The University of New South Wales

Architecture

1980 Faculty Handbook

How to use this Handbook

The information in this book has been divided into **seven parts.**

General Information (the yellow coloured pages) lists what you need to know about the University as a whole, introduces some of the services available and notes the most important rules and procedures. You should read this part in its entirety.

For further information about the University and its activities, see the University Calendar.

Faculty Information.

Undergraduate Study outlines the courses available in each school in the faculty.

Graduate Study is about higher degrees.

Subject Descriptions lists each subject offered by the schools in the faculty. The schools are listed numerically.

Information includes:

- Subject number, title and description
- Prerequisite, co-requisite and excluded subjects, where applicable
- Additional information about the subject such as unit values, credit hours, teaching hours per week, sessions when taught.

Financial Assistance to Students is a list of scholarships and prizes, available at undergraduate and graduate level in the faculty.

Staff list.

For detailed reference, see the list of **Contents.**

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Architecture

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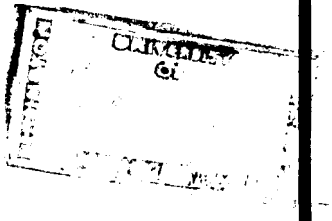

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Subjects, courses and any arrangements for courses including staff allocated, as stated in the Calendar or any Handbook or any other publication, announcement or advice of the University, are an expression of intent only and are not to be taken as a firm offer or undertaking. The University reserves the right to discontinue or vary such subjects, courses, arrangements or staff allocations at any time without notice.

Information in this Handbook has been brought up to date as at 10 September 1979, but may be amended without notice by the University Council

Contents

General Information

To obtain the maximum benefit from your studies you should make an effort to learn what facilities the University offers, to investigate the best methods of study and to discover as much as possible about the course for which you are enrolled.

This Handbook has been specially designed as a detailed source of reference for you in all matters related to your Faculty. This **General Information** Section is intended to help you put the Faculty into perspective with the University as a whole, to introduce you to some of the services available to students and to note some of the most important rules and procedures.

For fuller details about the University and its activities you should consult the University Calendar.

Note: All phone numbers below are University extension numbers. If you are outside the University, dial 663 0351 and ask for the extension or dial 662—and then the extension number. This prefix should only be used when you are certain of the extension that you require. Callers using 662 cannot be transferred to any other number.

Some people who can help you

If you are experiencing difficulties in adjusting to the requirements of the University you will probably need advice. The best people to talk to on matters relating to progress in studies are your tutors and lecturers. If your problem lies outside this area there are many other people with specialized knowledge and skills who may be able to help you.

The Deputy Registrar (Student Services), Mr Peter O'Brien, and his **Administrative Assistant,** Mrs Anne Beaumont, are located on the first floor of the Chancellery. They will help students who need advice and who have problems and are not sure whom they should see. As well as dealing with general enquiries they are especially concerned with the problems of physically handicapped and disabled students and those in need of financial assistance. The latter students should see Mrs Beaumont. Enquire at room 148E, phone 2482 (general enquiries) or 3164 (financial assistance).

The Assistant Registrar (Admissions and Higher Degrees), Mr Jack Hill, is located on the ground floor of the Chancellery. General enquiries should be directed to 3715.

The Assistant Registrar (Examinations and Student Records), Mr Peter Wildblood is located on the ground floor of the Chancellery. For particular enquiries regarding the Student Records Unit, including illness and other matters affecting

performance in examinations, academic statements, graduation ceremonies, prizes, release of examination results and variations to enrolment programs, phone 3711. For information regarding examinations, including examination timetables and clash of examinations, contact **the Administrative Officer,** Mr John Grigg, phone 2143.

The Adviser for Prospective Students, Mrs Fay Lindsay, is located on the ground floor of the Chancellery and is available for personal interview. For an appointment phone 3453.

The Assistant Registrar (Student Employment and Scholarships), Mr Jack Foley, is located in the Chancellery. Enquiries should be directed to 2086 (undergraduate scholarships), 2525 (graduate scholarships) and 3259 (employment).

The Housing Officer, Mrs Judy Hay, is located in the Student Amenities and Recreation Section in the huts at the foot of Basser Steps. For assistance in obtaining suitable lodgings phone 3260.

The Student Health Unit is located in Hut E at the foot of Basser Steps. The Director is Dr Max Napthali. For medical aid phone 2679 or 3275.

The Student Counselling and Research Unit is located at the foot of Basser Steps. For assistance with educational or vocational problems ring 3681, 3685 or 2696 for an appointment.

The University Librarian is Mr Allan Horton. Library enquiries should be directed to 2048.

The Chaplaincy Centre is located in Hut F at the foot of Basser Steps. For spiritual aid phone Anglican—2684; Catholic 2379; Greek Orthodox—2683; Lutheran—2683; Uniting Church—2685.

The Students' Union is located on the second floor of Stage III of the University Union, where the SU full-time President, Education Vice-President, Welfare-Research Officer, and Director of Overseas Students are available to discuss any problems you might have. In addition the SU offers a range of diverse services including legal advice (full-time solicitor available), clubs and societies services, second-hand bookshop (buy or sell), new records/tapes at discount, food shop (The Nuthouse), a professional nursery-kindergarten (House at Pooh Corner), a typesetting service, electronic calculators (bulk purchasing), an information referral centre (the Infakt Bus), a bail fund and publications such as *Tharunka*, Orientation Magazine, Concessions Book and counter-course handbooks. For information about these phone 2929.

Calendar of Dates

The Academic Year

The academic year is divided into two sessions, each containing 14 weeks for teaching. There is a recess of five weeks between the two session and there are short recesses of one week within each of the sessions.

Session 1 commences on the first Monday of March.

1980

Session 1	3 March to 11 May
(14 weeks)	*May Recess:* 12 May to 18 May
	19 May to 15 June
Tuesday	*Midyear Recess:* 16 June to 20 July
17 June	Examinations begin
Wednesday	
2 July	Examinations end
Session 2	21 July to 24 August
(14 weeks)	*August Recess:* 25 August to 31 August
	1 September to 2 November
Monday	
10 November	Examinations begin
Friday	
29 November	Examinations end

January

Tuesday 1	New Year's Day — Public Holiday
Friday 4	Last day for applications for review of results of *annual* examinations
Friday 11	Last day for acceptance of applications by Admissions Office for transfer to another undergraduate course within the University
Monday 28	Australia Day — Public Holiday

February

Monday 4	Enrolment period begins for new undergraduate students and undergraduate students repeating first year
Monday 18	Enrolment period begins for second and later year undergraduate students and graduate students enrolled in formal courses
	Last day for undergraduate students who have completed requirements for pass degrees to advise the Registrar they are proceeding to an honours degree or do not wish to take out their degree for any other reason

March

Monday 3	**Session 1 commences**
Tuesday 4	List of graduands for April/May ceremonies and of 1979 prize-winners published in daily press
Friday 14	Last day for acceptance of enrolment by new undergraduate students (late fee payable)
Friday 28	Last day for acceptance of enrolment by undergraduate students re-enrolling in second and later years (late fee payable)

April

Thursday 3	*Confirmation of Enrolment* forms despatched to all students
Friday 4 to Monday 7	Easter
Friday 18	Last day for undergraduate students to discontinue without failure subjects which extend over Session 1 only
Friday 25	Anzac Day — Public Holiday

May

Monday 5	Last day for undergraduate students completing requirements for degrees or diplomas at the end of Session 1 to submit *Application for Admission to Degree* form
Monday 12	**May Recess begins**
Thursday 15	Publication of provisional timetable for June/July examinations
Sunday 18	**May Recess ends**
Friday 23	Last day for students to advise of examination timetable clashes

June

Tuesday 3	Publication of timetable for June/July examinations
Sunday 15	**Session 1 ends**
Monday 16	Queen's Birthday — Public Holiday
	Midyear Recess begins
Tuesday 17	Examinations begin

July

Wednesday 2	Examinations end
Tuesday 15	Examination results mailed to students
Wednesday 16	Examination results displayed on University noticeboards
Tuesday 15 to Friday 18	Students to amend enrolment programs following receipt of June examination results
Sunday 20	**Midyear Recess ends**
Monday 21	**Session 2 begins**
	Last day for application for review of June examination results
Thursday 31	Foundation Day (no classes held)

August

Friday 1	Last day for students to discontinue without failure subjects which extend over the whole academic year
Monday 25	**August Recess begins**
Sunday 31	**August Recess ends**

September

Friday 5	Last day for undergraduate students to discontinue without failure subjects which extend over Session 2 only
Monday 8	Last day for applications from undergraduate students completing requirements for degrees and diplomas at the end of Session 2 to submit *Application for Admission to Degree* forms
Wednesday 10	List of graduands for October graduation ceremonies published in daily press
Friday 12	Last day for students to discontinue without failure subjects which extend over Session 2 only
	Confirmation of Enrolment form forwarded to all students

Monday 15	Last day to notify intention of attending October graduation ceremonies
Monday 22	Last day for applications from undergraduate students completing requirements for degrees and diplomas at the end of Session 2 to submit *Application for Admission to Degree* form
Friday 26	Last day for acceptance of corrected *Confirmation of Enrolment* forms

October

Wednesday 1	Last day to apply to UCAC for transfer to another university in New South Wales
Thursday 2	Publication of provisional examination timetable
Monday 6	Eight Hour Day — Public Holiday
Thursday 9	Graduation ceremonies
Friday 10	Last day for students to advise of examination timetable clashes
Thursday 21	Publication of timetable for examinations

November

Sunday 2	**Session 2 ends**
Monday 3	**Study Recess begins**
Sunday 9	**Study Recess ends**
Monday 10	Examinations begin
Saturday 29	Examinations end

December

Tuesday 16	Examination results mailed to students
Wednesday 17	Examination results displayed on University notice boards
Thursday 25	Christmas Day — Public Holiday
Friday 26	Boxing Day — Public Holiday

Organization of the University

Rapid development has been characteristic of the University of New South Wales since it was first incorporated by an Act of Parliament in 1949, under the name of the New South Wales University of Technology.

In 1979 the University had 18,466 students and over 3,700 staff who worked in more than eighty buildings. These figures include staff and students at Broken Hill (W.S. and L.B. Robinson University College), Duntroon (the Faculty of Military Studies) and Jervis Bay.

Arms of the University of New South Wales

The coat of arms of the University is reproduced on the front cover of this handbook. The arms were granted by the College of Heralds in London, on 3 March 1952, and its heraldic discription is as follows:

Argent on a Cross Gules a Lion passant guardant between four Mullets of eight points Or a Chief Sable charged with an open Book proper thereon the word SCIENTIA in letters also Sable.

The lion and the four stars of the Southern Cross on the Cross of St George have reference to the State of New South Wales which brought the University into being; the open book with SCIENTIA across its page reminds us of its original purpose. Beneath the shield is the motto 'Manu et Mente', which is the motto of the Sydney Technical College, from which the University has developed. The motto in not an integral part of the Grant of Arms and could be changed at will; but it was the opinion of the University Council that the relationship with the parent institution should in some way be recorded.

The Council

The chief governing body of the University is the Council which has the responsibility of making all major decisions regarding its policy, conduct and welfare.

The Council consists of 44 members from the State Parliament, industry and commerce, agriculture, the trade unions, professional bodies, the staff, the students and the graduates of the University.

The Council meets six times per year and its members also serve on special committees dealing with, for example, academic matters, finance, buildings and equipment, personnel matters, student affairs and public relations.

The Chairman of the Council is the Chancellor, the Hon. Mr Justice Samuels, and the Deputy Chancellor is Dr F.M. Mathews.

The Professorial Board

The Professorial Board is one of the two chief academic units within the University and includes all the professors from the various faculties. It deliberates on all questions such as matriculation requirements, the content of courses, the arrangement of syllabuses, the appointment of examiners and the conditions for graduate degrees. Its recommendations on these and similar matters are presented to Council for its consideration and adoption.

The Faculties/Boards of Study

The Dean, who is also a professor, is the executive head of the Faculty or Board of Study. Members of each Faculty or Board meet regularly to consider matters pertaining to their own areas of study and research, the result of their deliberations being then submitted to the Professorial Board.

The term 'faculty' is used in two distinct senses in the University. Sometimes it is used to refer to the group of Schools comprising the Faculty, and at others to the deliberative body of academic members of the Schools within the Faculty.

The eleven Faculties are Applied Science, Architecture, Arts, Biological Sciences, Commerce, Engineering, Law, Medicine, Military Studies, Professional Studies and Science together with the Australian Graduate School of Management. In addition, the Board of Studies in General Education fulfils a function similar to that of the faculties. The Board of Studies in Science and Mathematics, which was established to facilitate the joint academic administration of the Science and Mathematics degree course by the Faculties of Biological Sciences and Science, considers and reports to the Professorial Board on all matters relating to studies, lectures and examinations in the science and mathematics degree course.

The Schools

Once courses of study have been approved they come under the control of the individual Schools (eg the School of Chemistry, the School of Mathematics). The Head of the School in which you are studying is the person in this academic structure with whom you will be most directly concerned.

Executive Officers

As chief executive officer of the University, the Vice-Chancellor and Principal, Professor Rupert Myers, is charged with managing and supervising the administrative, financial and other activities of the University.

He is assisted in this task by three Pro-Vice-Chancellors, Professor John Thornton, Professor Ray Golding and Professor Rex Vowels, together with the Deans and the three heads of the administrative divisions.

General Administration

The administration of general matters within the University comes mainly within the province of the Registrar, Mr Keith Jennings, the Bursar, Mr Tom Daly, and the Business Manager (Property), Mr R.K. Fletcher.

The Registrar's Division is concerned chiefly with academic matters such as the admission of students, and the administration of examinations as well as the various student services (health, employment, amenities, and counselling).

The Bursar's Division is concerned with the financial details of the day-to-day administration and matters to do with staff appointments, promotions, etc.

The Property Division is responsible for the building program and the 'household' services of the University (including electricity, telephones, cleaning, traffic and parking control and maintenance of buildings and grounds).

Student Representation on Council and Faculties/Boards

Three members of the University Council may be students elected by students. All students who are not full-time members of staff are eligible to stand for a two-year term of office. The students who are elected to the Council are eligible for election to the Committees of Council.

Students proceeding to a degree or a graduate diploma may elect members for appointment by the Council to their Faculty/Board. Elections are for a one-year term of office.

Open Faculty/Board Meetings

If you wish you may attend a Faculty/Board meeting. You should seek advice at the office of the Faculty whose meeting you wish to attend, as the faculties have their own rules for the conduct of open meetings.

Award of the University Medal

The University may award a bronze medal to undergraduate students who have achieved highly distinguished merit on completion of their final year.

Identification of Subjects by Numbers

For information concerning the identifying number of each subject taught in each Faculty as well as the full list of identifying numbers and subjects taught in the University, turn to the first page of the section **Subject Descriptions.** This list is also published in the Calendar.

Textbook Lists

Textbook lists are no longer published in the Faculty handbooks. Separate lists are issued early in the year and are available at key points on the campus.

General Studies Program

Almost all undergraduates in Faculties other than Arts and Law are required to complete a General Studies program. The Department of General Studies within the Board of Studies in General Education publishes its own Handbook which is available free of charge. All enquiries about General Studies should be made to the General Studies Office, Room G56, Morven Brown Building, phone 3476.

Student Services and Activities

The University Library

The University libraries are mostly situated on the upper campus. The main library building (Menzies Library) houses the Undergraduate Library on Level 3, the Social Sciences and Humanities Library on Level 4, the Physical Sciences Library, on Level 7 and the Law Library on Level 8. The Biomedical Library is in the western end of the Mathews Building and is closely associated with libraries in the teaching hospitals of the University.

There are also library services at other centres:

The Water Reference Library situated at Manly Vale (phone 948 0261) which is closely associated with the Physical Sciences Library.

The library at the Broken Hill Division in the W.S. and L.B. Robinson University College building. Phone Broken Hill (080) 6022.

The library at the Royal Military College, Duntroon ACT, serving the Faculty of Military Studies. Phone (062) 73 0427.

Each library provides reference and lending services to staff and students and each of the libraries on the Kensington Campus is open throughout the year during day and evening periods. The exact hours of opening vary during the course of the academic year.

Staff and students normally use a machine-readible identification card to borrow from the University libraries.

Accommodation

Residential Colleges

There are seven **residential colleges** on campus. Each college offers accommodation in a distinctive environment which varies from college to college. as do facilities and fees. A brief description of each college is given below, and further information may be obtained directly from the individual colleges. In addition to basic residence fees, most colleges make minor additional charges for such items as registration fees, caution money or power charges. Intending students should lodge applications before the end of October in the year prior to the one in which they seek admission. Most colleges require a personal interview as part of the application procedure.

Kensington Colleges

The Kensington Colleges comprise Basser College, Goldstein College, and Philip Baxter College. They house 450 men and women students, as well as staff members. Fees are payable on a session basis. Apply in writing to the Master, PO Box 24, Kensington, NSW 2033.

International House

International House accommodates 154 students from Australia and up to twenty other countries. Preference is given to more senior undergraduates and graduate students. Apply in writing to the Warden, International House, PO Box 88, Kensington, NSW 2033.

New College

This Church of England College is open to all students without regard to race or religion. It has accommodation for approximately 220 students and is co-educational. Enquiries should be addressed to the Master, New College, Anzac Parade, Kensington, NSW 2033.

Shalom College

Shalom College provides accommodation for 86 men and women students. Non-resident membership is available to students who wish to avail themselves of the Kosher dining room and tutorial facilities. Fees are payable on a session basis. Conferences are catered for, particularly with Kosher requirements. Rates are available on application. Apply in writing to the Master, Shalom College, The University of New South Wales, PO Box 1, Kensington, NSW 2033.

Warrane College

Warrane College provides accommodation for 200 men and is open to students of all ages, backgrounds and beliefs. A comprehensive tutorial program is offered along with a wide variety of activities and opportunities to meet informally with members of the University staff. Non-resident membership is available to male students who wish to participate in College activities and make use of its facilities. Warrane is directed by the Catholic lay association Opus Dei. Apply in writing to the Master, Warrane College, PO Box 123, Kensington, NSW 2033.

Creston Residence

Creston Residence offers accommodation for 25 full-time undergraduate and graduate women students without restriction of denomination or nationality. Non-resident membership provides students with the opportunity to participate in the activities of the Residence and to make use of its facilities. Creston is directed by the Women's Section of Opus Dei, a Catholic lay association. Enquiries should be addressed to the Principal, 36 High Street, Randwick, NSW 2031.

Other Accommodation

Off-campus Accommodation

Students requiring other than College accommodation may contact the Housing Officer in the Student Amenities and Recreation Section for assistance in obtaining suitable lodging in the way of full board, room with cooking facilities, flats, houses, share flats, etc. Extensive listings of all varieties of housing are kept up-to-date throughout the year and during vacations.

No appointment is necessary but there may be some delay in February and March. The Housing staff are always happy to discuss any aspect of accommodation.

Special pamphlets on accommodation, list of estate agents and hints on house-hunting are available on request.

Location: The Student Accommodation Service is located in the huts at the foot of Basser Steps. Phone 663 0351, extension 3260.

Student Employment and Scholarships

The Student Employment and Scholarships Section offers assistance with career employment for final year students and graduates of the University. This service includes the mailing of regular job vacancy notices to registered students, and a Careers Library containing information on various careers and employers.

Careers advice and assistance are also available to undergraduates. Students undertaking courses in Applied Science or Engineering which require course-related industrial or professional training experience are assisted to find such employment over the long vacation. Information and advice regarding cadetships and undergraduate and graduates scholarships is also available.

The service is located in the Chancellery.

Phone extension 3259 for employment and careers advice, extension 2525 for details of graduate awards and grants, and extension 2086 for undergraduate scholarship, cadetship and industrial training information.

Student Health

A student health clinic and first aid centre is situated within the University. It is staffed by three qualified medical practitioners, assisted by two nursing sisters. The medical service, although therapeutic, is not intended to entirely replace private or community health services. Thus, where chronic or continuing conditions are revealed or suspected, the student may be referred to a private practitioner or to an appropriate hospital for specialist opinion and/or treatment. The health service is not responsible for fees incurred in these instances. The service is confidential and students are encouraged to attend for advice on matters pertaining to health.

The service is available to all enrolled students by appointment, free of charge, between 9 am and 5 pm Mondays to Fridays. For staff members, immunizations as well as first aid service in the case of injury or illness on the campus are available.

The centre is located in Hut E on the northern side of the campus in College Road at the foot of Basser Steps.

Appointments may be made by calling at the centre or by telephoning extension 2679 or 3275 during the above hours.

The Family Planning Association of NSW conducts clinics at the Student Health Unit and at the adjacent Prince of Wales Hospital. These clinics are open to staff and students and appointments may be made for the Student Health Unit clinic by telephoning 698 9499, or for The Prince of Wales Hospital clinics by telephoning 399 0111.

Student Counselling and Research

The Student Counselling and Research Unit provides individual and group counselling for all students—prospective, established and graduate. Self-help programs are also available. Opportunities are provided for parents and others concerned with student progress to see members of the counselling staff.

The service which is free, informal and personal is designed to help students with planning and decision making, and a wide variety of concerns and worries which may be affecting personal, educational and vocational aspects of their lives.

The Unit pursues research into factors affecting student performance, and the published results of its research and experience are helpful in improving University and other counselling services, and the quality of student life.

Counselling appointments may be arranged during sessions and recesses between 9 am and 7 pm. Phone 663 0351, extension 3681, 3685 and 2696, or call at the Unit which is located at the foot of Basser Steps. Urgent interviews are possible on a walk-in basis between 9 am and 5 pm. Group counselling programs are offered both day and evening between 9 am and 9 pm by special arrangement. Self-help programs are arranged to suit the student's time and convenience.

Student Amenities and Recreation

In general the Student Amenities and Recreation Section seeks ways to promote the physical, social and educational development of students through their leisure time activities and to provide some services essential to their day-to-day University life.

The Section provides, for example, a recreational program for students and staff at the Physical Education and Recreation Centre; negotiates with the Public Transport Commission of NSW on student travel concessions and supplies concession forms for bus, rail, ferries and planes; assists students with off-campus housing; makes bookings for use of sports facilities; and, in consultation with the Sports Association, assists various recognized clubs.

The Section is located in the huts at the foot of Basser Steps. The various services may be contacted by phone on the following extensions: Recreation Program 3271; Travel 2617; Accommodation 3260; Ground Bookings 2235; Sports Association 2673.

Physical Education and Recreation Centre

The Student Amenities and Recreation Section provides a recreational program for students and staff at the Physical Education and Recreation Centre. The Centre consists of eight squash courts, a 50m heated indoor swimming pool, and a main building, the latter containing a large gymnasium and practice rooms for fencing, table tennis, judo, weight-lifting, karate and jazz ballet, and a physical fitness testing room. The recreational program includes intramurals, teaching/coaching, camping, and fitness testing. The Centre is located on the lower campus adjacent to High Street. The Supervisor at PERC may be contacted on extension 3271.

The Sports Association

The Sports Association caters for a variety of competitive sports for both men and women. Membership is compulsory at $11 per year for all registered students and is open to all members of staff and graduates of the University.

The Sports Association office is situated in the huts at the foot of Basser Steps, and the control of the Sports Association is vested in the General Committee. The Sports Association may be contacted on extension 2673.

Student Travel Concessions

The Student Amenities and Recreation Section arranges distribution of bus, rail and ferry concessions. For the peak period during the week preceding and the first week of Session 1 distribution is at a location to be decided. Students should watch for notices around the campus announcing the distribution centre.

For the rest of the year students seeking authorization for travel concessions, including planes, should enquire at the section (extension 2617) or the Enquiry Desk, Chancellery (extension 2251).

The University Union

The University Union provides the facilities students, staff and graduates require in their daily University life and thus an opportunity for them to know and understand one another through associations outside the lecture room, the library and other places of work.

The Union is housed in three buildings near the entrance to the Kensington Campus from Anzac Parade. These are the Roundhouse, The Blockhouse (Stage 2) and the Squarehouse (Stage 3). Membership of the Union is compulsory at $55 per year for all registered students and is open to all members of staff and graduates of the University.

The full range of facilities provided by the Union includes a cafeteria service and other dining facilities, a large shopping centre, cloak room, banking and hairdressing facilities, showers, a women's lounge, common, games, reading, meeting, music, practice, craft and dark rooms. Photocopying, sign printing, and stencil cutting services are also available. The Union also sponsors special concerts (including lunchtime concerts) and conducts courses in many facets of the arts including weaving, photography, creative dance and yoga. Exhibitions are held in the John Clark Gallery.

Full information concerning courses is contained in a booklet obtainable from the Union's Program Department.

The University Union should not be confused with the Students' Union (or Students' Representative Council as it is known in some other universities). This latter body has a representative function and is the instrument whereby student attitudes and opinions are crystallized and presented to the University and the community.

The Students' Union

The Students' Union is run by students and represents them on and off campus. Presidential elections are by popular vote and all students who have completed one year at the University are eligible for election. The President directs the entire administration of the Students' Union and its activities.

Other officers include the **Education Vice-President** who works towards the implementation of Student Union education policy; the **Welfare-Research Officer** concerned with helping students with problems they may encounter in the University; **Director of Overseas Students** who deals with specific problems these students may encounter while in Australia.

Membership is compulsory at $17 per annum for full-time students and $13 for part-time students.

The activities of the Students' Union include:

1. Infakt: a student-run information referral service. If you want someone to talk to or need help of any kind see the people at Infakt located in the bus at the foot of Basser Steps.
2. A casual employment service.
3. Organization of Orientation Week.
4. Organization of Foundation Day.
5. A nursery/kindergarten, *The House at Pooh Corner.*
6. Publication of the student paper *Tharunka.*
7. A free legal service run by a qualified lawyer employed by the Students' Union Council.
8. Students' Union Record Shop which sells discount records and tapes.
9. The Nuthouse which deals in bulk and health foods.

10. Secondhand Bookshop for cheap texts.
11. Clubs and societies which receive money from the Students' Union through CASOC (Clubs and Societies on Campus).
12. The sale of electronic calculators and accessories at discount rates.
13. Provision of a bail fund.

The Students' Union is located on the second floor, Stage 3, the Union.

Chaplaincy Centre

This service is provided for the benefit of students and staff of various religious and spiritual beliefs. Chaplains are in attendance at the University at regular times. A Chapel is also available for use by all denominations. For further details, turn to page 2.

Other Services and Activities

CASOC All clubs and societies on campus (except sporting clubs) are loosely organized under the umbrella of CASOC, which is a committee of the Students' Union. Some of these clubs are: the Motor Cycle Club; Chess Club; Dramsoc; Opunka; Kite Club and the Jazz Society.

School and Faculty Associations Many schools and faculties have special clubs with interests in particular subject fields. Enquire at your Faculty Office for information.

University Co-operative Bookshop Limited Membership is open to all students, on initial payment of a fee of $10, refundable when membership is terminated. Members receive an annual rebate on purchases of books.

