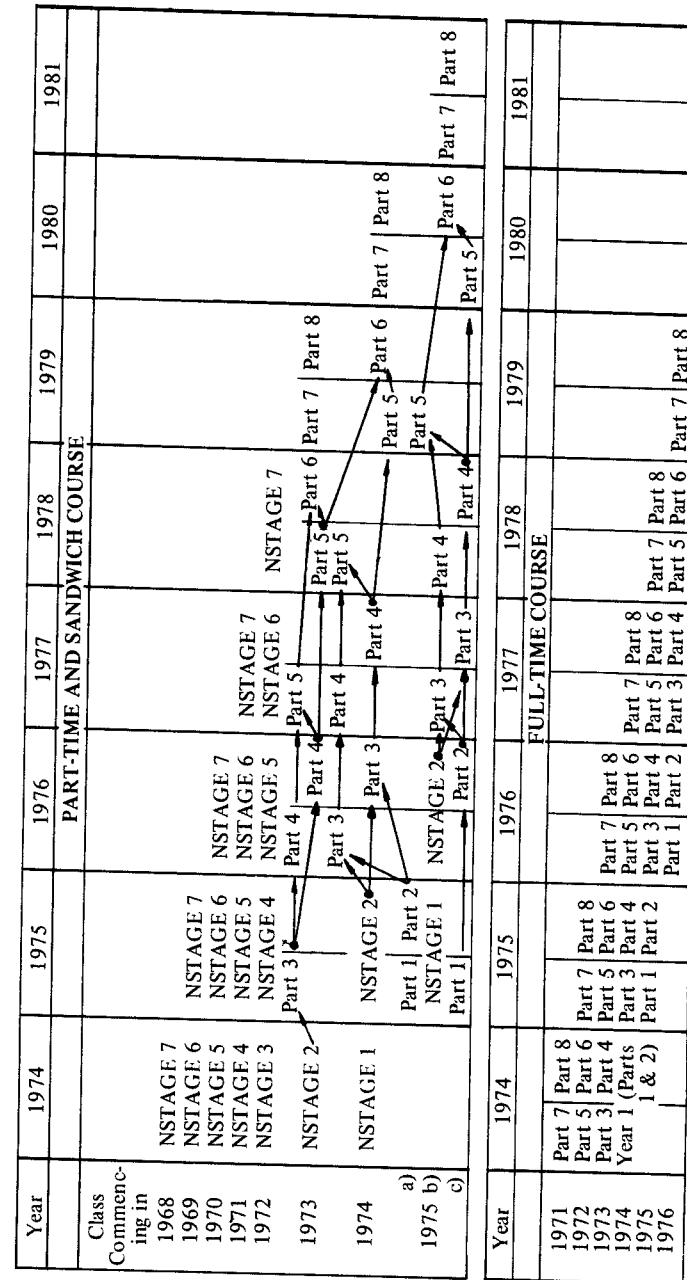
\* Students normally must fulfil the academic requirements of the subject, 29.193 Professional Training, before attempting Stage 7.

† Students are required to attend a four-week survey camp, equivalent to 160 hours of class contact. Academic subjects are arranged so as not to clash with the camp.

- § Electives chosen from  
 29.162 Hydrographic Surveying II ††  
 29.183 Cartography Advanced Elective ††  
 29.213 Geodesy III  
 29.313 Astronomy III  
 29.513 Photogrammetry III  
 29.615 Land Studies  
 29.173 Project

†† Not offered in 1975.

Hours per week  
for 2 sessions  
Lab.  
Lec. Tut.



NOTE: STAGE: a part-time stage of the existing course.  
 PART: a part-time stage of the revised course, which comprises eight parts.  
 • indicates a choice of course.

METHOD OF IMPLEMENTATION OF REVISED BACHELOR OR SURVEYING COURSE