Cashier's Hours The University Cashier's office is open from 9.30 am to 1.00 pm and from 2.00 pm to 4.30 pm, Monday to Friday. It is open for additional periods at the beginning of Session 1. Consult noticeboards for details.

Australian Armed Forces Enquiries should be directed to:

Royal Australian Navy Royal Australian Navy Liaison Officer, Emeritus Professor J.S. Ratcliffe, Commander, RANR (Rtd), International House. Phone extension 3093 or 663 0473.

University of New South Wales Regiment The Adjutant, Regimental Depot, Day Avenue (just west of Anzac Parade). Phone 663 1212.

Royal Australian Air Force Undergraduates interested in the RAAF Undergraduate Scheme should contact The Recruiting Officer, Defence Forces Recruiting Centre, 323 Castlereagh Street, Sydney. Phone 212 1011.

Financial Assistance to Students

Tertiary Education Assistance Scheme

Under this scheme, which is financed by the Commonwealth Government, assistance is available for full-time study in approved courses, to students who are not bonded and who are permanent residents of Australia, subject to a means test on a non-competitive basis. The allowances paid are unlikely to be sufficient, even at the maximum rate, for all the living expenses of a student. Family help and/or income from vacation or spare-time work would also be needed.

Students in the following types of university courses are eligible for assistance:

- Undergraduate and graduate bachelor degree courses
- Graduate diploma courses
- Approved combined bachelor degree courses
- Master's qualifying courses (one year)

Benefits

The rates of allowance and conditions for eligibility are set out in a booklet obtainable fom the Commonwealth Department of Education.

1979 Higher School Certificate candidates and tertiary students receiving an allowance are sent forms in January 1980. Other students may obtain forms from the Admissions Section *or* Student Employment and Scholarships Section, *or* from the Commonwealth Department of Education, 59 Goulburn Street, Sydney, NSW 2000 (phone 218 8800).

Continuing students should submit applications as soon as examination results are available. New students should do so as soon as they are enrolled. All students should apply by 31 March 1980, otherwise benefits will not be paid for the earlier months of the year.

Scholarships, Cadetships, Prizes

1. *Undergraduate Scholarships* In addition to finance provided under the Commonwealth Government's Tertiary Education Assistance Scheme there are a number of scholarships, cadetships, prizes and other forms of assistance available to undergraduate students. Details of procedures for application for these awards are contained in the Calendar.

There are also special scholarships not administered by the University, information about which may be obtained from the appropriate School office.

Further information and advice regarding scholarships is available from the Student Employment and Scholarships Section in the Chancellery.

2. *Graduate Awards* An honors degree is generally an essential requirement for gaining one of the many graduate

scholarships which are available at the University. Therefore gifted students should not neglect the opportunity to qualify for honours and thus become eligible for an award.

Details of graduate awards are contained in the Calendar.

Other Financial Assistance

In addition to the Tertiary Education Assistance Scheme financed by the Commonwealth Government the following forms of assistance are available.

1. *Deferment of Payment of Fees* Deferments may be granted for a short period, usually one month, without the imposition of a late fee penalty, provided the deferment is requested prior to the due date for fee payments.

2. *Short Term Cash Loans* Donations from the Students' Union, the University Union and other sources have made funds available for urgent cash loans not exceeding $100. These loans are normally repayable within one month.

3. Early in 1973 the Commonwealth Government made funds available to the University to provide loans to students in financial difficulty. The loans are to provide for living allowances and other approved expenses associated with attendance at University. Repayment usually commences after graduation or upon withdrawal from the course. Students are required to enter into a formal agreement with the University to repay the loan. The University is unable to provide from the fund amounts large enough for all or even a major part of the living expenses of a student.

From the same source students who are in extremely difficult financial circumstances may apply for assistance by way of a non-repayable grant. In order to qualify for a grant a student must generally show that the financial difficulty has arisen from exceptional misfortune. Grants are rarely made.

The University has also been the recipient of generous donations from the Arthur T. George Foundation, started by Sir Arthur George and his family, for the endowment of a student loan fund.

In all cases assistance is limited to students with reasonable academic records and whose financial circumstances warrant assistance.

Enquiries about all forms of financial assistance should be made at the office of the Deputy Registrar (Student Services), Room 148E, in the Chancellery.

Financial Assistance to Aboriginal Students

Financial assistance is available to help Aboriginal students from the Australian Government's Aboriginal Study Grant Scheme. Furthermore, the University may assist Aboriginal students with loans to meet some essential living expenses.

All enquiries relating to the latter should be made at the office of the Deputy Registrar (Student Services), Room 148E, in the Chancellery.

Fund for Physically Handicapped and Disabled Students

The University has a small fund (started by a generous gift from a member of the staff who wishes to remain anonymous) available for projects of benefit to handicapped and disabled students. Enquiries should be made at the office of the Deputy Registrar (Student Services), Room 148E, in the Chancellery.

Rules and Procedures

The University, in common with other large organizations, has some agreed ways of doing things in order to operate for the benefit of all members. The rules and procedures listed below will affect you at some time or another. In some cases there are penalties (eg fines or exclusion from examinations) for failure to observe these procedures and therefore they should be read with care.

Admission

Where can I get information about admission?

The Admissions Office, located in the Chancellery on the upper campus, provides information for students on admission requirements, undergraduate and graduate courses and enrolment procedures. The Admissions Office is open from 9 am to 5 pm Monday to Friday (excluding the lunch hour 1 pm to 2 pm). During enrolment the office is also open for some part of the evening.

The Office provides information about special admission (including mature age entry), admission with advanced standing and admission on overseas qualifications. The Office also receives applications from students who wish to transfer from one course to another, resume their studies after an absence of twelve months or more, or seek any concession in relation to a course in which they are enrolled. It is essential that the closing dates for lodgment of applications are adhered to. For further details see the sections below on **Enrolment and Fees.**

Applications for admission to undergraduate courses from students who do not satisfy the requirements for admission (see section on **Admission Requirements** in the Calendar), from

students seeking admission with advanced standing, or from students who have a record of failure at another university, are referred by the Admissions Office to the Admissions Committee of the Professorial Board.

Students seeking to register as higher degree candidates should first consult the Head of the School in which they wish to register. An application is then lodged on a standard form and the Admissions Office, after obtaining a recommendation from the Head of School, refers the application to the appropriate Faculty or Board of Studies Higher Degree Committee.

Details of the procedure to be followed by students seeking entry to first year undergraduate degree courses at the University may be obtained from the Admissions Office or the Universities and Colleges Admissions Centre.

How do I qualify admission?

In order to enter an undergraduate course you must qualify for matriculation to the University, and be selected for admission to the Faculty or course you wish to enter. Full details of matriculation and admission requirements are contained in the Calendar and in a pamphlet obtainable at the Admissions Office.

Enrolment

How do I enrol?

All students, except those enrolling as graduate research students (see below), must lodge an authorized enrolment form with the Cashier on the day the enrolling officer signs the form or on the day their General Studies electives are approved if the course requires this.

All students, except those enroling as graduate research students and those exempted (see below), should on that day also *either* pay the required fees *or* lodge an enrolment voucher or other appropriate authority.

For details of the locations and hours for enrolment see *Enrolment Procedures 1980,* a free booklet obtainable from the Admissions Office or from your School or Faculty Office.

What happens if I am unable to pay fees at the time of enrolment?

If you are unable to pay fees by the due date you may apply to the Deputy Registrar (Student Services) for an extension of time, which may be granted in extenuating circumstances.

If a student is unable to pay the fees the enrolment form must still be lodged with the Cashier and the student will be issued with a 'nil' receipt. The student is then indebted to the University and must pay the fees by the end of the second week of the session for which enrolment is being effected. Penalties apply if fees are paid after that time (see **Fees** below) unless the student has permission from the Deputy Registrar (Student Services). Payment may be made through the mail in which case it is important that the student registration number be given accurately. Cash should not be sent through the mail.

New Undergraduate Enrolments

Persons who are applying for entry in 1980 must lodge an application for selection with the Universities and Colleges Admissions Centre, PO Box 7049, GPO, Sydney 2001, by 1 October 1979.

Those who are selected will be required to complete enrolment at a specified time before the start of Session 1. Compulsory fees should be paid on the day. In special circumstances, however, and provided class places are still available, students may be allowed to complete enrolment after the prescribed time.

Application forms and details of the application procedures may be obtained from the Admissions Office.

Re-enrolment

Students who are continuing courses (or returning after approved leave of absence) should enrol through the appropriate School in accordance with the procedures set out in the current *Enrolment Procedures* booklet, available from the Admissions Office and from School offices. Those who have completed part of a course and have been absent without leave need to apply for entry through the Universities and Colleges Admissions Centre, PO Box 7049, GPO, Sydney 2001, by 1 October 1979.

Restrictions Upon Re-enrolling

Students enrolled for the first time in any undergraduate course in the University who failed more than half their program in 1979; students who have failed more than once a subject prescribed as part of their course; and students required by the Re-enrolment Committee to show cause should not attempt to re-enrol but should follow the written instructions they will receive from the Registrar.

For the purpose of calculating a student's program, all subjects taken during the year, including repeat subjects, are counted.

Miscellaneous Enrolments

Students may be permitted to enrol as miscellaneous students in subjects not counted as part of (ie a degree or diploma) provided the Head of the School offering the subject considers it will be of benefit and there is accommodation available. Only in exceptional cases will subjects taken in this way count towards a degree or diploma. Students who are under exclusion may not be enrolled as miscellaneous students in subjects which may be counted towards courses from which they have been excluded.

Students seeking to enrol as miscellaneous students should obtain a letter of approval from the Head of the appropriate

School or his representative permitting them to enrol in the subject concerned. The letter should be given to the enrolling officer at the time of enrolment.

Final Dates for Completion of Enrolments

No enrolments for courses extending over the whole year or for Session 1 only will be accepted from new students after the end of the second week of Session 1 (14 March 1980) except with the express approval of the Deputy Registrar (Student Services) and the Heads of the Schools concerned; no later year enrolments for courses extending over the whole year or for Session 1 only will be accepted after the end of the fourth week of Session 1 (28 March 1980) except with the express approval of the Deputy Registrar (Student Services) and the Heads of Schools concerned. No enrolments for courses in Session 2 only will be accepted after the end of the second week of Session 2 (1 August 1980) except with the express approval of the Deputy Registrar (Student Services) and the Heads of Schools concerned.

How do assisted students (eg scholarship holders) enrol?

Scholarship holders or sponsored students who have an enrolment voucher or letter of authority from their sponsor should present it at the time of enrolment. Such vouchers and authorities are generally issued by the NSW Department of Education and the NSW Public Service. They are not always issued in time and students who expect to receive an enrolment voucher or other appropriate authority but have not done so must pay the fees (and arrange a refund later). Such vouchers and authorities are not the responsibility of the University and their late receipt is not to be assumed as automatically exempting a student from the requirements of enrolling and paying fees.

What special rules apply if I wish to be considered for admission with advanced standing?

If you make application to register as a candidate for any degree or other award granted by the University you may be admitted to the course of study with such standing on the basis of previous attainments as may be determined by the Professorial Board. For complete details regarding 'Admission with Advanced Standing' consult the Calendar.

Can I transfer from one course to another?

To transfer from one course to another you must apply on an application form obtainable from the Admissions Office by Friday 11 January 1980. If your application is successful you are required to comply with the enrolment procedures for the year/stage of the new course and, unless otherwise instructed, you should present the letter granting transfer to the enrolling officer. If you intend to transfer, you should also inform the enrolling officer of the School in which you were enrolled in 1979.

Can I change my course program?

If you wish to seek approval to substitute one subject for another, or add one or more subjects to your program or discontinue part or all of your program, you must make application to the Registrar through the office controlling your course, from which application forms are available. The Registrar will inform you of the decision. Application to enrol in additional subjects must be submitted by 28 March 1980 for Session 1 only and Whole Year subjects and by 15 August 1980 for Session 2 only subjects.

It is emphasized that failure to attend for any assessment procedure, or to lodge any material stipulated as part of an assessment procedure, in any subject in which a student is enrolled will be regarded as failure in that assessment procedure unless written approval to withdraw from the subject without failure has been obtained from the Registrar.

Withdrawal from courses and subjects

Courses

1. Students withdrawing from courses (see also **Subjects**, below) are required to notify the Registrar in writing. In some cases students will be entitled to fee refunds.

For details see the Calendar.

Subjects

2. Applications to withdraw from subjects may be submitted throughout the year but applications lodged after the following dates will result in students being regarded as having failed the subject concerned, except in exceptional circumstances.

(1) for one session subjects, the end of the seventh week of that session (18 April or 5 September)

(2) for whole year subjects the end of the second week of Session 2 (1 August)

How do I enrol after an absence of twelve months or more?

If you have had an approved leave of absence for twelve months or more and wish to resume your course you should follow the instructions about re-enrolling given in the letter granting your leave of absence. If you do not fully understand or have lost these instructions, then you should contact the Admissions Office before November in the year preceding the one in which you wish to resume your course.

If you have *not* obtained a leave of absence from your course and have not been enrolled in the course over the past twelve months of more, then you should apply for admission to the course through the Universities and Colleges Admissions Centre before 1 October in the year preceding that in which you wish to resume studies.

Are there any restrictions upon students re-enrolling?

The University Council has adopted the following rules governing re-enrolment with the object of requiring students with a record of failure to *show cause* why they should be allowed to re-enrol and retain valuable class places.

First-year Rule

1. A student enrolled in the first year of any undergraduate course of study in the University as set out in the relevant faculty handbook shall be required to show cause why he/she should be allowed to continue the course if he/she fails more than half the program in which he/she is enrolled. In order that students may calculate half their program, the weighting of subjects in each course is defined in *Schedule A**, which may be varied from time to time by the Professorial Board.

Repeated-failure Rule

2. A student shall be required to show cause why he/she should be allowed to repeat a subject which that student has failed more than once. *Where the subject is prescribed as part of the student's course he/she shall also be required to show cause why he/she should be allowed to continue that course.*

General Rule

3. A student shall be required to show cause if, in the opinion of the faculty or board of studies, his/her academic record is such as to demonstrate the student's lack of fitness to pursue a subject or subjects and/or course or courses.

The Session-unit System

4. (1) A student who infringes the provision of Rules **1.** or **2.** at the end of Session 1 of any year will not be required to *show cause* at that time but will be allowed to repeat the subject(s) (if offered) and/or continue the course in Session 2 of that year, subject to the rules of progression in that course.

(2) Such a student will be required to *show cause* at the end of the year, except that a student who has infringed Rule **2.** at the end of Session 1, repeats the subject(s) in question in Session 2, and passes it/them, will not be required to *show cause* on account of any such subject.

Exemption from Rules by Faculties

5. (1) A faculty or board of studies examination committee may, in special circumstances, exempt a student from some or all of the provisions of Rules **1.** and **2.**

(2) Such a student will not be required to *show cause* under such provisions and will be notified accordingly by the Registrar.

'Showing Cause'

6. (1) A student wishing to *show cause* must apply for special permission to re-enrol. Application should be made on the form available from the Examinations and Student Records Section and must be lodged with the Registrar by the dates published annually by the Registrar. A late application may be accepted at the discretion of the University.

(2) Each application shall be considered by the Re-enrolment Committee which shall determine whether the cause shown is adequate to justify the granting of permission to re-enrol.

Appeal

7. (1) Any student who is excluded by the Re-enrolment Committee from a course and/or subject(s) under the provisions of the Rules may appeal to an Appeal Committee constituted by Council for this purpose with the following membership:

A Pro-Vice-Chancellor, nominated by the Vice-Chancellor, who shall be Chairman.

The Chairman of the Professorial Board, of if he is unable to serve, a member of the Professorial Board, nominated by the Chairman of the Professorial Board, or when the Chairman of the Professorial Board is unable to make a nomination, nominated by the Vice-Chairman.

One of the category of members of the Council elected by the graduates of the University, nominated by the Vice-Chancellor.

The decision of the Committee shall be final.

(2) The notification to any student of a decision by the Re-enrolment Committee to exclude him/her from re-enrolling in a course and/or subject(s) shall indicate that the student may appeal against that decision to the Appeal Committee. In lodging such an appeal with the Registrar the student should provide a complete statement of all grounds on which the appeal is based.

*For details of Schedule A see **Restrictions upon Re-enrolling** in the Calendar.

(3) The Appeal Committee shall determine the appeal after consideration of the student's academic record, his/her application for special permission to re-enrol, and the stated grounds of appeal. In exceptional circumstances, the Appeal Committee may require the student to appear in person.

Exclusion

8. (1) A student who is required to *show cause* under the provisions of Rules **1.** or **3.** and either does not attempt to *show cause* or does not receive special permission to re-enrol from the Re-enrolment Committee (or the Appeal Committee on appeal) shall be excluded from re-enrolling in the subject(s) and course(s) on acount of which he was required to *show cause*. Where the subjects failed are prescribed as part of any other course (or courses) he/she shall not be allowed to enrol in any such course.

(2) A student who is required to *show cause* under the provisions of Rule **2.** and either does not attempt to *show cause* or does not receive special permission to re-enrol from the Re-enrolment Committee (or the Appeal Committee on appeal) shall be excluded from re-enrolling in any subject he/she has failed twice. *Where the subject failed is prescribed as part of the student's course he/she shall also be excluded from that course.* Where the subject failed is prescribed as part of any other course (or courses) he/she shall not be allowed to enrol in any such course(s).

(3) A student excluded from a course or courses under the provisions of Rule **1.** or **2.** may not enrol as a miscellaneous student in subjects which may be counted towards any such course.

Re-admission after Exclusion

9. (1) An excluded student may apply for re-admission after the period of exclusion has expired.

(2) (a) Applications for re-admission to a course should be made to the Universities and Colleges Admissions Centre before the closing date for normal applications in the year prior to which re-admission is sought. Such applications will be considered by the Admissions Committee of the relevant Faculty or Board.

(b) An application for re-admission to a subject should be made to the Registrar before 30 November in the year prior to which re-admission is sought. Such applications will be considered by the relevant Head of School.

(3) An application should include evidence that the circumstances which were deemed to operate against satisfactory performance at the time of exclusion are no longer operative or are reduced in intensity and/or evidence of action taken (including enrolment in course(s)) to improve an applicant's capacity to resume studies at the University.

(4) Applications for re-admission to a course or subject that are unsuccessful (see **9.** (2) (a), (b) respectively) will be reconsidered automatically by the Re-enrolment Committee of the Professorial Board. The decision of the Committee will be final.

10. If students fail a subject at the examinations in any year or session and re-enrol in the same course in the following year or session they must include in their program of studies for that year or session the subject which they failed. This requirement will not be applicable if the subject is not offered the following year or session; is not a compulsory component of a particular course; or if there is some other cause which is acceptable to the Professorial Board, for not immediately repeating the failed subject.

Restrictions and Definitions

11. (1) These rules do not apply to students enrolled in programs leading to a higher degree or graduate diploma.

(2) A subject is defined as a unit of instruction identified by a distinctive subject number.

How do I apply for admission to degree or diploma?

If your current program will enable you to complete all requirements for a degree or diploma, including industrial training where necessary, you should complete the form *Application for Admission to a Degree* by the dates shown in the **Calendar of Dates** (see page 2) and on the *Notification of Examination Results*. The forms are available from the Enquiry Counter in the north wing of the Chancellery and will be mailed to all potential graduates.

The completion and submission of the form ensures that:

1. The correct spelling and sequence of names is recorded on the degree certificate. **2.** Any previous academic qualifications are shown in the graduation ceremony program. **3.** All correspondence relating to the ceremony is forwarded to the correct address. ***Note:*** If notifying change of address after the form has been submitted an additional form *Final Year Students' Graduation: Change of Address* should be submitted.

If you meet all the requirements, the degree or diploma will be conferred without the necessity for further action by you. Students should advise the Registrar, in writing, if they do not wish to have the degree or diploma conferred for any reason, including the decision to proceed to an honours degree. To ensure that the degree is not conferred advice should reach the Registrar no later than 24 July 1980 for students completing at the end of Session 1, and 1 March 1981 for those completing at the end of Session 2.

Fees

Fees and penalties quoted are current at the time of publication but may be amended by the University Council without notice.

Do I have to pay for tuition?

No tuition fees are charged.

What other fees and charges are payable?

There are other fees and charges which include those charges raised to finance the expenses incurred in operating student activities such as the University Union, the Students' Union, the Sports Association and the Physical Education and Recreation Centre. Penalties are also incurred if a student fails to complete procedeures as required. Charges may also be payable, sometimes in the form of a deposit, for the hiring of kits of equipment which are lent to students for personal use during attendance in certain subjects. Accomodation charges, costs of subsistence on excursions, field work etc, and for hospital residence (medical students) are payable in appropriate circumstances.

How much is my contribution to student activities and services on campus?

All students (with the exceptions noted below) will be required to pay the following fees if enrolling for a program involving two sessions. Those enrolling for only one session will pay one-half of the Student Activities Fees, and the full University Union entrance fee, if applicable.

University Union Entrance Fee

Payable on first enrolment	$25

Student Activities Fees

University Union, annual subscription	$55
Sports Association, annual subscription	$11
Students' Union	
Students enrolling in full-time courses, annual subscription	$17
Students enrolling in part-time courses and miscellaneous subjects, annual subscription	$13
Miscellaneous annual fee	$25

This fee is used to finance expenses generally of a capital nature relating to student activities and amenities. Funds are allocated to the various student bodies for projects recommeded by the Student Affairs Committee and approved by the University Council.

Are fees charged for examinations?

Generally, there are no charges associated with examinations; however two special examination fees are applied:

Examinations conducted under special circumstances—for each subject	$11
Review of examination result—for each subject	$11

What penalties exist for late payment of fees?

The following additional charges will be made in 1980 when fees are paid late:

1. Failure to lodge enrolment form according to enrolment procedure	$20
2. Payment of fees after end of second week of session	$20
3. Payment of fees after end of fourth week of session	$40

Penalties **1.** and **2.** or **1.** and **3.** may accumulate.

Locations and Hours of Cashier

Cashier's Offices are open during the enrolment periods. Details of locations and hours are listed in *Enrolment Procedures 1980*, a free booklet obtainable from your School or Faculty Office or from the Admissions Office.

Who is exempt from payment of fees?

1. Life members of University Union, Sports Association, and Students' Union are exempt from the relevant fee or fees.

2. Students enrolled in courses classified as *External* are exempt from all Student Activities Fees and the University Union entrance fee.

3. Students enrolled in courses at the W.S. and L.B. Robinson University College and in the faculty of Military Studies are exempt from the fees mentioned above but shall pay such other fees and charges as the Council may from time to time determine.

4. University Union fees and subscriptions may be waived by the Deputy Registrar (Student Services) for students enrolled in graduate courses in which the formal academic requirements are undertaken at a part of the University away from the Kensington Campus.

5. Students who while enrolled at and attending another university (or other tertiary institution as approved by the Vice-Chancellor) in a degree or diploma course are given approval to enrol at the University of New South Wales but only in a miscellaneous subject or subjects to be credited towards the degrees or diplomas for which they are enrolled elsewhere are exempt from all Student Activities Fees and the University Union entrance fee.

6. Undergraduate students of a recognized university outside Australia who attend the University of New South Wales with the permission of the Dean of the appropriate faculty and of the Head of the appropriate school or department to take part as miscellaneous students in an academic program relevant to their regular studies and approved by the authorities of their own institution are exempt from all Student Activities Fees and the University Union entrance fee.

7. Graduate students not in attendance at the University and who are enrolling in a project only, other than for the first time, are exempt from all Student Activities Fees.

8. Graduate students resubmitting a thesis or project only are exempt from all Student Activities Fees.

9. All Student Activities Fees, for one or more sessions may be waived by the Deputy Registrar (Student Services) for graduate students who are given formal permission to pursue their studies at another institution for one or more sessions.

10. Graduate students who have completed all the work for a qualification at the commencement of Session 1, except for the submission of the relevant thesis or project report, may be exempted from the payment of Student Activities Fees by the Deputy Registrar (Student Services) on production of an appropriate statement signed by the relevant supervisor or Head of School.

Is exemption from membership possible?

The Registrar is empowered to grant exemption from membership of the University Union, the Students' Union and the Sports Association to students who have a genuine conscientious objection to such membership, subject to payment of the prescribed fees to the Miscellaneous Fund.

How much will textbooks and special equipment (if any) cost?

You must allow quite a substantial sum for textbooks. This can vary from $250 to $600 per year depending on the course taken. These figures are based on the cost of new books. The Students' Union operates a secondhand bookshop. Information about special equipment costs, accommodation charges and cost of subsistence on excursions, field work, etc, and for hospital residence (medical students) are available from individual schools.

Will I receive any refund if I withdraw from a course?

Yes. The following rules apply:

1. If you withdraw from courses you are required to notify the Registrar in writing.

2. Where notice of withdrawal from a course is received by the Registrar before the first day of Session 1 a refund of all fees paid will be made. After that time only a partial refund will be made. See the Calendar for details.

What happens if I fail to pay the prescribed fees or charges?

If you fail to pay prescribed fees or charges or become otherwise indebted to the University and you fail to make a satisfactory settlement of your indebtedness upon receipt of due notice then you cease to be entitled to the use of University facilities. You will not be permitted to register for a further session, to attend classes or examinations, or be granted any official credentials. In the case of a student enrolled for Session 1 only or for Sessions 1 and 2 this disbarment applies if any portion of fees is outstanding after the end of the eighth week of Session 1 (25 April 1980). In the case of a student enrolled for Session 2 only, this disbarment applies if any portion of fees is outstanding after the end of the sixth week of Session 2 (29 August 1980).

In special cases the Registrar may grant exemption from disqualifications referred to in the preceding paragraph upon receipt of a written statement setting out all relevant circumstances.

Can I get an extension of time to pay?

If you apply before the due date and extenuating circumstances exist, an extension of time may be granted. Apply to the Deputy Registrar (Student Services).

Examinations

When are examinations held?

Examinations for Session 2 and for Whole Year subjects are held in November/December. Examinations for Session 1 subjects are held during the Midyear Recess. Provisional timetables indicating the dates and times of examinations and notices of the location of examinations are posted on the University notice boards on the campus, including the Western Grounds Area. Final timetables indicating the dates, times, locations and authorized aids are available for students two weeks before the end of each session. You must advise the Examinations Unit (the Chancellery) of any clash in examinations. Details of dates are published in the **Calendar of Dates** (see pages 2-4 for May/June and October/November).

Misreading of the timetable is not an acceptable excuse for failure to attend an examination.

In the assessment of your progress in courses, consideration may be given to work in laboratory and class exercises and to any term or other tests given throughout the year as well as to the results of written examinations.

How are examination passes graded?

Passes are graded: High Distinction, Distinction, Credit and Pass. Satisfactory indicates the satisfactory completion of a subject for which graded passes are not available. A Pass Conceded may be granted to a student whose mark in a subject is slightly below the standard required for a pass but whose overall satisfactory performance warrants this concession.

A Pass Conceded in a subject will normally allow progression to another subject for which the former subject is a prerequisite. In a particular subject, however, a subject authority may specify that a pass conceded is insufficient to meet a particular subject prerequiste.

When are examination results available?

Final examination results will be posted to your term address (which can be altered up to 30 November) or to your vacation address (fill in a form obtainable at the Enquiry Desk, Chancellery, also by 30 November). Results are also posted on School noticeboards and in either the University library or the foyer of the Sir John Clancy Auditorium. No examination results are given by telephone.

Can examinations results be reviewed?

Examination results may be reviewed for a fee of $11 a subject, which is refundable in the event of an error being discovered. This review consists mainly of ensuring that all questions attempted have been marked and of checking the total of the marks awarded. Applications for review must be submitted on the appropriate form to the Examinations and Student Records Section together with the necessary fee not later than fifteen working days after the issue of the *Notification of Results* form.

A review of a result is not a detailed assessment of a student's standard of knowledge and understanding of, and skills in, the subject.

Are allowances made if students are sick before or during an examination?

A student who through serious illness or other cause outside his control *is unable to attend an examination* is required to bring the circumstances (supported by a medical certificate or other evidence) to the notice of the Registrar *not later than seven days after the date of the examination,* unless there are exceptional circumstances.

A student who believes that his performance in a subject has been affected by serious illness *during the year* or by other cause outside his control, and who desires these circumstances to be taken into consideration in determining his standing, is required to bring the circumstances (supported by a medical certificate or other evidence) to the notice of the Registrar as soon as the circumstances are known but *not later than seven days after the date of the examination,* unless there are exceptional circumstances.

A student who attempts an examination, yet claims that his performance is prejudiced by sickness *on the day of the examination* must notify the Registrar or Examination Supervisor *before, during, or immediately after the examination,* and may be required to submit to medical examination.

When submitting a request for consideration candidates are required to give details of their registration number, address, course, specialization, year or stage, full or part-time and subject number, title and date of the examination affected.

A student suffering from a physical disability which puts him at a disadvantage in written examinations should apply to the Assistant Registrar, Examinations and Student Records Section (Ground Floor, the Chancellery) immediately the disability is known. If necessary, special arrangements will be made to meet the student's requirements.

Use of electronic calculators

Where the use of electronic calculators has been approved by a faculty or school, examiners may permit their use in examinations. Authorized electronic calculators are battery operated with the minimum operations of addition, subtraction, multiplication and division and are of a type in common use by university students. They are not provided by the University, although some schools may make them available in special circumstances.

Compulsory Industrial Training

Examinations including deferred examinations will not be permitted away from the campus unless the candidate is engaged on *compulsory* industrial training. Candidates must advise the Officer-in-Charge, Examinations Unit, immediately the location of the industrial training is known. Special forms for this purpose are available at the Enquiry Desk, in the north wing of the Chancellery.

Arrival at Examinations

Examination rooms will be open to students 25 minutes before the commencement of the examination, Candidates are requested to be in their places at least 15 minutes before the commencement to hear announcements. The examination paper will be available for reading 10 minutes before commencement.

Use of Linguistic Dictionaries

All answers must be in English unless otherwise directed. Foreign students who have the written approval of the Assistant Registrar, Examinations and Student Records Section, may use standard linguistic dictionaries. Dictionaries should be presented for approval not later than 14 days before the commencement of the examination period.

How are examinations conducted?

Examinations are conducted in accordance with the following rules and procedure:

1. Candidates are required to obey any instruction given by an examination supervisor for the proper conduct of the examination.

2. Candidates are required to be in their places in the examination room not less than 15 minutes before the time for commencement.

3. No bag, writing paper, blotting paper, manuscript or book, other than a specified aid is to be brought into the examination room.

4. Candidates shall not be admitted to an examination after 30 minutes from the time of commencement of the examination.

5. Candidates shall not be permitted to leave the examination room before the expiry of 30 minutes from the time the examination commences.

6. Candidates shall not be re-admitted to the examination room after they have left it unless during the full period of their absence they have been under approved supervision.

7. Candidates shall not by an improper means obtain, or endeavour to obtain, assistance in their work, give, or endeavour to give, assistance to any other candidate, or commit any breach of good order.

8. All answers must be in English unless otherwise stated. Foreign students who have the written approval of the Registrar may use standard linguistic dictionaries.

9. Smoking is not permitted during the course of examinations.

10. A candidate who commits any infringement of the rules governing examinations is liable to disqualification at the particular examination, to immediate expulsion from the examination room, and to such further penalty as may be determined in accordance with the By-laws.

Abolition of Deferred Examinations

The system of formal deferred examinations administered by the Registrar's Division was abolished from 1 March 1978. Schools and Faculties may carry out whatever additional assessment may be considered appropriate, including assessment or additional assessment on medical or compassionate grounds.

Can I buy copies of previous examination papers?

Yes—for 5c each from the University Union's Upper Campus Shop in the Commerce Building.

Essays

Should I list my sources?

Students are expected to acknowledge the sources of ideas and expression that they use in submitted work. To provide adequate documentation is not only an indication of academic honesty but also a courtesy enabling the marker to consult your sources with ease. Failure to do so may constitute plagiarism, which is subject to a charge of academic misconduct.

Student Conduct on Campus

Is there a detailed code of rules related to the general conduct of students?

No. The University has not considered it necessary to formulate a detailed code of rules relating to the general conduct of students.

Now that you have become a member of the University you should understand that this involves an undertaking on your part to observe its rules, By-laws and other requirements, and to pay due regard to any instructions conveyed by any officer of the University.

What are the rules related to attendance at classes?

You are expected to be regular and punctual in attendance at all classes in the course or subject in which you are enrolled. All applications for exemption from attendance at lectures or practical classes must be made in writing to the Registrar.

In the case of illness or of absence for some other unavoidable cause you may be excused by the Registrar for non-attendance at classes for a period not more than one month or, on the recommendation of the Dean of the appropriate Faculty, for a longer period. Applications should be addressed to the Registrar and, where applicable, should be accompanied by a medical certificate. If assessment procedures have been missed, this should be stated in the application.

If you attend less than 80per cent of possible classes, you may be refused final assessment in that subject.

Why is my University and Union card important?

All students enrolled for courses leading to degrees and/or diplomas, except those exempt from fees, are issued with a University and Union membership card. Your card must be carried during attendence at the University and shown on request.

The number appearing on the front of the card above your name is your student registration number used in the University's records. This number should be qouted in all correspondence.

The card must be presented when borrowing from the University libraries, when applying for travel concessions and when notifying a change of address. It must also be presented when paying fees on re-enrolment each year when it will be made valid for the year and returned. Failure to present the card could result in some inconvenience in completing re-enrolment.

If you lose your card it is important to notify the University Union as soon as possible.

New students will be issued with cards on enrolment.

Why should I inform the University if I change my address?

If you change your address you should notify the Student Records Section of the Registrar's Division as soon as possible. Failure to do this could lead to important correspondence (including examination results) not reaching you. The University cannot accept responsibility if official communications fail to reach students who have not notified their change of address. *Change of Address Advice* forms are available at Faculty and School offices and at the Enquiry Desk in the north wing of the Chancellery.

All communications from the University, including examination results, will be sent to the session address. Change of address advice will be accepted up to 30 November, except for final-year students wishing to change their *Submissions of Details Associated with Graduation* form. Changes to this form will be accepted up to a date four weeks before the student's graduation ceremony.

Will the University release information to third parties without my permission?

In general, no. The University treats examination results and information it receives from a student as confidential and will not reveal such information to third parties without the permission of the student except at the discretion of senior officers in circumstances considered of benefit to the student and when it is either impossible or impractible to gain the student's prior permission. This happens rarely. This policy is considered so important that it often involves officers of the University in very difficult situations, for example, when they must refuse to reveal the address of a student to parents or other relatives.

In spite of the policy, there are sometimes accusations made that the University has revealed information, including addresses (especially to insurance companies).

All students should be aware that students' addresses are eagerly sought by various commercial agents and that sometimes tricks are used to obtain them. For example, from time to time people claiming to be from the University telephone students or their families and ask for information (usually another student's address) which is often given, unsuspectingly. There is evidence that this is a technique used by commercial agents.

It would be generally helpful if students (and their families and friends) are cautious in revealing information, making it a practice to ask the name, position, and telephone extension of any caller claiming to be from the University and, if suspicious, returning the call to the extension given.

How are student records kept up to date?

Enrolment details forms will be sent to all students on 24 April and 12 September. It is not necessary to return these forms unless any information recorded thereon is incorrect. Amended forms must be returned to the Examinations and Student Records Section within fourteen days. Amendments notified after the closing date will not be accepted unless exceptional circumstances exist and approval is obtained from the Registrar. Amended forms returned to the Registrar will be acknowledged in writing within 14 days.

Is there any rule related to the ownership of students' work?

Yes. The University reserves the right to retain at its own discretion the original or one copy of any drawings, models, designs, plans and specifications, essays, theses or other work executed by you as part of your courses, or submitted for any award or competition conducted by the University.

Can I get a permit to park on campus?

Only a limited amount of parking is available on campus. Copies of the University's parking rules may be obtained on application to Room 240, the Chancellery.

Lost property?

All enquiries concerning lost property should be made to the Superintendent on extension 3580 or to the Lost Property Office at the Union.

Further Information

Where can I get further information concerning courses, admission requirements, scholarships and enrolment procedure?

General

Any student who requires information on the application of these rules or any service which the University offers, may make enquiries in the Chancellery and in case of difficulties should visit the office of the Deputy Registrar (Student Services).

Notices

Official University notices are displayed on the noticeboards and students are expected to be aquainted with the notices which concern them. These boards are in the Biological Sciences Building, the Mathews Building, the Chancellery (lower ground floor), Central Lecture Block, Dalton Building (Chemistry), Electrical Engineering Building, Main Building (Physics and Mining Engineering) and in the Western Grounds Area.

Notices are placed on the University noticeboards each month detailing forthcoming important dates. Any change to the **Calendar of Dates** is included in these notices.

Appeals

Section 5(c) of chapter III of the By-laws provides: 'Any person affected by a decision of any member of the Professorial Board (other than the Vice-Chancellor) in respect of breach of discipline or misconduct may appeal to the Vice-Chancellor, and in the case of disciplinary action by the Vice-Chancellor, whether on appeal or otherwise, to the Council'.

The Calendar

Please consult the Calendar if you want a more detailed account of the information contained in this section.

Vice-Chancellor's Official Welcome to New Students

All students initially enrolling in the University are officially welcomed by the Vice-Chancellor and Principal at the following times:

Full-Time Students

In the Faculties of Architecture, Arts, Biological Sciences, Commerce, Law:

Thursday 28 February 1980
11 am in the Clancy Auditorium

In the Faculties of Applied Science, Engineering, Medicine, Professional Studies, Science, and the Board of Studies in Science and Mathematics:

Friday 29 February 1980
11 am in the Clancy Auditorium

Part-time Students

Thursday 28 February 1980
6.30 pm in the Clancy Auditorium

Meeting for Parents of New Students

Friday 29 February 1980
7.30 pm in the Clancy Auditorium

Foreword

Since the beginning of recorded history man has sought to endow his environment with physical and spiritual qualities appropriate to his way of life. He has developed the materials and techniques available to him to adapt the natural environment to his own purposes, and in so doing has endeavoured to create buildings of enduring beauty. In each great culture of the past this search produced characteristic architecture which reflected the aspirations and the capabilities of its age.

To-day all of those concerned with the quality of our physical environment are faced with problems of increasing difficulty resulting from the complexity of modern requirements, and the range and diversity of the new materials and techniques available to them. For the first time in history material progress threatens to outstrip man's visionary and creative powers and to overwhelm his capacity for assimilation.

The professions working in the field of the built environment will be called upon to provide new solutions to problems resulting from the accelerating rate of population growth and from man's impact on the environment. They will have to strive to create a built environment worthy of the opportunities which science and technology are placing at their disposal.

The courses offered by the Faculty are designed to combine education in the specific professional field selected by the student with a broad general education in the environmental fields. The undergraduate courses aim to prepare the student for the vocation of his choice, and opportunities for further study and research at graduate level are available for those who seek to enrol for higher degrees.

Faculty Information

Who to Contact

If you require advice about enrolment, degree requirements, progression within course, or any other general faculty matters, contact:

Mr Paul Johnson, Executive Assistant to the Dean, Faculty of Architecture
Room 102, Architecture Building. Extension 2300.

For information and advice about subject content and requirements contact the appropriate person below:

Professor Eric Daniels, School of Architecture
Room 501, Architecture Building. Extension 3454.

Professor Peter Spooner, School of Landscape Architecture
Room 508, Architecture Building. Extension 3425.

Mrs Noela Jorm, School of Building
Room 407A, Architecture Building. Extension 3607.

Professor Hans Westerman, School of Town Planning
Room 209, Old Main Building. Extension 2307.

Dr Bill Lawson, Department of Industrial Arts
Room 101, Hut 34, Western Campus. Extension 2496.

Professor J. M. Freeland, Graduate School of the Built Environment
Room 200, Architecture Building. Extension 2301.

Faculty of Architecture Enrolment Procedures

All students re-enrolling in 1980 should obtain a copy of the free booklet *Architecture Enrolment Procedures 1980* available from School Offices and the Admissions Office. This booklet provides detailed information on enrolment procedures and fees, enrolment timetables by Faculty and course, enrolment in miscellaneous subjects, locations and hours of Cashiers and late enrolments.

Town Planning Degree Course

Before proceeding on practical experience Town Planning students are required to obtain instruction relating to enrolment procedure from the School of Town Planning office. This particularly applies to Third and Fourth year students.

Bachelor of Building Degree Course

The Building course is offered on a Credit Point Semester System basis and students are required to enrol for the full year (two semesters) on the dates and at the times shown in the booklet *Architecture Enrolment Procedures 1980.*

Building students who elect to take their industrial semester in Session 1 in any year are required to enrol at the beginning of that year.

Enrolment for Session 2 subjects is a preliminary enrolment and accepted subject to the student having obtained the appropriate prerequisites before commencement of that session.

Rules for Progression

Progression in courses offered in the Faculty of Architecture is generally dependent on the successful completion of prerequisites and/or co-requisites for subjects as listed in the schedules of subjects for each course.

In addition, in the School of Town Planning and School of Landscape Architecture, where the academic record of students is not of satisfactory standard, the Head of School may recommend a restricted program.

Library Facilities

Although any of the university libraries may meet specific needs, the staff and students of the Faculty of Architecture are served mainly by the Physical Sciences Library and the Studio Collection housed in the Faculty of Architecture. There is also some material still contained in the Undergraduate Library.

The Physical Sciences Library

This library serves the information needs of the undergraduate students, graduate students and members of the academic staff. It contains books, a large collection of journals and guides to the use of the literature in the forms of abstracting and indexing journals in the subject areas of pure science, technology and architecture. The library also houses a growing map collection and some microfilm material. All material in the library bears the prefix 'P' and is indexed in the library's catalogue on Level 2. There is also a catalogue in the Physical Sciences Library. Seating is for approximately 300 people. A number of room carrels and seminar rooms are available for use. Photocopying facilities are provided but journals may not be borrowed from the collection. Library staff on Level 7 are happy to assist readers with enquiries. Further details are contained in the Physical Sciences Library guide.

The Studio Collection contains a small amount of material which duplicates that contained in the Physical Sciences Library. The Studio Collection is open 9.30 am to 4.30 pm Monday to Friday, and material cannot be borrowed from the library.

Students will also wish to use the Undergraduate Library for associated reading.

Physical Sciences Librarian **Marian Bate**

The Undergraduate Library

This library caters for the library needs of first and second year students and other groups where large numbers require mass teaching.

The Undergraduate Library provides a reader education program and reader assistance service aimed at teaching students the basic principles of finding information.

Services of particular interest to undergraduates and academic staff are:

- **The Open Reserve Section,** housing books and other material which are required reading.
- **The Audio-Visual Section,** containing cassette tapes mainly lectures and other spoken word material. The Audio-Visual Section has wired study carrels and cassette players for student use.

Undergraduate Librarian **Pat Howard**

Faculty Laboratories

Research Laboratories

The Faculty controls Research Laboratories situated on campus at Kensington and at the University of New South Wales Research Station, King Street, Randwick. The laboratories have sections equipped for work on Environment and Climate, Materials, Model Testing, Services, Lighting and Acoustics. Extensive testing and research equipment and workshop facilities are available, including a wind-rain machine, a weatherometer, an artificial sky and sun, a structural modelling facility, a structural testing bay and a controlled atmosphere chamber. The equipment and facilities of the Laboratory are continually being expanded. Research work and testing programs carried out in the Laboratories include:

Efficiency of tiled roofs of various pitch, under extreme weather conditions.

Study of the performance of bricks and brickwork.

Condensation behaviour of double-glazed windows.

Abrasion properties of floor materials.

Transfer of heat and moisture through wall elements.

Vibration characteristics of large prestressed concrete structure.

Applications of motor-mesh (ferro-cimento) structures in building.

Penetration of moisture into and through concrete.

Development of methods of extending the use of solar energy and prefabrication techniques in domestic architecture.

Development of form-finding techniques and fabrication methods for folded-surface structures.

Development of techniques for earth-wall construction. Study of noise transmission in buildings.

Investigation of traffic noise measurement, analysis and prediction.

The effectiveness of artificial luminous environments.

Computing Facilities Laboratory

The Faculty has established a laboratory for research and teaching of computing methods, with particular emphasis on the use of computer graphics. The laboratory, situated in the Architecture Building, has the following major equipment: PDP 11/40 computer with maximum configuration in memory and disk; Tektronix storage tube graphics terminals with hard copy and digitizing capability; a refresh screen computer-based graphics terminal with light pen; card reader, printer plotter, and several interactive terminals.

The above equipment is optionally connected by data link to the University's central computing system, a major Cyber 72/171 multiprocessor configuration. Active research is under way in the following areas:

The use of computing techniques and graphics in architectural design.

Rational computer-based documentation methods in building. The development of management information systems for building organizations.

Analysis and development of rational approaches to landscape design and planning.

Various projects in the general areas of environmental and building science.

Student Clubs and Societies

Students have the opportunity of joining a wide range of clubs and societies. Many of these are affiliated with the Students' Union. There are numerous religious, social and cultural clubs and also many sporting clubs which are affiliated with the Sports Association.

Clubs and societies seeking to use the name of the University in their title, or seeking University recognition, must submit their constitutions either to the Students' Union or the Sports Association if they wish to be affiliated with either of these bodies, or to the Registrar for approval by the University Council.

Industrial Arts Society

The Industrial Arts Society aims at providing opportunities for students to meet staff and fellow students through both social functions and educational activities such as films, lectures, seminars and visits to promote awareness of the opportunities available in the field of Industrial Arts.

Membership is open to all students of the Department of Industrial Arts including graduate students. The Annual General Meeting is held in March. Further details regarding membership and activities may be obtained by contacting the Secretary of the Society, C/- Department of Industrial Arts, Western Grounds Area.

Undergraduate Study

The Faculty of Architecture consists of the School of Architecture, the School of Building, the Department of Industrial Arts, the School of Landscape Architecture, the School of Town Planning and the Graduate School of the Built Environment. These Schools and Department conduct undergraduate courses in the fields of architecture, building, town planning, landscape architecture and industrial arts. The courses provide education and training in the arts and sciences involved in the design and construction of buildings, in the development of cities, in landscape and in industrial arts. In addition to professional and vocational training the courses include general studies subjects to provide graduates with a broad understanding of the humanities and the social sciences.

School of Architecture

Head of School
Professor G. E. Roberts
Administrative Officer
Mr R. Watkins

Architecture is concerned with the design and construction of buildings. Today the process of design and construction reflects the increasingly technological age in which we live, and contemporary architects require a wide range of knowledge and skills if they are to fulfil their important role in society. Foremost amongst the architect's skills is the ability to design, for it is as designers that architects make their greatest contribution to society. But the practice of architecture involves knowledge in such diverse fields as structures, economics, law, and an understanding of broad environmental factors. Architecture is a synthesis of art and science, and, while it is essential for the courses offered by the School to reflect the advances in science and technology on the one hand, and the changing needs of society on the other, it is also important that they encourage students to develop their own interests and creative abilities within the framework of the undergraduate courses offered by the School.

The courses in Architecture currently offered are the:
Bachelor of Architecture Course (3270/3280)
and the
Bachelor of Science (Architecture) Course (3270/3290)

These courses replace the previously offered Bachelor of Science (Architecture) course (3370) and Bachelor of Architecture course (3300).

Courses 3270, 3280 and 3290 were offered to students who commenced their studies in 1978; in 1979 they were offered to all students in the School except those who were enrolling in Year 3 of Course 3300.

Bachelor of Science (Architecture) and Bachelor of Architecture Degree Courses

These undergraduate courses lead to the award of the BSc(Arch) pass degree, the BSc(Arch) degree with honours, and the BArch degree for which honours may be awarded based on performance throughout the course.

The subjects in these courses are offered on a semester-unit credit-point basis. Credit points generally correspond to class hours per week per semester, and it is expected that students

take a program of 26 credit points per semester. The minimum time, and the credit points required to complete the degree courses offered by the School are as follows:

	Minumum time (semesters)	Credit points
BSc(Arch) pass degree	6	156
BSc(Arch) degree with Honours	8	208
BArch degree	10	240
BSc(Arch) and BArch degrees	11	266

Students commencing their studies in architecture enrol in the BSc(Arch)/BArch program (Course 3270) and undertake a mandatory program of study in the first two semesters. Thereafter students may, with the approval of the Head of School, take subjects in the order best suited to their individual preferences, subject to prerequisite requirements and provided the subjects are being offered in the appropriate semester. On acquiring 130 credit points, and after the completion of at least five semesters of study, students proceeding to the award of the BArch degree transfer into the BArch program (Course 3280) and students proceeding to the award of the BSc(Arch) degree or the BSc(Arch) degree with Honours transfer into the BSc(Arch) program (Course 3290).

Students may, with the approval of the Head of School, transfer from the BArch program to the BSc(Arch) program or from the BSc(Arch) to the BArch program. It should be noted that credit points gained in the BSc(Arch) program (Course 3290) cannot be credited towards the award of the BArch degree, and that credit points gained in the BArch program (Course 3280) cannot be credited towards the award of the BSc(Arch) degree.

Subjects are offered in accordance with a program to be approved annually. The program of study for students in the BSc(Arch) degree course, either the pass degree course or the honours degree course, requires that not less than 70 per cent of the subjects taken be offered by the Faculty of Architecture, and not more than 30 per cent of the subjects taken be offered by other Schools, Boards of Studies or Faculties of the University. The program of study for students in the BArch degree course and seeking professional qualification provides for 60 per cent of study time being devoted to mandatory core subjects and 40 per cent to elective subjects. Normally core subjects are offered in alternate semesters and elective subjects according to demand and the availability of staff and resources.

3270/3290
Bachelor of Science (Architecture) — Pass Course

Bachelor of Science (Architecture) BSc(Arch)

This course, leading to the award of the Bachelor of Science(Architecture) degree, aims to provide students with the opportunity to specialize in a particular field of architectural study in accordance with an approved program. A wide range of elective subjects in areas of study including history, the science of buildings, management, technology and design are provided. The course may be completed in a minimum of six semesters of full-time study and with the gaining of 156 credit points. The program of study is as follows:

Mandatory Subjects

	Credit points
First semester	25
Second semester	24
Graduation semester (including Graduation Project of 8 credit points)	26

Elective Subjects

Minimum of credit points which must be taken from subjects offered by the Department of General Studies	6
Minimum of credit points which must be taken from subjects offered by the Faculty of Architecture. These may be either core or elective subjects	34
Maximum of credit points which may be taken from subjects available in other Schools, Boards of Studies or Faculties of the University	41
	156

The 26 credit points gained in the graduation semester may only be credited to the BSc(Arch) degree program.

3270/3290
Bachelor of Science (Architecture) — Honours Course

Bachelor of Science (Architecture) BSc(Arch)

Enrolment in this course is based upon performance in the BSc(Arch) pass degree and on the standard achieved in the Graduation Project. It involves a minimum of two semesters of full-time study of an approved program. To qualify for this degree the program of study is as follows:

	Credit points
BSc(Arch) Pass Degree to be obtained in accordance with the program set out above	156
Honours Semester I	26
Honours Semester II	26
	208

The 52 credit points gained in the Honours Semester may be credited only to the BSc(Arch) degree with Honours.

3270/3280
Bachelor of Architecture Course

Bachelor of Architecture
BArch

This course provides the academic education and training necessary to obtain professional qualifications in architecture. It aims to provide students with both practical and theoretical training, and to develop the skills and techniques involved in the design and construction of buildings and also contains a balance of building technology, science, history, practice, management and architectural design. The following program of study offers a range of elective subjects which enables students to major in areas of study of their choice:

Mandatory Subjects

	Credit points
First semester	25
Second semester	24
The core subjects listed in the schedule of subjects	92

Elective Subjects

Minimum of credit points which must be taken from subjects offered by the Department of General Studies	12
Minimum of credit points which must be taken from subjects offered by the Faculty of Architecture	48
Maximum of credit points which may be taken from subjects offered by other Schools, Boards of Studies and Faculties of the University	21
Thesis	12
Practical Experience	
Approved practical experience	6
	240

Students are required to obtain six months' practical experience in an architect's office. The arrangements for this experience are to be approved by the School, and students are required to provide evidence of the scope and nature of the practical experience obtained. Students may not normally enrol in other subjects while obtaining approved practical experience.

Honours for this degree may be awarded based on performance throughout the course.

The course has been arranged in the following five subject areas:

	Credit points for core subjects
1. Architectural Design	
General	14
Specific	36
2. Architectural Environment	29
3. Technology	34
4. Practice	11
5. Communication	17
	141

The arrangement of the course in five subject areas identifies the main fields of study. The study of architecture involves the synthesis of these areas of study and, in the program leading to the award of the BArch degree, the synthesis is achieved in the studio through the design projects included in the syllabus for *Architectural Design—Specific*, as set out in the schedule of subjects (see following pages).

Subjects of the First Two Semesters

The mandatory subjects of the first two semesters of all undergraduate courses in architecture are as follows:

First Semester

		Credit points
11.4101	Principles of Design	4
11.4301	Context of Architecture	5
11.4401	Principles of Construction	6
11.4402	Structures and Materials	4
11.4601	Introduction to Communication	6
		25

Second Semester

11.4201	Living Unit	4
11.4303	Introduction to Architectural Science	4
11.4307	World Architecture	3
11.4403	Principles of Structures	4
11.4501	Practice and Management I	2
11.4602	Introduction to Computing	2
11.4603	Graphic Communication	5
		24

In addition students may, in the Second Semester, take elective subjects up to the value of 3 credit points.

Progression and Re-Enrolment

Re-enrolment is subject to normal University regulations which are set out in the Calendar. Subjects which have prerequisites may not be attempted until the appropriate prerequisite has been passed. In particular circumstances prerequisite requirements may be waived by the Head of School.

Honours

The Bachelor of Science (Architecture) degree may be awarded with Honours after completion of the BSc(Arch) Honours program, in accordance with current Faculty regulations. Honours are Class I *or* Class II Division I *or* Class II Division II.

The Bachelor of Architecture degree may be awarded with Honours based upon the quality of performance in the course and in accordance with current Faculty regulations. Honours are Class I *or* Class II Division I *or* Class II Division II.

Registration and Professional Recognition

In accordance with normal practice when courses are revised, the School of Architecture follows the procedures necessary to ensure that the revised Bachelor of Architecture degree is recognized by the Board of Architects of New South Wales for the purpose of legal registration.

It is anticipated that the introduction of the revised BSc(Arch) and BArch courses will not lead to any change to the conditions for **'Registration and Professional Recognition'** as set out later in this section.

Courses 3270, 3280 and 3290: Schedule of Subjects

No.	Subject Name	Credit Points	Prerequisites
Architectural Design — General			
Core Subjects			
11.4101	Principles of Design	4	nil
11.4102	Design Theory I	5	11.4101
11.4103	Design Theory II	5	11.4102, 11.4201
Elective Subjects			
11.4120	Design Theory III	4	11.4103
11.4121	Theory of Form	4	11.4103
11.4122	Theory of Architecture I	4	11.4103
11.4123	Theory of Architecture II	4	11.4122
11.4124	Geometry & Design	4	11.4103
11.4125	Interior Design I	4	nil
11.4126	Interior Design II	4	11.4125
11.4127	Design for Conservation	4	11.4328
11.4128	Computed Design Projects	6	11.4602, 11.4103
11.4129	Research & Survey Methods	4	11.4103
11.4130	Criticism & Evaluation	4	11.4103
11.4131	Principles of Dwellings	3	11.4102, 11.4201
Architectural Design — Specific			
Core Subject			
11.4201	Living Unit	4	nil
Core and Elective Subjects			
Group A			
one *subject compulsory,* *the others may be taken as electives*			
11.4211	Cultural Facilities I	6	11.4303, 11.4401
11.4212	Commercial Facilities I		
11.4213	Health and Welfare Facilities I		
11.4214	Educational Facilities I		

Courses 3270, 3280 and 3290: Schedule of Subjects (continued)

No.	Subject Name	Credit Points	Prerequisites

Architectural Design — Specific (continued)

Core and Elective Subjects

Group B

one *subject compulsory,*
the others may be taken as electives

11.4221	Detached Houses	6	11.4102, 11.4404, 11.4201 *and* **one** from 11.4211 to 11.4214
11.4222	Group Dwellings		
11.4223	Housing in Tropical, Sub-tropical and Arid Zones		

Group C

one *subject compulsory,*
the others may be taken as electives

11.4230	Community Facilities II*	12	11.4102, 11.4405, 11.4201 *and* **one** from 11.4211 to 11.4214
11.4231	Commercial Facilities II	6	
11.4232	Industrial Facilities		
11.4233	Health and Welfare Facilities II		
11.4234	Government Facilities I		

Group D

one *subject compulsory,*
the others may be taken as electives

11.4240	Residential Facilities II**	12	11.4103, 11.4407, **one** from 11.4221 to 11.4223 *and* **one** from 11.4230 to 11.4234
11.4241	Urban Housing	6	
11.4242	Low-Cost Housing		
11.4243	Tourist Facilities		

Group E

one *subject compulsory,*
the others may be taken as electives

11.4250	Community Facilities III***	16	11.4407, 11.4408 *and* **one** from 11.4240 to 11.4243 at Credit grade or better
11.4251	Educational Facilities II	8	11.4407, 11.4408, 11.4103, **one** from 11.4221 to 11.4223 *and* **one** from 11.4230 to 11.4234; plus 11.4345 *or* 36.411 for 11.4254 and 11.4256, *and* 11.4123 for 11.4257
11.4252	Government Facilities II		
11.4253	Cultural Facilities II		
11.4254	Urban Development		
11.4255	Recreational Facilities		
11.4256	Transport Buildings		
11.4257	Ecclesiastical Architecture		

*A student who has not previously passed any subject in Group C is, on passing 11.4230, awarded 6 core credit points and 6 elective credit points. A student who has previously passed one or more subjects in Group C is, on passing 11.4230, awarded 12 elective credit points.

**A student who has not previously passed any subject in Group D is, on passing 11.4240, awarded 6 core credit points and 6 elective credit points. A student who has previously passed one or more subjects in Group D is, on passing 11.4240, awarded 12 elective credit points.

***A student who has not previously passed any subject in Group E is, on passing 11.4250, awarded 8 core credit points and 8 elective credit points. A student who has previously passed one or more subjects in Group E is, on passing 11.4250, awarded 16 elective credit points.

Courses 3270, 3280 and 3290: Schedule of Subjects (continued)

No.	Subject Name	Credit Points	Prerequisites

Architectural Environment

Core Subjects

11.4301	Context of Architecture	5	nil
11.4303	Introduction to Architectural Science	4	nil
11.4304	Thermal Design of Buildings	3	11.4303
11.4305	Lighting of Buildings	3	11.4303
11.4306	Acoustics of Buildings	3	11.4303
11.4307	World Architecture	3	nil
11.4308	Western Architecture	3	11.4307
11.4309	Australian Architecture	3	11.4308
36.411	Town Planning	2	11.4309

Elective Subjects

11.4320	Geometry	3	nil
11.4321	Physics	4	nil
11.4322	Solar Energy	2	11.4304, 11.4407
11.4323	Room Acoustics	2	11.4306
11.4324	Lighting Design	2	11.4305
11.4325	Tropical Architecture	2	11.4303
11.4326	Acoustics Research	4	11.4306
11.4327	Lighting Research	4	11.4324
11.4328	Appropriate Technology	2	11.4301, 11.4303
11.4330	Modern Architecture	2	11.4308
11.4331	The Australian House since 1900	2	11.4309
11.4332	Historical Research A	3	11.4309, 145 credit points
11.4333	Historical Research B	3	11.4309, 145 credit points
11.4334	Historical Research C	3	11.4309, 145 credit points
11.4335	Eastern Architecture	2	11.4307
11.4336	Measured Studies of Historic Structures	3	11.4308, 11.4603
11.4340	Cognition & Behaviour A	3	11.4301
11.4341	Cognition & Behaviour B	3	11.4340
11.4342	Transport Systems	4	36.411
11.4343	Urban Planning	4	36.411
11.4344	Landscape Planning	4	11.4303
11.4345	Urbanism	2	11.4309

Technology

Core Subjects

11.4401	Principles of Construction	6	nil
11.4402	Structures & Materials	4	nil
11.4403	Principles of Structures	4	nil

Courses 3270, 3280 and 3290: Schedule of Subjects (continued)

No.	Subject Name	Credit Points	Prerequisites
Technology (continued)			
Core Subjects			
11.4404	Structures & Construction A	5	11.4401, 11.4402, 11.4403
11.4405	Structures & Construction B	5	11.4401, 11.4402, 11.4403
11.4406	Systems in Building	4	11.4407, 11.4408
11.4407	Services A	3	11.4303, 11.4404
11.4408	Services B	3	11.4304, 11.4404, 11.4405
Elective Subjects			
11.4420	Technology for Low-rise Buildings	5	11.4404
11.4421	Technology for High-rise Buildings	5	11.4406
11.4422	Technology for Low-cost Housing	5	11.4406
11.4423	Rationalized Building Systems	5	11.4406
11.4424	Const. Planning & Management	3	11.4405, 11.4407, 11.4408
11.4425	Earth Construction A	3	11.4402, 11.4303
11.4426	Earth Construction B	3	11.4425
11.4430	Integration of Services	4	11.4407, 11.4408
11.4440	Building Materials A	2	11.4402
11.4441	Building Materials B	5	11.4402, 11.4405
11.4450	Advanced Structural Analysis	4	11.4404, 11.4405, 11.4602
11.4451	Advanced Structural Design	4	11.4404, 11.4405, 11.4602
11.4452	Models Analysis & Form-finding	3	11.4403
11.4453	Surface & Spatial Structures A	5	11.4320, 11.4404, 11.4405
11.4454	Surface & Spatial Structures B	5	11.4453
11.4455	Technology Research A	5	156 credit points *and* 11.4405 or 11.4406
11.4456	Technology Research B	5	11.4455

Practice

Core Subjects			
11.4501	Practice & Management I	2	nil
11.4502	Practice & Management II	2	11.4501
11.4503	Specifications & Building Economics	3	11.4502
11.4504	Building Contracts	2	11.4503
11.4505	Contract Administration	2	11.4504
Elective Subjects			
11.4520	Management Systems & Finance	2	11.4505
11.4521	Documentation	3	11.4503
11.4522	Building Economics & Development	3	11.4503
11.4523	Management for Architects	2	11.4505
11.4524	The Architect and the Law	2	11.4505
11.4525	Project Management	3	11.4505
11.4526	Industrial Relations	2	11.4522

Courses 3270, 3280 and 3290: Schedule of Subjects (continued)

No.	Subject Name	Credit Points	Prerequisites
Communication			
Core Subjects			
11.4601	Introduction to Communication	6	nil
11.4602	Introduction to Computing	2	nil
11.4603	Graphic Communication	5	nil
11.4604	Graphic Communication Theory	4	11.4601
Elective Subjects			
11.4620	Presentation Graphics	3	11.4603, 11.4604
11.4621	Oral & Written Communication	2	11.4601
11.4622	Spatial Communication	2	nil
11.4623	Models & Materials	3	nil
11.4624	Architectural Photography	3	nil
11.4625	Constructional Geometry	3	11.4603
11.4626	Architectural Ceramics & Sculpt.	3	nil
11.4627	Computer Graphics	4	11.4602 *and* 130 credit points
11.4628	Aspects of Style in Art	4	11.4629
11.4629	Graphic Art	4	11.4604
11.4630	Drawing & Painting	4	11.4601
11.4631	Advanced Graphic Concepts	4	11.4629
Other Required Studies			
BSc(Arch) Degree Course			
11.4701	Graduation Project	8	130 credit points
	General Studies Subjects	6	
BSc(Arch)(Hons) Degree Course			
11.4705	Honours Project	26	156 credit points
BArch Degree Course			
11.4702	Thesis	12	156 credit points
11.4703	Practical Experience	6	130 credit points
	General Studies Subjects	12	
Other Elective Studies			
11.4704	Architectural Research	4	156 credit points
11.4706	Architecture Graduation Project	20	208 credit points. Selection on merit

Registration and Professional Recognition

Students enrolled in the Bachelor of Science (Architecture) and Bachelor of Architecture degree courses are eligible to become Student Members of the Royal Australian Institute of Architects.

The degree of Bachelor of Science (Architecture) is not recognized by the Board of Architects of NSW for registration for practice as an architect but is recognized by the Royal Australian Institute of Architects as an eligible qualification for an Affiliate membership provided the candidate produces evidence of two years' approved practical experience, at least one of which has been subsequent to successful completion of the course.

The degree of Bachelor of Architecture of the University of New South Wales is recognized by the Board of Architects of New South Wales for the purposes of legal registration provided the candidate can satisfy the following requirements:

1. produce evidence of two years' approved practical experience, at least one of which has been subsequent to successful completion of the course; and

2. pass a special examination in Architectural Practice.

Graduates with two years' approved practical experience, at least one of which is subsequent to completion of the course, are eligible for Associate Membership of the Royal Australian Institute of Architects.

The foregoing is a general statement, and students are strongly advised to obtain further particulars from the Institutes and the Board of Architects of New South Wales.

School of Building

Head of School
Professor A. R. Toakley

Building Degree Course BBuild

General Description of the Course

The course is offered on a semester basis. Students are required to complete a minimum of eight semesters (sessions) including one semester of appropriate industry experience.

The course leads to the award of the degree of Bachelor of Building (BBuild).

Credit Points

To qualify for a Bachelor of Building degree a student must have obtained a minimum of 192 credit points (including 131 credit points from compulsory subjects and 9 credit points of General Studies subjects). Credit points are allocated to all compulsory and elective subjects.

Students, provided that they can satisfy the prerequisite requirements for subjects to be attempted, may choose that pattern and order of subjects which best suits individual requirements. Credit points generally correspond to work load in subjects.

Attention is drawn to the fact that Physics and Mathematics are included among the compulsory subjects. It is highly desirable that intending students have successfully completed these subjects at HSC level.

Practical Experience

Students are required to be in employment related to their course during at least six months of their program. The proposal for employment must be submitted to the Professor of Building for approval. See ***Subject Descriptions*** for details.

Award of Honours

Honours are awarded on the basis of the quality of student performance in accordance with current Faculty regulations.

Professional Recognition

The award of the degree, Bachelor of Building, is recognized for admission to membership by the Australian Institute of Building and the Australian Institute of Quantity Surveyors.

3330
Building Course

Bachelor of Building
BBuild

Note: The timetabling of subjects depends on the number of enrolments and on the number of students wishing to specialize in particular areas. While the intention is to offer each subject in every alternate semester, students should realize that the full range may not be offered in any one year.

Schedule of Subjects

Construction Studies Stream

Compulsory Subjects

		Credit Points	Prerequisites
35.500	Building Graphics	6	nil
35.501	Construction I	5	nil
35.502	Construction II	5	nil
35.503	Construction III	5	35.501
35.504	Construction IV	5	35.503
35.505	Construction V	5	35.504
29.411	Surveying for Architects and Builders	2	nil
35.551	Structures 1	5	nil
35.552	Structures II	5	35.551
35.553	Structures III	5	35.552
35.581	Hist. Devel. of Building	2	nil
35.202	Soil Mechanics for Building	2	nil

Elective Subjects

35.506	Construction VI	4	35.505, 35.703
35.507	Construction VII	4	35.505, 35.703
35.508	Construction VIII	4	35.505, 35.704
35.554	Structures IV	4	35.553
35.570	Environmental Studies	2	nil
35.580	Building Design Analysis	3	35.505, 35.704
36.411	Town Planning	3	35.503

Building Science Stream

Compulsory Subjects

1.931	Physics I (Building)	4	nil
35.670	Mathematics for Builders	4	nil
35.601	Building Science I (Materials)	4	nil
35.602	Building Science II (Energy)	5	1.931
35.603	Building Science III (Computing)	5	35.670
35.651	Services I (Hydraulics)	3	nil
35.652	Services II (Environmental)	3	35.602

Elective Subjects

		Credit Points	Prerequisites
35.604	Building Science IV (Plastics)	3	35.601
35.605	Building Science V (Concrete)	3	35.601
35.606	Building Science VI (Metals)	3	35.601
35.607	Building Science VII (Thermal)	3	35.602
35.608	Building Science VIII (Systems)	4	35.603
35.609	Building Science IX (Timber)	3	35.601
35.653	Services III (High Rise)	4	35.651, 35.652

Management Studies Stream

Compulsory Subjects

35.701	Management I	4	nil
35.702	Management II	4	35.701
35.703	Management III	4	35.702
35.704	Management IV	4	35.702
14.051	Law for Builders I	2	nil
14.052	Law for Builders II	2	14.051

Elective Subjects

35.705	Management V	4	35.704
35.706	Management VI	4	35.704
35.707	Management VII	4	35.704, 35.862, 14.002
35.708	Management VIII	4	35.704, 35.862, 14.002
35.710	Building Information Systems	4	14.001, 35.603
35.720	Commercial Arbitration	4	35.704
14.053	Law for Builders III	4	14.052

Building Economics Stream

Compulsory Subjects

35.801	Quantity Surveying I	4	35.503
35.851	Building Economics I	6	14.002
35.870	Building Specifications	2	35.503
35.890	Property Valuation	2	35.503
14.001	Intro. to Accounting A	2	nil
14.002	Intro. to Accounting B	2	14.001

Elective Subjects

		Credit Points	Prerequisites
35.802	Quantity Surveying II	4	35.504, 35,870
35.803	Quantity Surveying III	2	35.802
35.862	Building Economics II	5	35.851
35.853	Building Economics III	5	35.862
35.880	Development Project	4	35.504, 35,890

Others

Compulsory Subjects

35.900	Thesis	10	100 credit points
35.910	Industry Semester*	3	35.503, 35.702
	General Studies	3 each	nil

* This subject must not be taken in final semester. It must be taken at a stage which will enable students to subsequently complete a minimum of 12 credit points, apart from any credit points obtained for 35,900 Thesis.

Three General Studies subjects are compulsory and are to be selected from the list of General Studies Electives available in the General Studies handbook.

Department of Industrial Arts

Acting Head of Department
Dr W. R. Lawson

The Department of Industrial Arts offers a BSc(IndArts) DipEd course (3320) available through full-time study in the general field of Industrial Arts. The subjects required to qualify for the degree are set out below. At the graduate level, the Department offers Master of Science and Doctor of Philosophy degrees by research as well as a course in Industrial Design leading to the award of a Graduate Diploma.

The Subject Matter of Industrial Arts

Through the ages, man has used his intellect, imagination and skill to create useful things. The term 'industrial arts' has come to be used to describe these activities.

Man-made objects form a large part of the human environment: shelter, furniture, fabrics, vessels, tools, machines, vehicles and labour-saving devices of many kinds. Although these objects are designed and made primarily for some practical purpose, each individually makes some contribution to the total quality of the environment. Well-designed, well-made things of the practical kind may be considered 'works of art', thus the best products, whether handmade or factory-produced are evidence of the industrial arts.

Before the growth of modern industrial society, it was possible to identify the industrial arts with certain skilled occupations, for example, gold and silversmithing, weaving, metalworking, woodworking and pottery. Industrial methods and mass production have changed the forms of intellect, imagination and skill required for the creation of useful objects. Products are now seldom the result of the activity of single individuals, rather they reflect the skills of many people applied through an industrial organization. The study basic to Industrial Arts is the relationship between man and his material environment. The important elements in this study are man himself, the materials of his environment, the objects he produces and the processes he uses for production.

Such studies can be concerned as much with the useful objects of antiquity as with those of contemporary industrial civilization. Thus the research activities of the Department of Industrial Arts range from investigations into the traditional technologies of ancient cultures to an analysis of the problems of industrial design in contemporary technological society.

The Industrial Arts Course

The course offered by the Department of Industrial Arts is intended to provide a broad understanding of the man-product relationship with studies in depth of the most relevant areas of knowledge drawn from natural science, technology, social science and other fields. Of central importance is the subject Industrial Arts. The core study in this subject is Design. Design is the process whereby materials, functional requirements, appearance, mechanical factors, cost etc are related and integrated into products which satisfy human needs. The design strand is supported by parallel studies in graphics, materials, education. Graphics—the 'visual language' of design—includes a variety of methods of drawing as well as other methods of visual representation, communication and analysis. The other subjects provide specialized information which is needed for the study and teaching of design, in particular, and of industrial arts generally.

Also included are First Year Engineering Units and elective studies in the sciences and general studies.

The Industrial Arts course covers the major subject areas included in both the secondary and senior secondary school curricula. After completion of the degree, graduates will be eligible to become certificated by the Department of Education as four-year trained teachers.

The undergraduate degree also provides a sound basic education for people intending to seek employment in the design field.

In general, the Industrial Arts course provides a broad education which embraces the sciences, technological studies, the humanities, social sciences, and the arts. Education of this type is becoming increasingly important for employment in semi-technical fields such as technical sales, engineering administration, work study, technical writing, information services and personnel management.

3310
Industrial Arts — Full-time Course

Bachelor of Science
BSc

This course is being discontinued from 1977 and no new students may be enrolled. Students already enrolled in the course may continue with their studies until completion of the degree.

3320
Industrial Arts — Full-time Course

Bachelor of Science (Industrial Arts)/ Diploma in Education
BSc(IndArts) DipEd

Students commencing studies in 1980 enrol in the first year of this revised degree course. This course is of four years' duration.

Year 1

		Hours per week
1.001 1.011 1.021	Physics I *or* Higher Physics I *or* Introductory Physics	6
	Chemistry I*	6
5.010 5.030	Engineering A Engineering C	6
21.311	Industrial Arts I	5
		23

*Chemistry I is equivalent to 2.121 Chemistry IA and 2.131 Chemistry IB

Year 2

		Hpw
4.911	Materials Science	1½
12.001	Psychology I	5
21.312	Industrial Arts II	12
58.602	Theory of Education I	1
58.622	Industrial Arts Curriculum and Instruction I	3½
58.612	Teaching Practice I	10 days
	General Studies Elective	1½
		24½

Year 3

4.951	Materials Technology	4
21.313	Industrial Arts III	8
58.603	Theory of Education II	1
58.623	Industrial Arts Curriculum and Instruction II	3½
58.613	Teaching Practice II	10 days
	Psychology II*	7
		23½

* Psychology II comprises three units, 12.052 Basic Psychological Processes, 12.062 Complex Psychological Processes and 12.152 Research Methods.

Year 4

21.314	Industrial Arts IV	10
58.604	Theory of Education III	3
58.624	Industrial Arts Curriculum and Instruction III	3
58.614	Teaching Practice III	10 days
	Psychology III*	8
		24

* Psychology III comprises four units selected in consultation with the School of Psychology.

Subject Units in Industrial Arts

21.311 Industrial Arts I

		Session hours*
All units are compulsory		
21.3111	Workshop Practice	2½
21.3112	Introduction to design methods	1
21.3113	Basic design	2
21.3114	Introduction to Graphics	2½
21.3115	History of Industrial Arts	1
21.3116	Research Methods	1

21.312 Industrial Arts II

All units are compulsory		
21.3121	Ethnotechnology I	4
21.3122	Craft IA	4
21.3123	Industrial Design I	4
21.3124	Graphics I	4

		Session hours*
21.3125	Industrial and Social Organization 1	2
21.3126	Project	4
21.3127	History of Art and Design	2

21.313 Industrial Arts III

Two units to be chosen from 21.3131, 21.3132, 21.3133, 21.3134, while 21.3135 is compulsory.

21.3131	Ethnotechnology II	7
21.3132	Craft IIA	7
21.3133	Industrial design II	7
21.3134	Graphics II	7
21.3135	Industrial and Social Organization II	2

21.314 Industrial Arts IV

One unit only to be chosen from 21.3141, 21.3142, 21.3143 and 21.3144.
Units 21.3145, 21.3146 and 21.3147 are compulsory.

21.3141	Ethnotechnology III	10
21.3142	Craft IIIA	10
21.3143	Industrial Design III	10
21.3144	Graphics III	10
21.3145	Industrial and Social Organization III	2
21.3146	Advanced Project	6
21.3147	Appropriate Technology	2

* One session hour consists of 1 hour per week for one session.

Industrial Arts — Part-time Course

Bachelor of Science (Technology) BSc

This course is being progressively discontinued. Students should consult pages B319-B320 in the 1972 Calendar for the course outline.

School of Landscape Architecture

Head of School
Professor P. Spooner

Landscape Architecture Degree Course BLArch

Landscape Architecture is a professional discipline which is based on an understanding of the natural sciences. Graduates will be able to share in mankind's responsibility towards the environment.

Landscape in its broadest sense encompasses all external spaces comprising natural topography and vegetation as well as modified environments constructed for man's enjoyment or comfort. Opportunities for graduates to contribute professional advice vary in scale through the design of domestic gardens, urban plazas and thoroughfares, regional parks and new cities to national considerations of land use and environmental policies. Creative design ability, based on an appreciation of natural systems and man's requirements can bring about management plans for natural areas or the planned modification of areas to provide external spaces which are both practical and enjoyable.

The course is designed to introduce students to landscape architecture through an understanding of the components and processes at work in primitive environments, and of the philosophies and techniques which have been developed by man in his continuous efforts to improve this environment. In the later years of the course emphasis is given to creative design work of a kind appropriate to Australian conditions. Programs are related to the subject matter of concurrent lectures, and culminate in an examination of landscape problems of regional and national significance.

General Description of the Course

The course requires full-time attendances of approximately 25 hours per week over at least four years.

The majority of subjects are specific, however contact with the students of other Schools within the Faculty and of other Faculties within the University is assured by the inclusion of subjects from the Schools of Architecture, Botany, Geography and Town Planning, and the Department of General Studies.

Practical Experience

Students of the undergraduate course must obtain a total of six months' practical experience prior to graduation, of which a minimum of two months must be in a design office and a minimum of two months must be in outdoor work. This normally takes the form of employment during long vacations under a landscape architect, landscape contractor or nurseryman. Each student entering upon practical experience must obtain prior approval of the Professor of Landscape Architecture, and must obtain from the employer a statement of experience gained.

Professional Recognition

The course is recognized by the Australian Institute of Landscape Architects and graduates holding the BLArch degree will qualify for corporate membership after a specified period of graduate experience and formal examination.

3380
Landscape Architecture Course
Bachelor of Landscape Architecture
BLArch

The Course Structure shown below represents the normal pattern of progression which students entering course 3380 will be expected to follow. In exceptional circumstances the Head of School may allow variation of the normal pattern, and in such cases progression in individual subjects will be governed by the prerequisites as indicated.

A student may be enrolled concurrently in the subjects of only two consecutive years, but this will not apply to students entering with advanced standing in their first year of attendance or to modifications of the Course Structure which are initiated by the School.

Schedule of Subjects

No	Subject Name	Hours Per Week	Prerequisites
Year 1			
Session 1			
11.4101	Principles of Design	4	nil
27.801	Introduction to Physical Geography	4½	nil
37.5731	Landscape Prehistory I**	1	nil
37.6041	Landscape Graphics I	6	nil
37.6271	Fundamental Landscape Techniques	3	nil
37.7011	Landscape Graphics (Art) I	3	nil
43.202	Plant Structure & Function*	6	nil
		27½	
Session 2			
11.4307	World Architecture	3	nil
37.5732	Landscape Prehistory II**	1	37.5731
37.5802	Natural Communities*	3	43.202
37.6042	Landscape Graphics II	6	37.6041
37.6352	Plants & Planting Methods I	3	nil
37.7012	Landscape Graphics (Art) II	3	37.7011
37.7042	Landscape Appreciation*	3	37.6271
		22	

Students may be required to participate in a practical construction program outside the metropolitan area, involving a field exercise of approximately one week duration.

* The courses in Plant Structure and Function, Natural Communities and Landscape Appreciation include a number of lectures and field trips for the purpose of practical observation. Field trips range from local trips within the metropolitan area to points as far afield as Moss Vale, Glenbrook and Gosford. The Faculty provides transport wherever possible, but in the majority of cases, students are expected to make their own transport arrangements for these trips.

**These subjects are at present offered on a bi-annual pattern. Students are advised to seek further information from Year Masters before completing their enrolment.

Schedule of Subjects (continued)

No.	Subject Name	Hours Per Week	Prerequisites
Year 2			
Session 1			
37.3013	Man in His Environment	3	37.5732
37.6043	Landscape Graphics III	3	37.6042, 37.7012
37.6353	Plants & Planting Methods II	3	37.6352
37.7013	Landscape Graphics (Art) III	3	37.7012
37.7123	Landscape Design and Construction I	10	37.5802, 37.6042, 37.7042
37.7213	Landscape Structures and Materials I	2	37.6271
37.9003	History of Landscape Architecture I**	1	nil
General Studies Elective		1½	
		26½	
Session 2			
37.0014	Introduction to Computer Applications	2	nil
37.6044	Landscape Graphics IV	3	37.6043, 37.7013
37.7014	Landscape Graphics (Art) IV	3	37.7013
37.7124	Landscape Design and Construction II	10	37.7123
37.7214	Landscape Structures and Materials II	2	37.7213
37.9004	History of Landscape Architecture II**	1	37.9003
General Studies Elective		1½	
		22½	
Year 3			
Session 1			
36.411	Town Planning	2	nil
37.3015	Environmental Impact Evaluation I	2	37.3013
37.6245	Landscape Engineering I	3	27.801, 37.7214
37.6585	Landscape Professional Practice I**	2	37.7124
37.7125	Landscape Design and Construction III	10	37.6044, 37.7124, 37.7214
37.7965	Recreation Planning I**	2	37.3014, 37.7124
Two General Studies Electives		3	
		24	
Session 2			
37.3016	Environmental Impact Evaluation II	2	37.3015
37.5813	Plants & Environment	3	nil
37.6246	Landscape Engineering II	3	37.6245
37.6586	Landscape Professional Practice II**	2	37.6585
37.7126	Landscape Design & Construction IV	10	37.7125
37.7966	Recreation Planning II**	2	37.7965
Two General Studies Electives		3	
		25	

**These subjects are at present offered on a bi-annual pattern. Students are advised to seek further information from Year Masters before completing their enrolment.

Schedule of Subjects (continued)

No.	Subject Name	Hours Per Week	Prerequisites
Year 4			
Session 1			
37.6587	Landscape Professional Practice III**	2	37.6586
37.7117	Landscape Planning I**	4	36.411
37.7127	Landscape Design & Construction V	10	37.7126
37.8087	Landscape Thesis	6	37.7126, three General studies electives
General Studies Elective		1½	
		23½	
Session 2			
37.3338	Landscape Conservation & Rehabilitation	4	37.3016, 37.7966
37.6588	Landscape Professional Practice IV**	2	37.6587
37.7118	Landscape Planning II**	4	37.7117
37.7128	Landscape Design & Construction VI	10	37.7127
37.8087	Landscape Thesis	2	See Session 1
General Studies Elective		1½	
		23½	

**These subjects are at present offered on a bi-annual pattern. Students are advised to seek further information from Year Masters before completing their enrolment.

School of Town Planning

Head of School
Professor H. L. Westerman

Town Planning Degree Course BTP

Town planning is concerned with the existing and future environment, ranging from small local precincts, neighbourhoods, centres, districts and towns to metropolitan areas and regions. The town planner's task in this regard is to integrate and co-ordinate the aims and actions of a large number of Government and private organizations and individuals. This involves collecting and analysing information, identifying needs, making forecasts, preparing policies, plans and programs, exercising development control, and evaluating development proposals.

The town planner needs to develop a knowledge of a broad range of disciplines and an ability to communicate. The course aims to provide this knowledge and ability.

General Description of the Course

The course is of five years' duration and requires full-time attendance throughout First, Second and Fifth Years. Students are required to attend the University on a full-time basis for the first session of Third Year and for the second session of Fourth Year, the intervening period being devoted to practical experience.

The course leads to the award of the degree of Bachelor of Town Planning (BTP).

Practical Experience

For the period covered by Session 2 of Year 3 and Session 1 of Year 4 the students must be engaged in approved employment related to the course: for example, in government planning and housing authorities, in municipal and shire councils preparing or implementing town and country planning schemes, in private development companies or with planning consultants. The type of employment proposed must be submitted to the Professor of Town Planning for approval.

Honours

Honours are awarded in the Bachelor of Town Planning degree course, on the basis of quality of performance throughout the whole course and in accordance with current faculty regulations.

For the purpose of calculating honours at graduation, the honours value of each subject is indicated by the credit points associated with that subject. Credit points generally reflect the workload required of students in subjects in which grades are awarded.

Professional Recognition

The course is recognized by the Royal Australian Planning Institute as an academic qualification for corporate membership. The Institute requires that for corporate membership graduates must also have at least one year of practical experience subsequent to graduation.

3360
Town Planning Course

Bachelor of Town Planning
BTP

Schedule of Subjects

Note: A major planning subject is shown in each session in bolder type. Each of these subjects must be passed before a student may progress to the next year's major planning subjects.

Year 1

		Hours per week	Credit Points
Session 1			
36.511	**Introduction to Planning**	**6**	**8**
11.134	Graphic Communication for Town Planners I	6	6
27.801	Introduction to Physical Geography	4	5
35.920	Building Techniques — Town Planning	2	3
	General Studies Elective (part)	1½	2
		19½	24
Session 2			
36.512	**The Planning Process**	**6**	**8**
11.135	Graphic Communication for Town Planners II	6	6
36.451	History of Town Planning	3	5
36.271	Environmental Science	6	5
	General Studies Elective (continued)	1½	2
		22½	26

Year 2

		Hpw	Credit Points
Session 1			
36.513	**Precinct Planning**	**10**	**12**
36.131	Communication Techniques	3	—
36.461	Civic Engineering	4	6
29.431	Surveying and Cartography	3	4
	General Studies Electives	3	4
		23	26
Session 2			
36.514	**Neighbourhood Planning**	**12**	**12**
36.472	Planning Law	3	4
36.474	Planning Administration	2	4
	General Studies Electives	3	4
		20	24

Year 3

Session 1			
36.515	**Planning of Towns**	**12**	**12**
36.473	Statutory Planning	2	3
36.438	Urban Government	2	3
36.482	Land Valuation	2	3
	General Studies Elective	3	4
		21	25
Session 2			
36.503	Practical Experience	3	—

Year 4

Session 1			
36.503	Practical Experience	3	—
Session 2			
36.516	**Metropolitan Planning**	**12**	**14**
36.521	Research Methodology	6	8
15.901	Economics for Town Planners	2	3
		20	25

Year 5

		Hours per week	Credit Points
Session 1			
36.517	**Regional Planning**	**16**	**16**
53.321	Urban Sociology	2	3
36.491	Thesis	2	—
36.437	Civic Survey Camp	2	—
		22	19
Session 2			
36.491	**Thesis**	16	**26**
36.440	Planning Elective	4	5
		20	31

Graduate Study

Faculty of Architecture Graduate Enrolment Procedures

All students enrolling in graduate courses should obtain a copy of the free booklet *Enrolment Procedures 1980* available from School Offices and the Admissions Office. This booklet provides detailed information on enrolment procedures and fees, enrolment timetables by Faculty and course, enrolment in miscellaneous subjects, locations and hours of Cashiers and late enrolments.

Higher Degrees — Research

Following the award of a first degree in Architecture, Building, Landscape Architecture or Town Planning of the University of New South Wales or other approved university, graduates may apply to register for the study leading to the award of the degree of Master of Architecture, Master of Building, Master of Landscape Architecture or Master of Town Planning. Facilities are also available for research towards the degree of Doctor of Philosophy. For details concerning this degree see **Conditions for the Award of Higher Degrees** later in this Handbook or write to the Dean.

Summary of the Conditions for the Award of a Masters Degree

1. Every candidate for the degree shall be required to carry out a program of advanced study, to take such examinations, and to perform such other work as may be prescribed by the Faculty. The program shall include the preparation and submission of a thesis embodying the results of an original investigation or design relative to architecture, building, landscape architecture or town planning. The candidate may also submit any work published, whether or not such work is related to the thesis.

2. No candidate shall be considered for the award of the degree until the lapse of four complete sessions from the date from which the registration becomes effective, save that in the case of a candidate who has obtained the degree of Bachelor with Honours or who has had previous research experience, this period may, with the approval of the Faculty, be reduced by not more than two sessions.

3. For each candidate there shall be two examiners appointed by the Professorial Board, one of whom shall, if possible, be an external examiner.

4. Every candidate shall submit three copies of the thesis as specified in the University Calendar, and it shall be understood that the University retains three copies of the thesis and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part in photostat or microfilm or other copying medium.

Graduate Courses

In addition to the facilities available for the pursuit of higher degrees by research, formal courses are offered as follows:

1. Master of Science (Acoustics)

2. Master of Science (Building)

3. Master of the Built Environment (Building Conservation)

4. Graduate Diploma in Housing and Neighbourhood Planning*

5. Graduate Diploma in Landscape Design*

Duration

Each course is programmed over two years of part-time study in the University, involving attendance on two or three evenings per week. In the case of Housing and Neighbourhood Planning a one-year full-time program may be offered subject to demand.

Research

The School currently has active research units working under its aegis in the areas of acoustics, architectural history, architectural lighting, earth construction, lightweight structures and solar energy.

Research Degrees

The School makes available to research students a resource facility covering a wide spectrum of relevant disciplines on which students can follow a largely self-determined program of study, research and practice.

The School tailors individual programs to student needs at both Masters and Doctoral levels. In doing so it is able to call on its own research units and on many resources from within every Faculty of the University.

Research may be undertaken towards the award of Doctor of Philosophy (PhD), and Master of Architecture (MArch).

Eligibility for Enrolment

The School welcomes professional level graduates in any discipline whose further studies are to be in the area of the built environment. It does not restrict its intake to graduates in architecture, building, town planning or landscape architecture.

Graduate School of the Built Environment

Head of School
Professor J. M. Freeland

This School was established in July 1978 to:

1. provide opportunities for teaching, investigation, study and research at the post-professional level in those multidisciplinary and interdisciplinary areas concerned with the creating and managing of the built environment;

2. carry out and disseminate the results of research bearing on the quality of the built environment;

3. undertake either alone or in cooperation with other bodies relevant environmental work in the community generally.

While the main work of the School is in the fields of research and higher degree research training at both Masters and Doctoral levels, it also offers some formal course work and short mid-career courses and is in the process of developing others**.

1120
Doctor of Philosophy
PhD

This degree provides for research work of a specialized and restricted nature. Students individually follow a self-determined program of study and research.

8100
Master of Science (Acoustics) Course
Master of Science (Acoustics)
MSc(Acoustics)

This course provides for graduate study and research in several important aspects of acoustics, such as community noise control, noise control in industry and in buildings, auditorium design and physical acoustics. It is designed primarily for

*These courses are under review, and intending applicants are advised to contact the School at the first opportunity to obtain further information.
**For further information contact the Head of School, Professor J. M. Freeland. Phone 662 2301.

graduates in engineering, architecture, science or building who wish to specialize in acoustics and it is suitable for those who wish to find employment with noise control authorities, or in industry, to practice as consultants, to undertake research or to become part of a multi-disciplinary team in an architectural or engineering practice.

Admission Requirements

General conditions governing registration as a candidate for the degree of Master of Science (Acoustics) are given in the Calendar, but the attention of applicants is directed to the following admission requirements.

An applicant for registration for the degree course of Master of Science (Acoustics) shall have been admitted to the degree of Bachelor of Science (Architecture) at honours level, Bachelor of Architecture, Bachelor of Building, Bachelor of Science at honours level, or Bachelor of Engineering at the University of New South Wales, *or* an equivalent degree from another university or tertiary institution. In exceptional cases an applicant may be registered as a candidate for the degree if he submits evidence of such academic and professional attainment as may be approved by the Higher Degree Committee of the Faculty of Architecture.

Notwithstanding any other provisions of these conditions the Higher Degree Committee of the Faculty of Architecture may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Higher Degree Committee of the Faculty of Architecture may determine. Candidates with BSc(Arch) (at honours level), BArch or BBuild degrees are strongly advised to take refresher courses in mathematics and physics before entry to the course. Candidates with BSc (at honours level) or BE degrees who wish to specialize in noise control in buildings and auditorium acoustics are also strongly advised to study an introductory construction subject.

Course Structure

The course is normally taken over four part-time sessions (two academic years) and a student must obtain 34 credit points to graduate. 15 credit points must be obtained by satisfactorily completing a Graduate Project in an approved topic. The remaining 19 credit points are obtained by the satisfactory completion of formal subjects, which may be chosen to emphasize a particular field of acoustics after basic prerequisite requirements have been fulfilled. Up to 8 credit points may be obtained by completing other subjects offered by the University of New South Wales, subject to the approval of the Head of the Graduate School of the Built Environment. The subjects offered in any session will depend on student numbers and interests.

Course Subjects

		Credit Points	Prerequisites	Usual Session Offered
1.927G	Acoustic Theory	2	Nil	S1
1.937G	Acoustic Measuring Systems and Electroacoustics	2	Nil	S1
1.947G	Advanced Physical Acoustics	4	1.937G 1.957G	S3
1.957G	Acoustic Laboratory and Signal Analysis	3	1.927G	S2
39.651G	Mechanical Shock and Vibration	2	Nil	S1
39.652G	Noise Control in Industry	4	1.927G 1.937G 39.651G 39.993G	S3
39.993G	The Ear, Hearing and Hearing Conservation	2	Nil	S1
39.995G	Community Noise	4	1.927G 1.937G 39.993G	S2
39.994G	Graduate Project A	5	10 Credit Points	S3
39.996G	Graduate Project B	10	39.994G	S4
39.997G	Auditorium Acoustics	3	1.927G 1.937G 39.993G	S3
39.998G	Noise Control in Buildings	4	1.927G 1.937G 39.651G 39.993G	S2

In addition to these subjects, a total of up to 8 credit points may be obtained by completing other subjects offered by the University of New South Wales, subject to the approval of the Head of the Graduate School of the Built Environment.

8130
Master of the Built Environment (Building Conservation) Course

Master of the Built Environment (Building Conservation)
MBEnv

A course of graduate work in the major areas of building conservation. It is designed for graduates who wish to specialize in the conservation of the built environment by working actively in the preservation, restoration, reconstruction, adaptation, or related treatments of existing structures.

Admission Requirements

The conditions governing registration as a candidate for this course are given later in this handbook. In summary, admission is open to applicants who have completed at least a four-year full-time university course in an appropriate area of an approved discipline.

In certain cases it may be necessary for applicants to complete a program of preparatory subjects set out by the Higher Degree Committee of the Faculty of Architecture, whose decision is influenced by the education and experience of each appicant.

Most of the work is done in the School, but approved practical experience forms an important component of the course. The program is so arranged that eminent visitors as well as guest lecturers may participate.

Normally, subjects are time-tables on one afternoon and evening, and one other evening, each week. In addition to time-tabled commitments, students may occasionally be required to attend for site visits and building inspections.

The requirements for this course include a period of at least eight weeks of approved practical experience.

Course Structure

The minimum duration of the course is two sessions of full-time study or four sessions of part-time study. The availability of the full-time and part-time programs of study will depend upon student demand and the University's resources at that time.

The course comprises 36 credit points, each credit point representing class contact of approximately fourteen hours.

Full-time study normally requires an attendance of 18 hours per week, while part-time study normally requires attendance of an average of 9 hours per week, for the duration of the course.

Course Subject Areas

	Total Contact Hours	Credit Points
Contextual Studies	14	1
Architectural History	42	3
Conservation Management	42	3
Analysis and Documentation	84	6
Conservation Technology	210	15
Graduate Project	112	8
	504	36

Typical Pattern of Full-time Study

		S1		S2	
		Hrs	Credits	Hrs	Credits
39.101G	Contextual Studies	14	1		
39.102G	Architectural History	42	3		
39.103G	Conservation Management			42	3
39.104G	Analysis and Documentation A	56	4		
39.105G	Analysis and Documentation B			28	2
39.106G	Conservation Technology A	28	2		
39.107G	Conservation Technology B			70	5
39.108G	Conservation Technology C	56	4		
39.109G	Conservation Technology D			56	4
39.110G	Graduate Project	56	—	56	—
				Upon completion	8
		252	18	252	18

Typical Pattern of Part-time Study

		S1		S2		S3		S4	
		Hrs	Credits	Hrs	Credits	Hrs	Credits	Hrs	Credits
39.101G	Contextual Studies	14	1						
39.102G	Architectural History	42	3						
39.103G	Conservation Management							42	3
39.104G	Analysis and Documentation A	56	4						
39.105G	Analysis and Documentation B			28	2				
39.106G	Conservation Technology A	28	2						
39.107G	Conservation Technology B			70	5				
39.108G	Conservation Technology C					56	4		
39.109G	Conservation Technology D							56	4
39.110G	Graduate Project			28	—	56	—	28	—
								Upon completion	8
		140	10	126	7	112	4	126	15

School of Building

8110
Master of Science (Building) Course

Master of Science (Building)
MSc(Building)

This four-session part-time course has been designed to provide opportunities for advanced study in the science of construction and building services. It allows a certain amount of specialization in four inter-related areas:

1. planning and management aspects of a design or construction organization, including programming, evaluation, costing, performance feedback, feasibility and the valuation and management of properties;

2. operations and control aspects of a design or construction organization, concentrating on estimating and cost analysis, contract or design administration and construction techniques;

3. problems concerned with thermal conditions, illumination, noise, humidity and air purity; the interrelation of the building envelope and structure with the services and the performance of the building as a whole;

4. development and research aspects of construction with relevance to design, construction, product manufacture or research.

The course aims at attracting the practising qualified architect, engineer, or builder who wishes to widen his/her knowledge and understanding of construction planning, operation and development.

Admission Requirements

The general conditions governing registration as a candidate for the degree Master of Science (Building) are given later in this Handbook but the attention of intending applicants is directed to the following specific requirements:

1. Applicants will have been admitted to the degree of Bachelor of Architecture or Bachelor of Building in the University of New South Wales or an equivalent degree in another approved university.

2. Graduates with a Bachelor of Engineering who have worked in the building industry may be admitted to the preparatory year or to the course proper depending on the individual case.

3. Graduates of the University of New South Wales BSc(Arch) degree course **3370** who wish to undertake an MSc(Building) degree are required to complete the preparatory subjects listed below. Other BSc(Arch) graduates are required to complete a program of preparatory subjects set out by the Higher Degree Committee of the Faculty of Architecture.

4. Eligible applicants other than those under **1., 2.** & **3.** may be required to complete a program of preparatory subjects set out by the Higher Degree Committee of the Faculty of Architecture, whose decision will be influenced by the education and experience of each applicant.

Graduate experience and involvement in the building industry is considered an advantage in the selection of candidates.

Preparatory Subjects for Graduates of the University of New South Wales BSc(Arch) course *(3370)*

14.001	Introduction to Accounting A
35.506	Construction VI
35.652	Services II
35.704	Management IV

Course Structure

The Master of Science (Building) is a formal four semester part-time course comprising 39 credit points. Each credit point consists of class contact of one hour for one semester, except for the Graduate Project which is rated at 10 credit points.

The subject program comprises studies in computations, environmental requirements, building economics, operations planning, contract law and documentation and the interaction of the architecture, the structure and the services.

Students may choose elective subjects from the list below to make up a minimum of 39 credit points including a Graduate Project of 10 credit points.

Subject to the approval of the appropriate Head of School, students may enrol in graduate subjects in other schools and faculties of the University to a maximum contributing total of 9 credit points.

With the approval of the Head of the School of Building, students may also enrol in undergraduate subjects. Undergraduate subjects are counted at half credit points to a maximum contributing total of 9 credit points. Qualifying or preparatory subjects cannot contribute towards the total.

Course Program

Subjects are offered on a four-semester cycle, but when there is sufficient demand, they may be offered more often. While the intention is to offer as many subjects as possible, the full range may not be offered in any one year. Subjects will normally be time-tabled on three evenings per week.

Management Studies

		Credit Points per Semester			
		Even Yrs		Odd Yrs	
		S1	S2	S3	S4
35.212G	Pre-Construction Management	2			
35.213G	Building Contract Management		2		
35.231G	Operations Planning			4	
35.254G	Personnel Management		3		
35.275G	Property Management		2		

Construction and Building Services

35.296G	Construction Techniques	3			
35.297G	Developments in Building Materials	2			
35.426G	Building Services			3	
35.390G	Co-ordination of Structures and Services				2

Building Science and Computations

35.360G	Computer Techniques and Applications I			3	
35.361G	Computer Techniques and Applications II				2
35.355G	Computer Graphics		2		
35.370G	Experimental Techniques		2		
35.232G	Systems Modelling				2
35.381G	Building Physics				2
35.382G	Building Psychophysics	2			

Building Economics

35.330G	Cost Planning and Analysis	2			
35.400G	Economics of Services				2
35.460G	Applied Building Economics		2		
35.470G	Analysis and Valuation of Property			2	
35.480G	Managerial Economics in Building				2
35.242G	Graduate Project (Compulsory)	10 points on completion			

Department of Industrial Arts

At graduate level the Department of Industrial Arts offers a Master of Science degree by research as well as a course in Industrial Design leading to a Graduate Diploma. In addition the degree of Doctor of Philosophy may be taken following periods of full-time or part-time research in the Department.

2205
Master of Science (By Research)

Master of Science
MSc

The conditions governing the award of the degree of Master of Science by research are set out in the next section.

5220
Industrial Design Graduate Diploma Course

Graduate Diploma
GradDip

The Graduate Diploma course provides a broad education in industrial design for those students who hold first degrees, although it is expected that students will, in general, come from the professions of engineering and architecture. The course has been so structured that graduates with the necessary talents and interests from other disciplines are provided for. According to demand, the course may be available full-time over one year or part-time over two years.

Part-time Course

Year 1

		Hours per week
.510/1G	Industrial Design	4
21.511/1G	Design Projects	3
21.521/1G	Seminar	1
21.531/1G	Creative Art Elective	3
		11

Year 2

21.501/2G	Industrial Design	4
21.511/2G	Design Projects	3
21.521/2G	Seminar	1
21.531/2G	Creative Art Elective	3
		11

School of Landscape Architecture

5210
Landscape Design Graduate Diploma Course†

Graduate Diploma
GradDip

This course has been designed to extend the knowledge of architects to embrace an important environmental study closely associated with that of their own profession.

Admission Requirements

An applicant for admission to the Landscape Design course shall be:

1. a graduate in Architecture of the University of New South Wales; or

2. a person with such other qualifications as may be approved by Faculty.

Year 1— Part-time

		Hours per week S1 Lec.	S1 Prac.	S2 Lec.	S2 Prac.
27.294	Physical Geography for Town Planners	0	0	2	2
37.910G	History of Landscape Design	1	0	0	0
37.912G	Landscape Engineering	2	0	0	0
43.215G	Plant Biology	1	2	0	0
43.216G	Ecology and Systematics	0	0	1	2
		4	2	3	4

Year 2

		Hpw S1 Lec.	S1 Prac.	S2 Lec.	S2 Prac.
37.913G	Theory and Practice of Landscape	1	0	1	0
37.914G	Forestry and Horticulture*	2	1	2	1
37.915G	Landscape Design	0	3	0	3
		3	4	3	4

* Practical work involves a number of Saturday excursions.

†This course is under review, and intending applicants are advised to contact the School at the first opportunity to obtain further information.

School of Town Planning

The School offers a graduate course leading to the award of a Graduate Diploma in Housing and Neighbourhood Planning (GradDip)†. This course is conducted over two years part-time.

5200
Housing and Neighbourhood Planning Graduate Diploma†

Graduate Diploma
GradDip

This course provides for graduate study in the design and layout of residential areas. It is concerned with the study of the physical structure and form of new and old residential neighbourhoods; and of the elements of the neighbourhood including dwellings, open spaces, shopping and community centres. In addition to design considerations, specific study will be made of social and economic factors in the provision of public and private housing.

Admission Requirements

An applicant for admission to the Housing and Neighbourhood Planning course shall be:

1. a graduate in Architecture of the University of New South Wales; or

2. a person with such other qualifications as may be approved by Faculty.

Part-Time

Year 1

		Hours per week S1	S2
36.930G	Theory of Neighbourhood Planning I	1	
36.931G	Theory of Neighbourhood Planning II		1
36.940G	Practice of Neighbourhood Planning I	3	
36.941G	Practice of Neighbourhood Planning II		3
36.923G	Land and Housing Economics	0	2
36.924G	Urban Sociology	2	0
		6	6

Year 2

36.942G	Practice of Neighbourhood Planning II	4	
36.943G	Practice of Neighbourhood Planning IV		4
36.922G	Communications and Public Utilities	0	2
36.925G	Housing Law and Administration	2	
		0	
		6	6

†This course is under review, and intending applicants are advised to contact the Head of School to obtain further information.

Graduate Study

Conditions for the Award of Higher Degrees

First Degrees

Rules, regulations and conditions for the award of first degrees are set out in the appropriate Faculty Handbooks.

For the list of undergraduate courses and degrees offered see **Disciplines of the University: Faculty Table (Undergraduate Study)** in the Calendar.

Higher Degrees

The following is the list of higher degrees and graduate diplomas of the University, together with the publication in which the conditons for the award appear.

For the list of graduate degrees by research and course work, arranged in faculty order, see **Disciplines of the University: Faculty Table (Graduate Study)** in the Calendar.

For the statements **Preparations and Submissions of Project Reports and Theses for Higher Degrees** and **Policy with respect to the use of Higher Degree Theses** see the Calendar.

Higher Degrees

Title	Abbreviation	Calendar/Handbook
Doctor of Science	DSc	Calendar
Doctor of Letters	DLitt	Calendar
Doctor of Laws	LLD	Calendar
Doctor of Medicine in the Faculty of Medicine	MD	Calendar Medicine
Doctor of Philosophy	**PhD**	**Calendar and all faculties**
Master of Applied Science	MAppSc	Applied Science
Master of Architecture	**MArch**	**Architecture**
Master of Arts	MA(Hons)	Arts Military Studies
	MA	Arts

	Title	Abbreviation	Calendar/Handbook
Higher Degrees (continued)	Master of Biomedical Engineering	MBiomedE	Engineering
	Master of Building	**MBuild**	**Architecture**
	Master of the Built Environment (Building Conservation)	**MBEnv**	**Architecture**
	Master of Business Administration	MBA	AGSM
	Master of Chemistry	MChem	Sciences*
	Master of Commerce (Honours)	MCom(Hons)	Commerce
	Master of Commerce	MCom	Commerce
	Master of Education	MEd	Professional Studies
	Master of Educational Administration	MEdAdmin	Professional Studies
	Master of Engineering Master of Engineering without Supervision	ME	Applied Science Engineering Military Studies
	Master of Engineering Science	MEngSc	Engineering Military Studies
	Master of General Studies	MGenStud	General Studies
	Master of Health Administration	MHA	Professional Studies
	Master of Health Personnel Education	MHPEd	Calendar†
	Master of Health Planning	MHP	Professional Studies
	Master of Landscape Architecture	**MLArch**	**Architecture**
	Master of Laws by Research	LLM	Law
	Master of Librarianship	MLib	Professional Studies
	Master of Mathematics	MMath	Sciences*
	Master of Optometry	MOptom	Sciences*
	Master of Physics	MPhysics	Sciences*
	Master of Psychology	MPsychol	Sciences‡
	Master of Public Administration	MPA	AGSM
	Master of Science Master of Science without Supervision	**MSc**	Applied Science **Architecture** Engineering Medicine Military Studies Sciences*‡
	Master of Science (Acoustics)	**MSc(Acoustics)**	**Architecture**
	Master of Science and Society	MScSoc	Sciences*
	Master of Science (Biotechnology)	MSc(Biotech)	Sciences‡
	Master of Science (Building)	**MSc(Building)**	**Architecture**
	Master of Social Work	MSW	Professional Studies
	Master of Statistics	MStats	Sciences*
	Master of Surgery	MS	Medicine
	Master of Surveying Master of Surveying without Supervision	MSurv	Engineering
	Master of Surveying Science	MSurvSc	Engineering
	Master of Town Planning	**MTP**	**Architecture**

*Faculty of Science.
‡Faculty of Biological Sciences.
†Professorial Board.

Graduate Diplomas

Title	Abbreviation	Calendar/Handbook
Graduate Diploma	**GradDip**	Applied Science **Architecture** Engineering Sciences*‡
	DipFDA	Sciences*
Graduate Diploma in the Faculty of Professional Studies	DipArchivAdmin	Professional Studies
	DipEd	
	DipLib	

*Faculty of Science.
‡Faculty of Biological Sciences.

Doctor of Philosophy (PhD)

1. The degree of Doctor of Philosophy may be granted by the Council on the recommendation of the Professorial Board to a candidate who has made an original and significant contribution to knowledge and who has satisfied the following requirements:

Qualifications

2. A candidate for registration for the degree of Doctor of Philosophy shall:

(1) hold an honours degree from the University of New South Wales; or

(2) hold an honours degree of equivalent standing from another approved university; or

(3) if the candidate holds a degree without honours from the University of New South Wales or other approved university, have achieved by subsequent work and study a standard recognized by the Higher Degree committee of the appropriate Faculty or Board of Studies (hereinafter referred to as the committee) as equivalent to honours; or

(4) in exceptional cases, submit such other evidence of general and professional qualifications as may be approved by the Professorial Board on the recommendation of the committee.

3. When the committee is not satisfied with the qualifications submitted by a candidate, the committee may require the candidate, before being permitted to register, to undergo such examination or carry out such work as the committee may prescribe.

Registration

4. A candidate for registration for a course of study leading to the degree of Doctor of Philosophy shall apply to the Registrar on the prescribed form at least one calendar month before the commencement of the session in which registration is to begin.

5. Subsequent to registration the candidate shall pursue a program of advanced study and research for at least six academic sessions, save that:

(1) a candidate fully engaged in advanced study and research for the degree, who before registration was engaged upon research to the satisfaction of the committee, may be exempted from not more than two academic sessions;

(2) in special circumstances the committee may grant permission for the candidate to spend not more than one calendar year of the program in advanced study and research at another institution provided that the work can be supervised in a manner satisfactory to the committee;

(3) in exceptional cases, the Professorial Board on the recommendation of the committee may grant permission for a candidate to be exempted from not more than two academic sessions.

6. A candidate who is fully engaged in research for the degree shall present for examination not later than ten academic sessions from the date of registration. A candidate not fully engaged in research shall present for examination not later than twelve academic sessions from the date of registration. In special cases an extension of these times may be granted by the committee.

7. The candidate shall be fully engaged in advanced study and research, save that:

(1) the committee may permit a candidate to undertake a limited amount of University teaching or outside work which in its judgement will not interfere with the continuous pursuit of the proposed course of advanced study and research;

(2) a member of the full-time staff of the University may be accepted as a part-time candidate for the degree, in which case the committee shall prescribe a minimum period for the duration of the program;

(3) in special circumstances, the committee may, with the concurrence of the Professorial Board, accept as a part-time candidate for the degree a person who is not a member of the full-time staff of the University and is engaged in an occupation which, in its opinion, leaves the candidate substantially free to pursue a program in a school* of the University. In such a case the committee shall prescribe for the duration of the program a minimum period which, in its opinion, having regard to the proportion of the time which the candidate is able to devote to the program in the appropriate University school* is equivalent to the six sessions ordinarily required.

8. Every candidate shall pursue a program under the direction of a supervisor appointed by the committee from the full-time members of the University staff. The work, other than field work, shall be carried out in a school* of the University save that in special cases the committee may permit a candidate to conduct the work at other places where special facilities not possessed by the University may be available. Such permission will be granted only if the direction of the work remains wholly under the control of the supervisor.

9. Not later than two academic sessions after registration the candidate shall submit the topic of research for approval by the committee. After the topic has been approved it may not be changed except with the permission of the committee.

10. A candidate may be required by the committee to attend a formal course of appropriate study.

Thesis

11. On completing the course of study every candidate must submit a thesis which complies with the following requirements:

(1) the greater proportion of the work described must have been completed subsequent to registration for the PhD degree;

(2) it must be an original and significant contribution to the knowledge of the subject;

(3) it must be written in English except that a candidate in the Faculty of Arts may be required by the Faculty on the recommendation of the supervisor to write the thesis in an appropriate foreign language;

(4) it must reach a satisfactory standard of expression and presentation.

12. The thesis must present the candidate's own account of the research. In special cases work done conjointly with other persons may be accepted, provided the committee is satisfied on the candidate's part in the joint research.

13. Every candidate shall be required to submit with the thesis a short abstract of the thesis comprising not more than 600 words.

The abstract shall indicate:

(1) *the problem investigated;*

(2) *the procedures followed;*

(3) *the general results obtained;*

(4) *the major conclusions reached;*

but shall not contain any illustrative matter, such as tables, graphs or charts.

14. A candidate may not submit as the main content of the thesis any work or material which has previously been submitted for a university degree or other similar award.

*Or department where a department is not within a school.

Entry for Examination

15. The candidate shall give in writing two months' notice of intention to submit the thesis.

16. Four copies of the thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may also submit any work previously published whether or not such work is related to the thesis.

17. It shall be understood that the University retains the four copies of the thesis submitted for examination, and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968 the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

18. There shall normally be three examiners of the thesis, appointed by the Professorial Board on the recommendation of the committee, at least two of whom shall be external to the University.

19. At the conclusion of the examination each examiner shall submit to the committee a concise report on the merits of the thesis and shall recommend to the committee that:

(1) The candidate be awarded the degree without further examination; or

(2) the candidate be awarded the degree without further examination subject to minor corrections as listed being made to the satisfaction of the head of the school*; or

(3) the candidate be awarded the degree subject to a further examination on questions posed in the report, performance in this further examination being to the satisfaction of the committee; or

(4) the candidate be not awarded the degree but be permitted to resubmit the thesis in a revised form after a further period of study and/or research; or

(5) the candidate be not awarded the degree and be not permitted to resubmit the thesis.

20. If the performance at the further examination recommended under Rule **19.** (3) is not to the satisfaction of the committee the committee may permit the candidate to re-present the same thesis and submit to a further oral, practical or written examination within a period specified by them but not exceeding eighteen months.

21. The committee shall, after consideration of the examiners' reports and the reports of any oral or written or practical examination, recommend whether or not the candidate may be admitted to the degree.

22. A candidate shall be required to pay such fees as may be determined from time to time by the Council.

Master of Architecture (MArch)

1. The degree of Master of Architecture may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of Architecture (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation or design.

*Or department where a department is not within a School.

Qualifications

2. (1) An applicant for registration shall have been admitted to the degree of Bachelor of Architecture in the University of New South Wales, or other approved university.

(2) In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Committee.

(3) Notwithstanding any other provisions of these conditions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

Registration

3. (1) An application to register as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the commencement of the session in which the candidate desires to register.

(2) In every case, before permitting an applicant to register as a candidate, the Committee shall be satisfied that adequate supervision and facilities are available.

(3) An approved applicant shall register in one of the following categories:

(a) student in full-time attendance at the University;

(b) student in part-time attendance at the University;

(c) student working externally to the University

(4) Every candidate for the degree shall be required to carry out a program of advanced study, to take such examinations, and to perform such other work as may be prescribed by the Committee which shall include the preparation and submission of a thesis embodying the results of an original investigation or design relative to Architecture. The work shall be carried out under the direction of a supervisor appointed by the Committee or under such conditions as the Committee may determine.

(5) No candidate shall be considered for the award of the degree until the lapse of four complete sessions from the date from which registration becomes effective, save that in the case of a candidate who obtains the degree of Bachelor with Honours, or who has had previous research experience this period may, with the approval of the Committee be reduced by up to two sessions.

Thesis

4. (1) A candidate for the degree shall be required to submit three copies of the thesis referred to in paragraph **3.**(4) above which shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may submit also for examination any work he has published, whether or not such work is related to the thesis.

(2) For each candidate there shall be at least two examiners appointed by the Professorial Board on the recommendation of the Committee, one of whom shall, if possible, be an external examiner.

(3) It shall be understood that the University retains the three copies of the thesis submitted for examination, and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968 the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

Recommendation for Admission to Degree

5. Having considered the examiners' reports the Committee shall recommend whether or not the candidate should be admitted to the degree.

6. An approved candidate shall pay such fees as may be determined from time to time by the Council.

Master of Building (MBuild)

1. The degree of Master of Building may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of Architecture (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation or design.

Qualifications

2. (1) An applicant for registration for the degree shall have been admitted to the degree of Bachelor in the University of New South Wales, or other approved university, in an appropriate school.

(2) In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Committee.

(3) Notwithstanding any other provisions of these conditions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

Registration

3. (1) An application to register as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the commencement of the session in which the candidate desires to register.

(2) In every case, before permitting an applicant to register as a candidate, the Committee shall be satisfied that adequate supervision and facilities are available.

(3) An approved applicant shall register in one of the following categories:

(a) student in full-time attendance at the University;

(b) student in part-time attendance at the University;

(c) student working externally to the University.

(4) Every candidate for the degree shall be required to carry out a program of advanced study, to take such examinations, and to perform such other work as may be prescribed by the Committee which shall include the preparation and submission of a thesis embodying the results of an original investigation or design relative to building. The work shall be carried out under the direction of a supervisor appointed by the Committee or under such conditions as the Committee may determine.

(5) No candidate shall be considered for the award of the degree until the lapse of four complete sessions from the date from which registration becomes effective, save that in the case of a candidate who obtains the degree of Bachelor with Honours, or who has had previous research experience, this period may, with the approval of the Committee be reduced by up to two sessions.

Thesis

4. (1) A candidate for the degree shall be required to submit three copies of the thesis referred to in paragraph **3.**(4) which shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may submit also for examination any work he has published, whether or not such work is related to the thesis.

(2) For each candidate there shall be at least two examiners appointed by the Professorial Board on the recommendation of the Committee, one of whom shall, if possible, be an external examiner.

(3) It shall be understood that the University retains the three copies of the thesis submitted for examination, and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968 the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

Recommendation for Admission to Degree

5. Having considered the examiners' report the Committee shall recommend whether or not the candidate should be admitted to the degree.

Fees

6. An approved candidate shall pay such fees as may be determined from time to time by the Council.

Master of the Built Environment (Building Conservation) (MBEnv)

1. The degree of Master of the Built Environment (Building Conservation) by formal course work may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of Architecture (hereinafter referred to as the Committee) to a candidate who has satisfactorily completed an approved program of advanced study.

Qualifications

2. (1) An applicant for registration for the degree shall normally be a graduate from an appropriate four-year, full-time undergraduate course in the University of New South Wales, or other approved university or tertiary institute.

(2) In exceptional cases an applicant may be registered as a candidate for the degree if he submits evidence of such academic and professional attainment as may be approved by the Committee.

(3) Notwithstanding any other provisions of these conditions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

Registration

3. (1) An application to register as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two months before the commencement of the course.

(2) A candidate for the degree shall be required to undertake such course of formal study, pass such examinations and submit a report on a project as prescribed by the Committee.

(3) No candidate shall be considered for the award of the degree until the lapse of two sessions in the case of a full-time candidate or four sessions in the case of a part-time candidate.

(4) The progress of a candidate shall be reviewed annually by the Committee on the recommendation of the Head of School in which the candidate is registered and as a result of such review the Committee may terminate the candidature.

Project

4. (1) A report on a project approved by the Committee may be submitted at the completion of the formal section of the course, but in any case shall be submitted not later than one year after the completion of the course.

(2) The format of the report shall accord with the instructions of the Head of School and shall comply with the requirements of the Committee for the submission of project reports.

(3) (a) The report shall be examined by two examiners appointed by the Professorial Board on the recommendation of the Committee.

(b) A candidate may be required to attend for an oral or written examination.

Recommendation for Admission to Degree

5. Having considered the examiners' reports, and the candidate's other results in the prescribed course of study, the Committee shall recommend the candidate may be admitted to the degree.

Fees

6. An approved candidate shall pay such fees as may be determined from time to time by the Council.

Master of Landscape Architecture (MLArch)

1. The degree of Master of Landscape Architecture may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of Architecture (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation or design.

Qualifications

2. (1) An applicant for registration for the degree shall have been admitted to the degree of Bachelor in the University of New South Wales, or other approved university, in an appropriate field.

(2) In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Committee.

(3) Notwithstanding any other provisions of these conditions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

Registration

3. (1) An applicant to register for the degree shall apply on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the commencement of the session in which the candidate desires to register.

(2) In every case, before permitting an applicant to register as a candidate, the Committee shall be satisfied that adequate supervision and facilities are available.

(3) An approved applicant shall register in one of the following categories:

(a) student in full-time attendance at the University;

(b) student in part-time attendance at the University;

(c) student working externally to the University.

(4) Every candiate for the degree shall be required to carry out a program of advanced study, to take such examinations, and to perform such other work as may be prescribed by the Committee which shall include the preparation and submission of a thesis embodying the results of an original investigation or design relative to Landscape Architecture. The work shall be carried out under the direction of a supervisor appointed by the Committee or under such conditions as the Committee may determine.

(5) No candidate shall be considered for the award of the degree until the lapse of four complete sessions from the date from which registration becomes effective, save that in the case of a candidate who obtains the degree of Bachelor with Honours or who has had previous research experience, this period may, with the approval of the Committee be reduced by up to two sessions.

Thesis

4. (1) A candidate for the degree shall be required to submit three copies of the thesis referred to in paragraph **3.**(4) which shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may submit also for examination any work he has published, whether or not such work is related to the thesis.

(2) For each candidate there shall be at least two examiners appointed by the Professorial Board on the recommendation of the Committee, one of whom, shall, if possible be an external examiner.

(3) It shall be understood that the University retains the three copies of the thesis submitted for examination, and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

Recommendation for Admission to Degree

5. Having considered the examiners' reports the Committee shall recommend whether or not the candidate should be admitted to the degree.

Fees

6. An approved candidate shall pay such fees as may be determined from time to time by the Council.

Master of Science (MSc)

1. The degree of Master of Science may be awarded by the Council on the recommendation of the Higher Degree Committee of the appropriate Faculty or Board of Studies (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation.

Qualifications

2. (1) An applicant for registration for the degree shall have been admitted to the degree of Bachelor in the University of New South Wales, or other approved University in an appropriate School or Department.

(2) In exceptional cases a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Professorial Board on the recommendation of the appropriate Committee.

(3) Notwithstanding any other provisions of these conditions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

Registration

3. (1) An application to register as a candidate for the degree of Master of Science shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the commencement of the session in which the candidate desires to register.

(2) In every case before permitting an applicant to register as a candidate the Committee shall be satisfied that adequate supervision and facilities are available.

(3) An approved applicant shall register in one of the following categories:

(a) student in full-time attendance at the University

(b) student in part-time attendance at the University

(c) student working externally to the University

(4) Every candidate for the degree shall be required to submit three copies of a thesis embodying the results of an original investigation or design, to take such examinations and to perform such other work as may be prescribed by the Committee. This work shall be carried out under the direction of a supervisor appointed by the Committee or under such conditions as the Committee may determine.

(5) At least once a year and at any other time that the Committee sees fit the candidate's supervisor shall present to the Head of School in which the candidate is registered a report on the progress of the candidate. The Committee shall review the report and as a result of its review may cancel registration or take such other action as it considers appropriate.

(6) Unless otherwise recommended by the Committee, no candidate shall be awarded the degree until the lapse of four complete sessions from the date of registration, save that the case of candidate who obtained the degree of Bachelor with Honours or who has had previous research experience, this period may be reduced by up to two sessions with approval of the Committee. A candidate who is fully engaged in research for the degree shall present himself for examination not later than six academic sessions from the date of registration. A candidate not fully engaged in research shall present himself for examination not later than twelve academic sessions from the date of his registration. In special cases an extension of these times may be granted by the Committee.

Thesis

4. (1) A candidate for the degree shall be required to submit three copies of the thesis referred to in paragraph **3.**(4) which shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may submit also for examination any work he has published whether or not such work is related to the thesis.

(2) For each candidate there shall be at least two examiners, appointed by the Professorial Board on the recommendation of the Committee, one of whom, if possible shall be external to the University.

(3) It shall be understood that the University retains the three copies of the thesis submitted for examination and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968 the University may issue the thesis in whole or in part in photostat or microfilm or other copying medium.

5. Having considered the examiners' reports the Committee shall recommend whether or not the candidate should be admitted to the degree.

Recommendation for Admission to Degree

6. An approved candidate shall pay such fees as may be determined from time to time by the Council.

Fees

1. The degree of Master of Science (Acoustics) by formal course work may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of Architecture (hereinafter referred to as the Committee) to a candidate who has satisfactorily completed an approved program of advanced study.

Master of Science (Acoustics) (MSc(Acoustics))

2. (1) An applicant for registration for the degree shall have been admitted to an appropriate degree (not less than four years duration) of the University of New South Wales or an equivalent degree of another approved university or tertiary institution.

Qualifications

(2) In exceptional cases an applicant may be registered as a candidate for the degree if he submits evidence of such academic and professional attainment as may be approved by the Committee.

(3) Notwithstanding any other provisions of these conditions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

3. (1) An application to register as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two months before the commencement of the course.

Registration

(2) A candidate for the degree shall be required to undertake such course of formal study, pass such examinations and submit a report on a project as prescribed by the Committee.

(3) No candidate shall be considered for the award of the degree until the lapse of two sessions in the case of a full-time candidate or four sessions in the case of a part-time candidate.

(4) The progress of a candidate shall be reviewed annually by the Committee on the recommendation of the Head of School in which the candidate is registered and as a result of such review the Committee may terminate the candidature.

4. (1) A report on a project approved by the Committee may be submitted at the completion of the formal section of the course, but in any case shall be submitted not later than one year after the completion of the course.

Project

(2) The format of the report shall accord with the instructions of the Head of the School and shall comply with the requirements of the Committee for the submission of project reports.

(3) (a) The report shall be examined by two examiners appointed by the Professorial Board on the recommendation of the Committee.

(b) A candidate may be required to attend for an oral or written examination.

5. Having considered the examiners' reports, and the candidate's other results in the prescribed course of study, the Committee shall recommend whether the candidate may be admitted to the degree.

Recommendation for Admission to Degree

6. An approved candidate shall pay such fees as may be determined from time to time by the Council.

Fees

Master of Science Building (MSc(Building))

1. The degree of Master of Science (Building) by formal course work may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of Architecture (hereinafter referred to as the Committee) to a candidate who has satisfactorily completed an approved program of advanced study.

Qualifications

2. (1) An applicant for registration for the degree shall have been admitted to an appropriate degree in the University of New South Wales or other approved university at a level approved by the Committee.

(2) In exceptional cases an applicant may be registered as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Committee.

(3) Notwithstanding any other provisions of these condtions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

Registration

3. (1) An application to register as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two months before the commencement of the course.

(2) A candidate for the degree, shall be required to undertake such course of formal study, pass such examinations and, where specified, submit a report on a project, as prescribed by the Committee.

(3) No candidate shall be considered for the award of the degree until the lapse of four sessions from the date from which registration becomes effective.

(4) The progress of a candidate shall be reviewed annually by the Committee on the recommendation of the Head of School in which the candidate is registered and as a result of such review the Committee may terminate the candidature.

Project

4. (1) A report on Graduate project approved by the Committee shall be submitted at the completion of the formal section of the course, not later than one year after the completion of the course.

(2) The format of the report shall accord with the instructions of the Head of School and shall comply with the requirements of the Committee for the submission of project reports.

(3) (a) The report shall be examined by two examiners appointed by the Professorial Board on the recommendation of the Committee.

(b) A candidate may be required to attend for an oral or written examination.

Recommendation for Admission to Degree

5. Having considered the examiners' reports where appropriate and the candidate's other results in the prescribed course of study, the Committee shall recommend wheher the candidate may be admitted to the degree.

Fees

6. An approved candidate shall pay such fees as may be determined from time to time by the council.

Master of Town Planning (MTP)

1. The degree of Master of Town Planning may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of Architecture (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation or design.

Qualifications

2. (1) An applicant for registration shall have been admitted to the Degree of Bachelor of Town Planning in the University of New South Wales, or to a Bachelor's degree in Town or Regional Planning of an approved university.

(2) In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Committee.

(3) Nothwithstanding any other provisions of these conditions the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Committee may determine.

Registration

3. (1) An application to register as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the commencement of the session in which the candidate desires to register.

(2) In every case, before permitting an applicant to register as a candidate, the Committee shall be satisfied that adequate supervision and facilities are available.

(3) An approved applicant shall register in one of the following categories:

(a) student in full-time attendance at the University;

(b) student in part-time attendance at the University;

(c) student working externally to the University.

(4) Every candidate for the degree shall be required to carry out a program of advanced study, to take such examinations, and to perform such other work as may be prescribed by the Committee which shall include the preparation and submission of a thesis embodying the results of an original investigation or design relative to Town or Regional Planning. The work shall be carried out under the direction of a supervisor appointed by the Committee of under such conditions as the Committee may determine.

(5) No candidate shall be considered for the award of the degree until the lapse of four complete sessions from the date from which registration becomes effective, save that in the case of a candidate who obtains the degree of Bachelor with Honours or who has had previous research experience, this period may, with the approval of the Committee be reduced by up to two sessions.

Thesis

4. (1) A candidate for the degree shall be required to submit three copies of the thesis referred to in paragraph **3.**(4) which shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may submit also for examination any work he has published, whether or not such work is related to the thesis.

(2) For each candidate there shall be at least two examiners appointed by the Professorial Board on the recommendation of the Committee one of whom shall, if possible be an external examiner.

(3) It shall be understood that the University retains the three copies of the thesis submitted for examination, and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968 the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

Recommendation for Admission to Degree

5. Having considered the examiners' reports the Committee shall recommend whether or not the candidate should be admitted to the degree.

Fees

6. An approved candidate shall pay such fees as may be determined from time to time by the Council.

Graduate Diploma (GradDip)

1. An application for admission to a graduate diploma course shall be made on the presribed form which should be lodged with the Registrar at least two full calendar months before the commencement of the course.

2. An applicant for admission to a graduate diploma course shall be:

(1) a graduate of the University of New South Wales or other approved university,

(2) a person with other qualifications as may be approved by Faculty.

3. Nothwithstanding clause **2.** above, Faculty may require an applicant to take such other prerequisite or concurrent studies and/or examinations as it may prescribe.

4. Every candidate for a graduate diploma shall be required to undertake the appropriate course of study, to pass any prescribed examinations, and if so laid down in the course, to complete a project or assignment specified by the Head of the School. The format of the report on such project or assignment shall accord with the instructions laid down by the Head of the School.

5. An approved applicant shall be required to pay the fee for the course in which he desires to register. Fees shall be paid in advance.

Subject Descriptions

Identification of Subjects by Numbers

Each of the subjects taught in the University is identifiable both by number and by name. This is a fail-safe measure at the points of enrolment and examination against a student nominating a subject other than the one intended. Subject numbers are allocated by the Assistant Registrar, Examinations and Student Records, and the system of allocation is:

1. The School offering a subject is indicated by the number before the decimal point;

2. If a subject is offered by a Department within a School, the first number after the decimal point identifies that Department;

3. The position of a subject in a sequence is indicated by the third number after the decimal point. For example, 2 would indicate that the subject is the second in a sequence of subjects;

4. Graduate subjects are indicated by the suffix G.

As indicated above, a subject number is required to identify each subject in which a student is to be enrolled and for which a result is to be returned. Where students may take electives within a subject, they should desirably be enrolled initially in the particular elective, and the subject numbers allotted should clearly indicate the elective. Where it is not possible for a student to decide on an elective when enrolling or re-enrolling, and separate examinations are to be held in the elective, Schools should provide to the Examinations and Student Records Section in April (Session 1) and August (Session 2) the names of students taking each elective. Details of the actual dates in April and August are set out in the Calendar of Dates earlier in this volume.

Those subjects taught in each Faculty are listed in full in the handbook of that Faculty, in the section entitled **Subject Descriptions.**

Servicing Subjects are those taught by a School or Department outside its own Faculty, and are listed at the end of **Undergraduate Study** or **Graduate Study** of the relevant School. Their subject descriptions are published in the handbook of the Faculty in which the subject is taught.

The following pages contain descriptions for most of the subjects offered for the courses described in this book, the exception being the General Studies subjects. For General Studies subjects see the **General Studies Handbook** which is available free of charge.

Information Key

The following is the key to the information supplied about each subject listed below: S1 (Session 1); S2 (Session 2); F (Full year ie Session plus Session 2); S1 or S2 (Session 1 *or* Sesison 2, ie choice of either session); SS (Single Session, ie which session taught not known at time of publication); L (Lecture, followed by hours per week); T (Laboratory/Tutorial, followed by hours per week).

HSC Exam Prerequisites

Subjects which require prerequisites for enrolment in terms of the HSC Examination percentile range, refer to the **1978 and subsequent HSC Examinations.**

Candidates for enrolment who obtained the HSC in previous years or hold other high school matriculation should check with the appropriate School on what matriculation status is required for admission to a subject.

	School, Department etc	Faculty	Page
	*Subjects also offered for courses in this Handbook		
1	School of Physics*	Science	
2	School of Chemistry*	Science	
3	School of Chemical Engineering	Applied Science	
4	School of Metallurgy*	Applied Science	
5	School of Mechanical and Industrial Engineering*	Engineering	
6	School of Electrical Engineering	Engineering	
7	School of Mining Engineering	Applied Science	
8	School of Civil Engineering*	Engineering	
9	School of Wool and Pastoral Sciences	Applied Science	
10	School of Mathematics*	Science	
11	**School of Architecture**	**Architecture**	
12	School of Psychology*	Biological Sciences	
13	School of Textile Technology	Applied Science	
14	School of Accountancy*	Commerce	
15	School of Economics	Commerce	
16	School of Health Administration	Professional Studies	
17	Biological Sciences	Biological Sciences	
18	School of Mechanical and Industrial Engineering (Industrial Engineering)	Engineering	
21	**Department of Industrial Arts**	**Architecture**	
22	School of Chemical Technology	Applied Science	
23	School of Nuclear Engineering	Engineering	
24	School of Transport and Highways*	Engineering	
25	School of Applied Geology	Applied Science	
26	Department of General Studies	Board of Studies in General Education	
27	School of Geography*	Applied Science	
28	School of Marketing	Commerce	
29	School of Surveying*	Engineering	
30	Department of Organizational Behaviour	Commerce	
31	School of Optometry	Science	
32	Centre for Biomedical Engineering	Engineering	
35	**School of Building**	**Architecture**	
36	**School of Town Planning**	**Architecture**	
37	**School of Landscape Architecture**	**Architecture**	
38	School of Food Technology	Applied Science	

	School, Department etc	Faculty	Page
	*Subjects also offered for courses in this Handbook		
39	**Graduate School of the Built Environment**	**Architecture**	
40	Professorial Board		
41	School of Biochemistry	Biological Sciences	
42	School of Biological Technology	Biological Sciences	
43	School of Botany*	Biological Sciences	
44	School of Microbiology	Biological Sciences	
45	School of Zoology	Biological Sciences	
50	School of English	Arts	
51	School of History	Arts	
52	School of Philosophy	Arts	
53	School of Sociology*	Arts	
54	School of Political Science	Arts	
55	School of Librarianship	Professional Studies	
56	School of French	Arts	
57	School of Drama	Arts	
58	School of Education*	Professional Studies	
59	School of Russian	Arts	
62	School of History and Philosophy of Science	Arts	
63	School of Social Work	Professional Studies	
64	School of German	Arts	
65	School of Spanish and Latin American Studies	Arts	
66	Subjects Available from Other Universities		
68	Board of Studies in Science and Mathematics	Board of Studies in Science and Mathematics	
70	School of Anatomy	Medicine	
71	School of Medicine	Medicine	
72	School of Pathology	Medicine	
73	School of Physiology and Pharmacology	Medicine	
74	School of Surgery	Medicine	
75	School of Obstetrics and Gynaecology	Medicine	
76	School of Paediatrics	Medicine	
77	School of Psychiatry	Medicine	
79	School of Community Medicine	Medicine	
80	Faculty of Medicine	Medicine	
85	Australian Graduate School of Management	AGSM	
90	Faculty of Law	Law	
97	Division of Postgraduate Extension Studies		

School of Physics

Undergraduate Study

1.001 Physics I — F L3T3

Prerequisite:

	HSC Exam Percentile Range Required
2 unit Mathematics	*71-100*
or	
3 unit Mathematics	*21-100*
or	
4 unit Mathematics	*1-100*
or	
10.021B (for 1.001 only)	
and	
2 unit	
Science (incl. Physics and/or Chem.)	*31-100*
or	
4 unit Science (incl. Physics and/or Chem.)	*31-100*

Co-requisites: 10.021C or 10.001 or 10.0011.

Aims and nature of physics and the study of motion of particles under the influence of mechanical, electrical, magnetic and gravitational forces. Concepts of force. Inertial mass, energy, momentum, charge, potential, fields. Application of the conservation principles to solution of problems involving charge, energy and momentum. Electrical circuit theory, application of Kirchoff's Laws to AC and DC circuits. Uniform circular motion. Kepler's Laws and rotational mechanics.

A molecular approach to energy transfer, kinetic theory, gas laws and calorimetry. The wave theories of physics, transfer of energy by waves, properties of waves. Application of wave theories to optical and acoustical phenomena such as interference, diffraction and polarization. Interaction of radiation with matter, photoelectric effect, Compton effect, spectroscopy. Resolution of the wave-particle paradox by means of wave mechanics and the uncertainty principle.

1.011 Higher Physics I — F L3T3

Prerequisites:

	HSC Exam Percentile Range Required
2 unit Mathematics	*71-100*
or	
3 unit Mathematics	*21-100*
or	
4 unit Mathematics	*1-100*
and	
2 unit Science (incl. Physics and/or Chem.)	*31-100*
or	
4 unit Science (incl. Physics and/or Chem.)	*31-100*

Co-requisite: 10.001 or 10.011.

For students of all Faculties except Medicine who have a good secondary school record and who wish to do a more challenging course. Entry to this course requires permission from the Head of the School of Physics.

As for 1.001 with additional topics: space physics, mechanical properties of real materials, rotational dynamics, physics of biological systems. AC and charged particle dynamics, physics of energy resources and conversion.

1.021 Introductory Physics (For Health and Life Scientists) — F L3T3

Co-requisites: 10.021A and 10.021B or 10.021B and 10.021C, or 10.021 or 10.001 or 10.011.

An introductory subject in physics designed principally for students majoring in the life and health science disciplines. Discusses the following topics at an introductory level.

The methods of physics, describing motion, the dynamics of a particle, conservation of energy, kinetic theory of gases, properties of liquids, vibrations and waves, electricity and conduction in solids, ions and ionic conduction, magnetism and electromagnetic induction, alternating current, atomic nature of matter, X-rays, the nucleus and radioactivity, electronics, and *either* geometrical optics, optical instruments, wave optics, microscopes and their uses *or* advanced electronics (Optometry students).

1.931 Physics I (Building)

4 credit points; compulsory. Prerequisites: nil.

Mechanics of solids: Kinematics. Newton's Law of motion, work and energy. Atomistic description of mechanical properties of matter. Atomic structure of matter. Elasticity. Plasticity: dislocations, fracture, viscosity. Electrostatics, electromagnetism and D.C. circuits: Coulomb's Law. Electric field. Electric potential. Capacitance. Electrical energy sources. Conductors. Resistivity. Atomic view of conduction. EMF. Kirchoff's laws. Magnetic induction. Torque on a coil in magnetic field. Moving coil meter. Wheatstone's bridge. Potentiometer. Faraday's law. Transient circuits.

Wave motion, heat light and sound: Simple harmonic motion. Wave motion. Interference, Doppler effect. Energy transfer. Heat, heat capacity. Joule's equivalent. Thermometry. Convection. Conduction. Radiation. Black body. Emittance. Absorptance. Light. Electro-magnetic spectrum. Huyghens' principle. Curved mirrors. Lenses. Dispersion. Interference. Polarization. Photometry. Colorimetry. Sound. Longitudinal waves. Overtones. Intensity levels. Decibels. Quality of sound.

Graduate Study

Not all graduate course subjects are necessarily offered in any one year.

1.927G Acoustic Theory — S1 L1½T½

Prerequisites: nil.

Free field propagation in fluids; interference and diffraction; absorption; boundary effects; reflection and transmission at fluid/fluid and fluid/solid interfaces; fluid wave guides; solid wave guides; room acoustics; ultrasonic transducers and measurement methods; Fourier analysis; statistical methods; impulse measurement.

1.937G Acoustic Measuring Systems and Electroacoustics **S1 L2**

Prerequisites: nil.

Transducers; microphones; amplifiers; loudspeakers; filters, recorders, pick-ups; noise generators; acoustic measuring instruments; sound reinforcement systems, ambiophony; assisted resonance; special requirements for translation; language laboratories.

1.947G Advanced Physical Acoustics **S1 L3T1**

Prerequisites: 1.937G, 1.957G.

Elasticity; waves in an infinite solid; waves in crystals; acoustic wave guides; ultrasonic transducers and measurements; defects in solids; acoustic emission; ultrasonic imaging methods; absorption in fluids; theory of acoustic absorbers; acoustic impedance; practical absorbers.

1.957G Acoustic Laboratory and Signal Analysis **S2 L1T2**

Prerequisite: 1.927G.

Theory and practice of digital methods of analysis in the time and frequency domain. Practical experiments illustrating basic methods and concepts in acoustics.

School of Chemistry

Undergraduate Study

2.121 Chemistry 1A **S1 or S2 L2T4**

Prerequisites:

	HSC Exam Percentile Range Required
2 unit Science (any strands)	*31-100*
or	
4 units Science (multi strand)	*31-100*
or	
2.111	

Stoichiometry and solution stoichiometry. Structure of matter, solids, liquids, gases. Thermochemistry. Equilibria and equilibrium constants, entropy changes, free energy changes, the relationship between equilibrium and standard free energy changes. Ideal solutions, colligative properties. Equilibrium in electrolyte solutions, acid-base equilibria, solubility equilibria and redox equilibria. The rate of a chemical change and chemical kinetics.

2.131 Chemistry IB **S1 or S2 L2T4**

Prerequisites: 2.111 Introductory Chemistry or 2.121 Chemistry IA.

Relative stability of oxidation states. Electronic structure of atoms in terms of the quantum mechanical model. Structure of the Periodic Table and its relationship to electronic configuration. Chemical bonding, hybridization. Properties of compounds of selected elements, acid-base character of oxides and hydroxy compounds. Chemistry of carbon compounds, stereoisomerism, reactions of aliphatic and aromatic hydrocarbons, alcohols, phenols, ethers, alkyl halides, aldehydes, ketones, carboxylic acids and their derivatives, esters, acyl halides, anhydrides, amides, amines.

School of Metallurgy

Undergraduate Study

4.911 Materials Science **L1T½**

The atomic structure of metals. The grain structure of metals; origin; modification. Structure of alloys: theory. Structure, properties and heat treatment of commercially important alloys cased on aluminium, copper and iron in particular. Corrosion. Control of structure and properties, commercial alloys, materials selection.

4.951 Materials Technology **L2T2**

Materials selection, based on structure and properties. Equilibrium and kinetics in metallic systems. The structure of ceramics with particular reference to silicates. Structural changes. Electroplating processes considered from a theoretical and practical standpoint. Structure and testing of electrodeposits; electrochemical protection. The structure, properties and technology of wood.

School of Mechanical and Industrial Engineering

Undergraduate Study

5.010 Engineering A — SS L4T2

Prerequisite:

	HSC Exam Percentile Range Required
Either	
2 unit Science (incl. Physics)	*31-100*
or	
4 unit Science (incl. Physics)	*11-100*
2 unit Industrial Arts	*31-100*
or	
3 unit Industrial Arts	*11-100*

Students who wish to enrol in this subject can make up for the lack of the prerequisite by work taken in Physics in the first half of first year.

Statics: Composition and resolution of forces, laws of equilibrium. Friction. Statics of rigid bars, pin jointed frames and beams. Simple states of stress. Statics of fluids.

Introduction to Engineering Design: Engineering method, problem identification, creative thinking, mathematical modelling.

Stoitics: Computer aided design, materials and processes, communication of ideas, the place of engineering in society.

Introduction to Materials Science: The structure and properties of the main types of engineering materials, with emphasis on the way in which properties may be controlled by controlling structure.

5.030 Engineering C — SS L/T6

Engineering Drawing: Graphic communication first and third angle orthographic projection and isometric projection. Descriptive geometry fundamentals and their application to engineering problems with special emphasis on visualization of problems and development of methods for their solution. Australian standard engineering drawing practice. Applications involving detail and assembly drawings, functional dimensioning and tolerancing.

And one of the following options (determined by the course of study).

1. (Mechanical, Industrial and Aeronautical Engineering and Naval Architecture students must take this option) *Design for Manufacture I:* Approximately 30 hours of workshop training, including casting, fitting, machining, welding. Principles of design for manufacture.

2. *Production Technology:* Description and appraisal of the processes classified as: forming from liquid or solid, material removal, material joining. Machines. Analysis of the primary functions of the machine tools and an appraisal of their limitations. Principles of operation of common machine tools and illustrations of their use.

3. *Introduction to systems and Computers:* Introduction to computers to follow the computer work in Mathematics I. To develop: A familiarity with algorithms; B the use of procedure-oriented language, and C an introduction to computing equipment.

Systems: To give students an appreciation of some of the concepts used in engineering, to relate the concepts to phenomena within their experience, and to illustrate them by case histories and engineering examples. Quantities. Concepts. Components. Systems.

4. (Chemical Engineering students must take this option) *Introduction to Chemical Engineering:* Routes to and end uses of industrial chemicals. Likely new industrial chemicals. A survey of several Australian chemical industries from the point of view of their historical and economic importance. Examination of the unit operations involved in the industry and the raw materials, equipment and services used. Environmental aspects of the chemical industry.

5. (Metallurgy students must take this option) *Introduction to Metallurgical Engineering:* History and signficance of the exploitation of metals. Ores, mineral economics, mineral processing, and metal extraction and processing methods illustrated by reference to the Australian mineral and metal industries. Properties, uses and applications of metallic materials. The role of the metallurgist in industry and in processing and materials research, and in relation to conservation and the environment.

6. (Mining Engineering students must take this option) *Introduction to Mining Engineering:* Mineral deposits: metallic, non-metallic and fuels. Elements of prospecting and exploration. Basic mining techniques. Mining phases; development, exploitation, beneficiation and withdrawal. Mining and the environment. Mining services. Relevance of basic science and engineering subjects to mining design and operations.

7. (Electrical Engineering students must take this option) *Introduction to Computing:* Introduction to computer program design with emphasis on the design of correct, reliable programs. The subject is organized on a tutorial basis and a number of simple fundamental programming tasks are illustrated. Programs are written in a high-level language which provides facilities for the specification of algorithms and data structure.

8. (Industrial Chemistry students must take this option) *Introduction to Chemical Technology:* Introduction to computation in chemical technology: process flow diagrams, information flow diagrams, flow charts in computer programming, developing of algorithms. Principle of operation of processors. Batch and real-time processing. Concepts of steady-state and unsteady-state simulation. Programming in Fortran IV and Real-Time Basic and of programmable calcultors. Concepts of on-line data acquisition and reduction. Data processing laboratory and plant data.

9. (Ceramic Engineering students must take this option) *Introduction to Ceramic Engineering:* The nature of ceramics. Classification of materials. The materials science approach. History of ceramics. The ceramic engineer and society. The origin, classification, physical properties and use of clay minerals and other non-clay raw materials. Principal and operations used in the ceramic industry. Drying and firing of ceramics, melt forming, pot forming and other forming procedures.

School of Architecture

Undergraduate Study

Architectural Design — General

11.4101 Principles of Design

4 credit points. Prerequisites: nil.

The meaning of design as the process of designation for a purpose. Selection, making, art.

The origin and cause of human aims in general. Motivations: need, desire, aspiration. Motivations affecting the field of architecture on the physical, mental and spiritual level.

Introduction to aim-possibility-act-fulfillment, the four cornerstones of the design process. The meaning and role of analysis in the understanding and exploration of the above. The relationship between possibility and act: the principle of successive limitation.

The design process and the physical and human context in which it is destined to fit.

Practical studio projects in problem-solving exercises in two and three dimensions taken from all the disciplines of the built environment.

11.4102 Design Theory I

5 credit points. Prerequisites: 11.4101.

Introduction to methodology, especially design methodology. Development in detail of methodical analysis and research applied to the comprehension of design aims, possibilities and acts. Introduction to complete design methods in general and expansive study of simple models followed by contemporary architects.

Practical studio projects to apply design methods in problem-solving exercises leading to simple architectural synthesis.

11.4103 Design Theory II

5 credit points. Prerequisites: 11.4012, 11.4201

Development of systematic design processes: identification of different methods and their influences. Investigation and comparison of various tools and techniques, their respective limitations and suitability for problem types.

Investigation of human sciences techniques and their application to the design process. Introduction to computer-aided design and more complex design systems. Introduction to problems of anticipation, user-participation, evaluation, survey methods.

Practical studio projects apply various design processes to projects leading to architectural synthesis.

11.4120 Design Theory III

4 credit points. Prerequisite: 11.4103.

Advanced and specialized design-methods. Criteria of various decision theories. Cybernetics. Statistical methods. Linear and cyclic models of the process of synthesis, their evaluation and suitability to specific architectural tasks.

Practical application centres on selected case studies.

11.4121 Theory of Form

4 credit points. Prerequisite: 11.4103.

The ontological basis and the antinomical qualities of form in the causal sense, reflected in nature, art and architecture.

Practical investigation of the antinomical qualities of form with special emphasis on the brief and on the built fabric of contemporary architecture, and practical attempts to identify shortcomings and develop corrective measures.

11.4122 Theory of Architecture I

4 credit points. Prerequisite: 11.4103.

Theory of architectural synthesis: the sources of synthesis, the centre and field; the central 'idea' as the cause of the order of priorities and connections between the elements of the synthesis. Discussion on the 'name-form, -idea, -shape' sequence. The concepts of prototypes, synergy, conflict-balance, limitation and economy in architectural synthesis. Introduction to ethics and aesthetics. Practical seminars and projects focus on selected case studies and specific themes.

11.4123 Theory of Architecture II

4 credit points. Prerequisite: 11.4122.

The relationship between the cosmic order and architecture. The order of space and time. Introduction to traditional symbolism and sacred architecture. The meaning of numbers, geometry, direction, enclosure, relation and proportion. Sacred architecture examined in detail in the Christian, Hindu, Buddhist and Islamic tradition. Practical seminars and projects focus on selected case studies and specific themes.

11.4124 Geometry and Design

4 credit points. Prerequisite: 11.4103.

Geometrical principles determining spatial order and their application to architecture. Practical study is given to various geometrical systems ranging from simple pragmatic to complex cultural considerations.

11.4125 Interior Design I

4 credit points. Prerequisites: nil.

The elements of the built environment in most immediate contact. The components of interiors: light, sound, colour, texture, shape. Perception. Anthropometrics and ergonomics. Tools and machines. Industrial design and manufacture of furniture, fabrics and appliances.

11.4126 Interior Design II

4 credit points. Prerequisite: 11.4125.

The nature of the 'inside'. History of Interior Design. Perception of space; physical, mental and spiritual. The meaning of colour and shape. Colour psychology. Investigation of current interior design practice. Design studies applying current practice to a range of interior design situations.

11.4127 Design for Conservation

4 credit points. Prerequisite: 11.4328.

The development of the design of buildings and building types incorporating technological means of energy conservation and generation, recycling of waste, use of energy-efficient materials, maintaining ecological balance and developing suitable structural techniques.

11.4128 Computed Design Projects

6 credit points. Prerequisite: 11.4602, 11.4103.

The development of computable variables applicable to the physical requirements of building projects. The writing of programs and the application, in a comprehensive sense, of the program results to specific building design.

11.4129 Research and Survey Methods

4 credit points. Prerequisite: 11.4103.

Understanding the needs of users of buildings as well as those of the client. Regional and historical perspectives. Prognosis of future 'users'. Survey methods applied to user-research before and after the erection of the building. Practical exercises in user-research and survey.

11.4130 Criticism and Evaluation

4 credit points. Prerequisite: 11.4103.

The nature, function and value of criticism. Subjective and objective criticism. A short history of architectural criticism, architectural critics, past and present. Discrimination and values in a changing society; fashion; the influence of mass opinion, communication media, advertising, propaganda.

Collection of data; establishment and application of critical criteria; effective communication of conclusions; recommendations and feedback. The use of criticism and evaluation during and after the design process.

Practical evaluation of examples of architectural criticism, past and present. Criticism of contemporary buildings and projects. Criticism of current work by self and others.

11.4131 Principles of Dwellings

3 credit points. Prerequisites: 11.4102, 11.4201.

Examination of the different dwelling types and locational characteristics in the context of social, economic, political and legislative issues; the psycho-social aspects of dwelling types with reference to Australian traditions and experience; review of current practice and trends; demographic implications of socio-economic models; theoretical framework for the development of housing concepts; case studies and design exercises.

Architectural Design — Specific

11.4201 Living Unit

4 credit points. Prerequisites: nil.

Analysis of the immediate built environment, to develop an awareness of man's need for shelter, and a deeper understanding of his functions, activities and requirements. In depth design of a single-cell living unit, including interiors and all elements which it comprises.

11.4211 Cultural Facilties I

6 credit points. Prerequisites: 11.4401, 11.4303.

Cultural attitudes in recent and contemporary Western Society. Cultural experience at participatory level in present-day society, and environmental requirements for small groups; overlaps with education and recreation in broadest sense.

Includes design of studios, workshops and craft centres; small libraries; facilities for performance to small audiences; small galleries and exhibition spaces.

11.4212 Commercial Facilities I

6 credit points. Prerequisite: 11.4401, 11.4303.

The principles and nature of all aspects of commercial activity. Features common to all commercial buildings, as appropriate to specific commercial buildings. Determining factors, psychological motivations, and market operations. Economic, technological and urban requirements; people, goods and services.

The principles and design of small-scale commercial activity in a rural or suburban context.

11.4213 Health & Welfare Facilities I

6 credit points. Prerequisite: 11.4401, 11.4303.

Public health and welfare; social theory and practice; function of buildings for health and welfare of infants, children, adults and aged, including the afflicted, sick and handicapped. Social security, funding and legislation.

Simple institutions in the suburban context with emphasis on special anthropometrics, site selection and social interaction.

11.4214 Educational Facilities I

6 credit points. Prerequisite: 11.4401, 11.4303.

The meaning of education; educational philosophies and their physical and architectural requirements. Child psychology, and psychology of play and learning.

Case studies on child-minding centres, pre-school kindergartens, infant and primary schools, open and special schools.

11.4221 Detached Houses

6 credit points. Prerequisites: 11.4102, 11.4201, **one** *from 11.4211 to 11.4214, and 11.4404.*

Comprehensive awareness of family housing needs, and relation to natural environment, culminating in design of a family house to meet these needs. Historical development. Social, climatic, topographic and technological aspects; local and regional influences and international context. Case studies of significant examples of good design. Site and functional planning requirements; anthropometric, acoustic and visual parameters; community and privacy; development of brief between client/user/designer; growth, change and flexibility, construction, structure and services.

11.4222 Group Dwellings

6 credit points. Prerequisites: 11.4102, 11.4201, **one** *from 11.4211 to 11.4214, and 11.4404.*

Basic concepts of group housing, and analysis of user needs; advantages and disadvantages. Housing associations and community purposes. Case studies of selected examples. Design studies of simple groups in suburban and urban locations.

11.4223 Housing in Tropical, Sub-tropical and Arid Zones

6 credit points. Prerequisites: 11.4102, 11.4201, **one** *from 11.4211 to 11.4214, and 11.4404.*

Historical development of housing in tropical, sub-tropical and arid-zone conditions; traditional methods; indigenous forms; use of mechanical systems versus special design methods to combat heat, moisture, wind, etc; building materials and construction methods; structural systems and servicing. Case studies and design projects.

11.4230 Community Facilities II

12 credit points. Prerequisites: 11.4102, 11.4405, 11.4201 and **one** *from 11.4211 to 11.4214.*

An extension of **one**, or a combination of **two** or more, of the subjects 11.4231, 11.4232, 11.4233 and 11.4234. Case studies and two design projects, or one project taken to an advanced stage of development.

11.4231 Commercial Facilities II

6 credit points. Prerequisites: 11.4102, 11.4201, **one** *from 11.4211 to 11.4214, and 11.4405.*

The principles and nature of all aspects of commercial activity. Features common to all commercial buildings, and those appropriate to specific commercial buildings. Determining factors, psychological motivations, and market operations. Economic, technological and urban requirements; people, goods and services.

Larger scale commercial activity in the urban context.

11.4232 Industrial Facilities

6 credit points. Prerequisites: 11.4102, 11.4201, **one** *from 11.4211 to 11.4214, and 11.4405.*

The principles and characteristics of industrial building design. History of the development of industrial building, current technology and design, and possible future developments. Planning of industrial estates. Design studies in development of industrial building types, ranging from simple projects to complex plants.

11.4233 Health & Welfare Facilities II

6 credit points. Prerequisites: 11.4102, 11.4201, **one** *from 11.4211 to 11.4214, and 11.4405.*

Public health and welfare; social theory and practice, function of buildings for health and welfare of infants, children, adults and aged, including the afflicted, sick and handicapped. Social security, funding and legislation.

More complex institutions in the urban context including housing for the aged, clinics and special facilities for the handicapped.

11.4234 Government Facilities I

6 credit points. Prerequisites: 11.4102, 11.4201, **one** *from 11.4211 to 11.4214, and 11.4405.*

Design of public buildings by or for government agencies. Client/user/architect relationship in development of brief. Public facilities, institutions, government office buildings, public services of quasi-industrial type etc for Federal, State and Municipal government, statutory bodies and government undertakings. Case studies and design projects. This series deals with single buildings and groups.

11.4240 Residential Facilities II

12 credit points. Prerequisites: 11.4103, 11.4407, **one** *from 11.4221 to 11.4223, and* **one** *from 11.4230 to 11.4234.*

The implications for housing of different densities and purposes; government policies; life styles and traditions; social, technological, physical and cultural environmental requirements; cost analysis. Case studies and two design projects, or one project taken to an advanced stage of development.

11.4241 Urban Housing

6 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, and 11.4407.*

The implications for urban housing of differing densities; advantages and disadvantages; characteristics common to medium- and high-density living.

Determining factors: life styles and traditions, psychological motivations, economic, technological and urban requirements. Functional factors: constructional solutions, cost analysis, funding and staging, servicing, alternative housing types, overseas developments and future trends.

Practical studies of urban housing design in the context of density, economics, social mix, amenity, urban planning, etc.

11.4242 Low-Cost Housing

6 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, and 11.4407.*

History, sociology, economics and government policies for low-cost housing, in Australia and overseas, with special reference to developing countries; physical and cultural environment; local materials, labour, methods, skills, transport, etc.

11.4243 Tourist Facilities

6 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234 and 11.4407.*

Development of the tourist industry, and trends in tourism; hotels and motels; recreational centres, and fitness camps; holiday camps and marinas; tourist facilities and accommodation in national parks, etc. Case studies and design projects.

11.4250 Community Facilities III

16 credit points. Prerequisites: 11.4407, 11.4408 and **one** *from 11.4240 to 11.4243 at Credit grade or better.*

An extension of **one,** or a combination of **two** or more, of the subjects 11.4251, 11.4252, 11.4253 and 11.4255. Case studies and two design projects, or one project taken to full design resolution.

11.4251 Educational Facilities II

8 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234; 11.4407 and 11.4408.*

The meaning of education; educational philosophies and their physical and architectural requirements. Child psychology, and psychology of play and learning.

Case studies on secondary and tertiary educational institutions, universities, colleges of advanced education, technical, private and specialist colleges, and adult education centres.

11.4252 Government Facilities II

8 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, 11.4407 and 11.4408.*

Design of public buildings by or for government agencies. Client/user/architect relationship in development of brief. Public facilities, institutions, government office buildings, public services of quasi-industrial type etc for Federal, State and Municipal government, statutory bodies and government undertakings. Case studies and design projects. Highly organized and complex building programs.

11.4253 Cultural Facilities II

8 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, 11.4407 and 11.4408.*

Cultural attitudes in recent and contemporary Western Society. Cultural experience at participatory level in present-day society, and environmental requirements for small groups; overlaps with education and recreation in broadest sense.

Includes consideration of cultural activities at the regional, national and international levels. Culture, State and Society. Wider aspects of culture, and concerns for quality, display, conservation and performance. Design studies includes auditoria for the performing arts; libraries and museums; art galleries; integrated educational and recreational facilities; exhibition complexes and conference centres.

11.4254 Urban Development

8 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, 11.4345 or 36.411, 11.4407 and 11.4408.*

The development of urban spaces and the resolution, by means of design studies, of diverse building requirements in an urban context, with reference to architectural and civic design, urban planning, transport, infrastructure, staging and implementation.

11.4255 Recreational Facilities

8 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, 11.4407 and 11.4408.*

Range of sporting codes and requirements for building facilities; stadia; swimming pools; athletic tracks; squash courts; golf clubs and other sporting clubs; recreational accommodation; ancillary buildings; landscaping; playing fields and sportsgrounds; structural and constructional systems. Case studies and design projects.

11.4256 Transport Buildings

8 credit points. Prerequisites: 11.4103, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, 11.4345 or 36.411, 11.4407 and 11.4408.*

Characteristics of multi-modal transport systems in urban centres; development of transport technology; design standards; building requirements. Evaluation of transport interchange centres in the context of the total urban transport plan. Detailed planning requirements, vehicle criteria and environment constraints; case studies and projects to develop alternative strategies and design solutions for simple dual mode interchanges (bus/car, car/rail, bus/pedestrian) and for complex multi-mode interchanges in central urban areas (bus/rail/ferry, air/bus/rail, etc).

11.4257 Ecclesiastical Architecture

8 credit points. Prerequisites: 11.4103, 11.4123, **one** *from 11.4221 to 11.4223,* **one** *from 11.4230 to 11.4234, 11.4407 and 11.4408.*

The history, meaning and symbolism of Christian architecture as the image of Christian doctrine. The denominational differences in the emphasis of architectural layout. Ritual, functional and social

requirements. Religious communities, their ideals, history, variety and pattern of life, with special emphasis on their architectural requirements. Practical application in designing churches, ecclesiastical precincts and buildings for religious communities.

Architectural Environment

11.4301 Context of Architecture

5 credit points. Prerequisites: nil.

Introduction to spiritual, mental, physical, social and cultural needs of man: subjective understanding as a basis for rationalized design. The Earth and man's influence upon it. Man's needs individually and in groups. Resources of energy and materials and their utilization. Context of architecture and the built environment professions. Seminars and projects.

11.4303 Introduction to Architectural Science

4 credit points. Prerequisites: nil.

Environmental design methods for total human comfort; climate and its effects in and around buildings; geometry of sunlight, sun control; introduction to thermal, lighting and acoustical design: basic concepts, subjective appraisals and measurement. Laboratory work and projects.

11.4304 Thermal Design of Buildings

3 credit points. Prerequisites: 11.4303

Thermal comfort, comfort indices; steady state heat transfer, solar heat gain; air movements; thermal storage effects; condensation and vapour barriers; heating and cooling of buildings. Laboratory work and projects.

11.4305 Lighting of Buildings

3 credit points. Prerequisites: 11.4303.

Daylighting: application to lighting of buildings; design principles; daylight factor and its components; simplified method of calculation; methods of evaluating daylighting. Artificial lighting: light sources and their applications; light control, luminaire design; calculation of illuminance; qualitative lighting design and appraisal; supplementary lighting of interiors. Experimental work and projects.

11.4306 Acoustics of Buildings

3 credit points. Prerequisites: 11.4303.

Basic theory of sound propagation in and around buildings; criteria for design; subjective and objective assessment of the aural environment; methods for noise control; introduction to room acoustics. Laboratory work and projects.

11.4307 World Architecture

3 credit points. Prerequisite: nil.

General treatment of the history of architecture from earliest times to the present; architecture as the built environment and the relationship of man and nature; influences of religion, society, culture, climate and technology. Seminars and projects.

11.4308 Western Architecture

3 credit points. Prerequisite: 11.4307

History of western architecture from middle ages to beginning of 20th century; planning and architectural space as a response to human needs; technological influences; the evolution of form, proportion and detail of the architecture. Seminars and projects.

11.4309 Australian Architecture

3 credit points. Prerequisite: 11.4308.

History of Australian architecture; historical, human and environmental context of Australian architecture, particularly from the foundation of the colony to World War I, and generally to the present. Seminars, visits and projects.

11.4320 Geometry

3 credit points. Prerequisites: nil.

Plane curves; conics and surfaces of revolution; quadric surfaces; ruled and warped surfaces; convex bodies; spherical trigonometry; projective configurations. Tutorials and project.

11.4321 Physics

4 credit points. Prerequisite: nil.

1. Wave motion: simple harmonic motion, wave motion, interference, Doppler effect, energy transfer. **2.** Sound: longitudinal waves, overtones, intensity levels, decibels, quality of sound. **3.** Light: e.m. spectrum, Huygens Principle, curved mirrors, lenses, dispersion, interference, polarization, photometry, colorimetry. **4.** Heat: capacity, Joule's equivalent thermometry, connection, conduction, radiation, black body, emittance, absorbtivity. **5.** Laboratory work.

11.4322 Solar Energy

2 credit points. Prerequisites: 11.4304, 11.4407.

1. Energy conversion and storage: collection for use in buildings; active and passive systems. **2.** Energy balance: heat loss/gain analysis. **3.** Design for solar energy. **4.** Case studies and projects.

11.4323 Room Acoustics

2 credit points. Prerequisite: 11.4306.

1. Subjective and objective criteria for design: speech, music. **2.** Sound reflectors and absorbers. **3.** Sound reinforcement system. **4.** Design

methods and reverberation theory: computerized ray tracing; models. **5.** Noise control in auditoria. **6.** Case studies.

11.4324 Lighting Design

2 credit points. Prerequisite: 11.4305.

1. Major factors influencing design; current research in vision and visual conditions. **2.** Lamps and lighting equipment. **3.** Methodology in interior and exterior lighting design. **4.** Colour and photometry. **5.** Case studies.

11.4325 Tropical Architecture

2 credit points. Prerequisite: 11.4303.

Outline of factors affecting design in the tropics. **1.** People and their psychological comfort needs. **2.** Materials and construction: climate, sun control, thermal movement, humidity, ventilation; special glasses, roofs, stabilized earth construction. **3.** Architecture in tropical Australian and other tropical climates. **4.** Case studies and projects.

11.4326 Acoustics Research

4 credit points. Prerequisites: 11.4306.

Experimental investigation and research in a selected aspect of acoustics. Laboratory and field work, methodology of results, development of techniques of application. Laboratory work.

11.4327 Lighting Research

4 credit points. Prerequisite: 11.4324.

Experimental investigation and research in an elected aspect of lighting design. Seminars: discussion of methodology of results, development of techniques of application. Laboratory work.

11.4328 Appropriate Technology

2 credit points. Prerequisites: 11.4301, 11.4303.

1. Resource depletion. **2.** Energy shortage. **3.** Environmental considerations. **4.** Reduction in resource consumption. **5.** Ambient energy sources. **6.** On-site, non-polluting materials. **7.** Autonomy. **8.** Seminars and project.

11.4330 Modern Architecture

2 credit points. Prerequisite: 11.4308.

1. Western 20th-century architectural trends, attitudes, dependencies. **2.** Social, economic, technological, ideological, climatic factors. **3.** Functional problems. **4.** Structural developments. **5.** Spatial limitations. **6.** Aesthetic attitudes and aims. **7.** Seminars.

11.4331 The Australian House since 1900

2 credit points. Prerequisite: 11.4309.

20th-century domestic Australian architecture. **1.** Historical development: at turn of century; emergence of bungalow; climatic, social and stylistic influences. **2.** American influences: California bungalow, Spanish Mission. **3.** Domestic architecture after World War II in Sydney and Melbourne. **4.** Architects and their works; project houses. **5.** Visits, seminars and projects.

11.4332 Historical Research A

3 credit points. Prerequisite: 11.4309. 145 credit points.

11.4333 Historical Research B

3 credit points. Prerequisites: 11.4309 and 145 credit points.

11.4334 Historical Research C

3 credit points. Prerequisites: 11.4309 and 145 credit points.

Research in the field of Australian architectural history. **1.** Purpose of research: appreciation, sources of materials, use of sources. **2.** Techniques of recording and cataloguing. **3.** Critical assessment, evaluation and integration, interpretation. **4.** Presentation.

All three electives must be taken to gain credit *and desirably* the three electives should be taken concurrently with 11.4702 Thesis.

11.4335 Eastern Architecture

2 credit points. Prerequisites: 11.4307.

Introduction to eastern culture; distinctions between eastern and western mentality reflected in architectural attitudes. An overview of the salient architectural characteristics of the Near-, Middle- and Far-East in an historical context, followed by a deeper study of architecture in any one of the following regions: North Africa, Asia Minor, Persia and Pakistan; India and Nepal; South-East Asia; Indonesia and New Guinea; China and Japan.

11.4336 Measured Studies of Historic Structures

3 credit points. Prerequisites 11.4308, 11.4603.

The Australian context of historic buildings. Criteria for selection and evaluation. Techniques for field studies and systems of recording. Field notes. Measured drawings, their context, media and format. Freehand studies. Photography and photogrammetry. Written reports and measured study.

It is particularly appropriate if this elective is taken in conjunction with 11.4309 *Australian Architecture,* to which it is a natural complement.

11.4340 Cognition & Behaviour A

3 credit points. Prerequisite: 11.4301.

Growth and cognitive awareness of man coming to terms with his micro-environment; perception; spatial awareness, privacy, proxemics; case studies.

11.4341 Cognition & Behaviour B

3 credit points. Prerequisite: 11.4340.

Man and his relationship to the macro-environment; social behaviour patterns; cognitive mapping; crowding propinquity; the aged; case studies.

11.4342 Transport Systems

4 credit points. Prerequisite: 36.411.

1. Transport modes: road, rail, water, air. **2.** Evaluation of past and present transport systems. **3.** Circulation of large groups of people; baggage control. **4.** Case studies.

11.4343 Urban Planning

4 credit points. Prerequisite: 36.411.

1. Origins of settlements and development of towns: prehistory, Classical, Medieval, Renaissance and Baroque, Industrial Revolution, present. **2.** Theories of planning: concepts, attitudes, growth and change. **3.** Activity and locational theory: population and employment. **4.** Dynamics of cities: transport. **5.** Metropolis and megalopolis. **6.** Seminars and case studies.

11.4344 Landscape Planning

4 credit points. Prerequisite: 11.4303.

1. Analysis and systems developed to use natural science data for landscape planning. **2.** Techniques for land-use planning based upon an analysis of natural phenomena and resources. **3.** Case studies.

11.4345 Urbanism

2 credit points. Prerequisites: 11.4309.

The development of urban form and the role of architecture in urban design; civic architecture; growth and change; planning and design methodology. Case studies.

Technology

11.4401 Principles of Construction

6 credit points. Prerequisites: nil.

Analysis of the principles of construction with particular reference to small-scale building. The site—selection, analysis, measurement. Components and elements of buildings. Materials and construction detailing. Practical construction project.

11.4402 Structures & Materials

4 credit points. Prerequisites: nil.

Introduction to structures. History and morphology, loads and structural requirements, structural elements and systems, basic structural form, basic states of stress. Introduction to materials science; the relationship between the properties and structure of materials. The properties and uses of common building materials: metals, ceramics and polymers. Tutorials and laboratory work.

11.4403 Principles of Structures

4 credit points. Prerequisites: nil.

Statics: forces in equilibrium; components, resultants, reactions, moments; graphical and analytical methods. Flexure: bending moment and shear force; analysis of beams and simple frames; theory of bending. Stability and rigidity of structures: loading systems; bracing systems; buckling; instability; deflection. Case studies, laboratory work and tutorials.

11.4404 Structures & Construction A

5 credit points. Prerequisites: 11.4401, 11.4402, 11.4403.

Overview of constructional systems and footings for vertical and lateral loads. The general building fabric. Systems theory and application in construction; dimensional co-ordination. Masonry: masonry units; characteristics and limitations. Small-scale masonry construction. Timber: characteristics and uses. Timber structural systems, eg post and beam, truss, plate. Structural sizing. Claddings for timber frames, Construction jointing and detailing. Steel and Metals: characteristics and uses. Steel structural systems, eg portals, rigid frames. Structural sizing. Associated building fabric; jointing and detailing. Fabrication and erection procedures. Structural masonry: operational sequences. Scheduling of operations. Tutorials and projects.

11.4405 Structure & Construction B

5 credit points. Prerequisites: 11.4401, 11.4402, 11.4403.

Reinforced concrete and other composites: an exposition and analysis of the function and behaviour of reinforced concrete and other composites, when used for structural and non-structural elements. Technological aspects and applications of these materials in buildings—integration of structure, cladding with associated services requirements. Special applications: structural theory and sizing of structural and non-structural elements. Basement construction. Methods of waterproofing. Seminars, laboratory work and projects.

11.4406 Systems in Building

4 credit points. Prerequisites: 11.4407, 11.4408.

The study of rationalization of the building process, considering methods of construction, structure and services in relation to technological developments, costs and benefits. Industralized systems building. History, development and methods; the manufacturing industry; systems design. Case studies.

11.4407 Services A

3 credit points. Prerequisites: 11.4404, 11.4303.

Sources and supply of air, water and energy for use in buildings including treatment, distribution, materials and regulations; solar, electrical and heat energy; building and personal hygiene; heating, cooling, lighting; food preparation. Projects and seminars.

11.4408 Services B

3 credit points. Prerequisites: 11.4404, 11.4405, 11.4304.

Electrical and mechanical plant and disposal of wastes. Central thermal systems; movement of people and goods; disposal of wastes; safety and security; precautions, alarms, communications. Projects and seminars.

11.4420 Technology of Low-rise Buildings

5 credit points. Prerequisite: 11.4404.

Structural, constructional and services systems for low-rise buildings. A detailed study of inter-relationships both within and between the various systems, together with an overview of the influence of technologically-based decisions on the other aspects of architectural design. The design of these technological systems for an existing low-rise building. Project.

11.4421 Technology of High-rise Buildings

5 credit points. Prerequisite: 11.4406.

Structural, constructional and services systems for high-rise buildings. A detailed study of inter-relationships both within and between the various systems, together with an overview of the influence of technologically-based decisions on the other aspects of architectural design. The design of these technological systems for an existing high-rise building. Project.

11.4422 Technology of Low-cost Housing

5 credit points. Prerequisite: 11.4406.

An analaysis of low-cost housing, the market and industry, Government policies. Structural, constructional and service systems and review of projection, methods and resource utilization related to non co-ordinated and dimensionally co-ordinated systems. Cost analysis of various systems and building forms. The detailed study of those technological systems as applied to a housing complex. Project.

11.4423 Rationalized Building Systems

5 credit points. Prerequisite: 11.4406.

Systems building—philosophy and economics, systems theory craft, prefabrication and industralization as Methods Dimensional Co-ordination. The inter-relationships of structure, services and finishes and the influences of technologically-based decisions on the other aspects of architectural design. A review of existing and developing building systems. Case studies.

11.4424 Construction Planning & Management

3 credit points. Prerequisites: 11.4405, 11.4407, 11.4408.

Pre-planning considerations and building technology design for improved performance and management in the building construction process. Constructional and structural engineering trends, a building's services and equipment, design criteria, methods used in erection of the construction process, influence on design of the building, co-ordination in the building process. Various case studies. Building economics, evaluation and cost planning, construction management. Report on the construction process of a major building.

11.4425 Earth Construction A

3 credit points. Prerequisites: 11.4402, 11.4303.

Soil selection, suitability and analysis. Adobe, pise and stabilized earth. Performance, strength, durability, erosion, thermal stabilizers, reinforcement, internal and external finishes. Constructional and structural characteristics and design requirements. Environmental and social implications. Laboratory classes to support the above, including the manufacture and testing of earth blocks, the construction of short walls, the application and evaluation of finishes.

11.4426 Earth Construction B

3 credit points. Prerequisite: 11.4425

The design and construction of a small structure using earth as a major material and the monitoring of environmental conditions in similar structures.

11.4430 Integration of Services

4 credit points. Prerequisites: 11.4407, 11.4408.

The incorporation of plant and accessories in the building fabric. Economic routing; noise; identification; incompatibility; outlets. Project.

11.4440 Building Materials A

2 credit points. Prerequisite: 11.4402.

Structure and classification of materials. Relationship between crystal structure and properties; slip systems. Multiphase materials equilibrium diagrams. Ceramic structure. Organic polymers. Thermal, optical, acoustical properties in relation to structure. Project.

11.4441 Building Materials B

5 credit points. Prerequisite: 11.4402, 11.4405.

The properties and application of building materials. An advanced study of detailing and constructional aspects of materials, related to their properties. Project.

11.4450 Advanced Structural Analysis

4 credit points. Prerequisite: 11.4404, 11.4405, 11.4602.

Computer-based methods of analysis for linear structures. Tutorials and project.

11.4451 Advanced Structural Design

4 credit points. Prerequisites: 11.4404, 11.4405, 11.4602.

Detailed structural design for common engineering materials. Tutorials and project.

11.4452 Models Analysis and Form-finding

3 credit points. Prerequisite: 11.4403.

Principles of model analysis: types of models and their application, methods of stress and displacement analysis; model materials, apparatus, planning and the conduct of experiments. Form-finding: experimental methods of form-finding for surface and spatial structures. Laboratory work and project.

11.4453 Surface & Spatial Structures A

5 credit points. Prerequisites: 11.4404, 11.4320, 11.4405.

Selected areas of surface and spatial structures: reticulated structures, cable structures, tensegrity structures, folded surface structures, shell structures, stressed skin structures, tent and pneumatic structures. Seminars, laboratory work and project.

11.4454 Surface & Spatial Structures B

5 credit points. Prerequisite: 11.4453.

Design application of 11.4453 Surface & Spatial Structures A, individual or group work.

11.4455 Technology Research A

5 credit points. Prerequisites: 156 credit points and 11.4405 or 11.4406.

Supervised individual or group research at advanced level in a particular field of technology, such as lightweight structures, structural materials and methods, system building, alternative technology.

11.4456 Technology Research B

5 credit points. Prerequisite: 11.4455.

Additional supervised individual or group research at advanced level in a particular field of technology, such as lightweight structures, structural materials and methods, system building, alternative technology.

Practice

11.4501 Practice & Management I

2 credit points. Prerequisites: nil.

1. The client, the community,, the architect's responsibilities. **2.** The other design consultants: rules, responsibilities and ethics of the various professional disciplines. **3.** Introduction to the Local Government System. **4.** Relevant SAA Specifications and Codes of Practice. **5.** Information handling systems (CiSfB). **6.** Management Theory. **7.** Seminars and assignments.

11.4502 Practice & Management II

2 credit points. Prerequisite: 11.4501.

1. The Client, the Brief. **2.** The architect's responsibility in law and practice: contracts; tort; property rights; taxation; insurance (life, property); professional indemnity. **3.** Registration of Architects; the professional institutes; architects' payment (fees, rate); form of agreement with client; other consultants' fees and method of payment. **4.** The construction industry, builders, subcontractors, suppliers. **5.** Introduction to documentation: the drawings, types, etc; specifications, types, etc; schedules; Bills of Quantities; specified bills of quantities; computer application. **6.** The various forms of Building Contract. **7.** Management functions: introduction to the organization, its objectives and structure. Forecasting, planning, co-ordinating and communicating. **8.** Seminars and assignments.

11.4503 Specifications and Building Economics

3 credit points. Prerequisite: 11.4502.

1. The specification, its function, its various forms, its relationship to the other contract documents; all in detail. **2.** Estimating, what it is, why and how, including computer applications. **3.** Cost planning is not estimating, what it is, why and how it is done, including computer applications. **4.** Case studies and applications in these three areas. **5.** Seminars and assignments.

11.4504 Building Contracts

2 credit points. Prerequisite: 11.4503.

1. The processing of information for the Bill of Quantities. The preparation of production, information, drawings, specifications, schedules, cost plans. **2.** The recommendations of forms of contract, the obtaining of necessary approvals, recommendation of tenders, the form of tender, preparation of information for the contractors' programming. **3.** Obtaining specialist quotations and P.C. sums, provisional sums, monetary sums, investigating the supply position of key materials and plant, initiating advance ordering. **4.** Provisional and separate contracts (ie documentation, excavation). **5.** Assembling and issuing all tender documents, determining nominated suppliers, nominated subcontractors, co-ordination of other consultants, documentation and tendering (ie mechanical and electrical); agreement of contract details, investigation of contractor's resources; and experience. Recommendation of action on tenders received. **6.** The detailed study of responsibilities and liabilities of the architect and consultants, the relevant fees and/or remuneration. **7.** Statutory requirements: procedures in the completion of the documents for the signing of contracts; the status of the signatories. **8.** Seminars.

11.4505 Contract Administration

2 credit points. Prerequisites: 11.4504.

1. The contract: signing, distribution of production information to all relevant parties; the updating of critical dates for contracts, programming; site staff; final nomination of sub-contractors and suppliers. **2.** Making inspections, instructions, certificates, extra documentations, variations, extras. Processing of claims and contract. **3.** Rise and fall. **4.** Practical completion; inspections; outstanding works; the handing over. The defects liability period and its administration. Obtaining guarantees, processing of retention money and final account. **5.** The responsibilities and liabilities of understanding and administering contract conditions including: insurances, bond, processing certificates, claims, instructions, answering the fulfilment of the rights and duties of the client and contractor. **6.** The responsibilities and liabilities of the architect and the consultant, the relevant remuneration. **7.** Arbitration and litigation. **8.** Post-contract activities; the appraisal of the contract, the gathering of information of managerial, technical, design and operational aspects of the contract and the building from all involved parties. Feedback of performance for use on other projects; obtaining and using cost analyses; attendance to matters of the non-performance of parts of the building; retention of records for periods relevant under the Statute of Limitations. **9.** Seminars and assignments.

11.4520 Management Systems & Finance

2 credit points. Prerequisite: 11.4505.

1. Systems employed in the architect's management functions. **2.** Systems thinking, PERT, C.P.M., multi-activity charting, time/cost relationships, budgeting and other resources allocation systems. **3.** Management of the design and documentation processes; computer applications in architectural management. **4.** Introduction to building finance, feasibility, discounting, acquisition of finance, interest rates, long-term and short-term money, capital cost, operational costs, maintenance costs, the effects of these considerations on 'design' decision-making. **5.** Development applications, procedures and appeals; building applications, procedures and appeals. **6.** Tendering or negotiating for the contract sum. **7.** Seminars and assignments.

11.4521 Documentation

3 credit points. Prerequisite: 11.4503.

1. Communication theory, communication in practice: verbal, written and graphic. **2.** Documentation and Law. Rationalized methods for contract documentation, drawings, specifications, schedules, Bills of Quantities, specified Bills of Quantities. **3.** Standards and codes of practice for documentation. **4.** Computer applications. **5.** Seminars.

11.4522 Building Economics & Development

3 credit points. Prerequisite: 11.4503.

1. The Economy: structure of the economy. History and development of modern economics. **2.** Investment: investigation in buildings, property (public and private), large scale, small scale. **3.** Valuation: statutory valuations, market value, unimproved and improved land depreciation and obsolescence, valuation of improvements, valuation law, land laws. **4.** Feasibility: economic models, optimization, feasibility studies on small-, medium-, large-scale development and subdivisions. **5.** Rationalized Building: dimensional control, component technology, building systems, cost planning. **6.** Seminars.

11.4523 Management for Architects

2 credit points. Prerequisite: 11.4505.

1. Recruitment, selection, promotion, job selection, evaluation and placement. **2.** Incentive schemes, group organization and resultant interaction problems. **3.** Office structure and organization. **4.** Office funds, accounting, taxation and insurance. **5.** Management theory and application: architectural practices, staff relationships, organizational and legal responsibilities. **6.** Architectural Services: retainer, partial, full and comprehensive services. **7.** Project Organization: systems, research, systems controls, quality and time control, cash flow and liquidity. **8.** Office contractual and accounting organization and control. **9.** Insurance: types, needs and limitations, statutory and optional insurance. Applications of contract law and insurance law in architectural practice. **10.** Company Law. **11.** Seminars.

11.4524 The Architect and the Law

2 credit points. Prerequisite: 11.4505.

1. The architects' registration act. **2.** Responsibilities and liabilities of the architect; negligence; architects' defence measures. **3.** Arbitration and Litigation. **4.** Copyright. **5.** Industrial Law, real property and local Government Law. **6.** Bankruptcy. **7.** Company Law. **8.** Partnership Law. **9.** Seminars.

11.4525 Project Management

3 credit points. Prerequisite: 11.4505.

1. Principles of scientific management and organization, individual group behaviour, management functions, planning, organizing, staffing, directing, co-ordinating, monitoring, appraisals and evaluation. **2.** Operations research techniques. Network analysis, multi-activity charting. **3.** Decision theory and procedures. **4.** Contract and contract documents. **5.** Industrial relations, employment. **6.** Industrial organization. **7.** Seminars.

11.4526 Industrial Relations

2 credit points. Prerequisite: 11.4522.

1. An introduction and review of the history, methodology and emphasis of the basic behavioural disciplines; the biological basis of human behaviour; the significance of socio-cultural influences and determinants, need satisfaction; the origins, nature and meanings of motivation and emotional processes. The dynamics of conflict and frustration. **2.** The implications of these issues and theories in the problems of industrial relations on the management of the site, office and work force. **3.** Seminars.

Communication

11.4601 Introduction to Communication

6 credit points. Prerequisites: nil.

Introduction to communication theory, its principles and history. Practice in clear, critical thinking; elementary problem-solving; logical development and presentation of arguments orally and in writing. Introduction to techniques and conventions of draughting and the use of instruments. Elementary plane and solid geometry and surface development. Objective depiction in graphic terms. Observation, analysis and graphic statement of aspects of form, indoor and outdoor. Characteristics of illumination systems. Elementary perspective. Emphasis on direct drawing in a variety of media involving methods and techniques employed, from sketches to graphic studies in both traditional and contemporary styles.

11.4602 Introduction to Computing

2 credit points. Prerequisites: nil.

Introduction to the computer and its availability as a problem-solving tool; description and usage; specific applications in particular subject areas. Data preparation; language, flowcharts, program-writing.

11.4603 Graphic Communication

5 credit points. Prerequisites: nil.

Development of techniques and skills in visualization, presentation to the client and production drawings. Different techniques for constructing perspectives and parallel projections. Location, assembly and component drawings, schedules. Charts and diagrams.

11.4604 Graphic Communication Theory

4 credit points. Prerequisite: 11.4601.

Graphic expression in theory and practice. Vision, perception and illusion. Perspective in the visual field. Analysis and synthesis in systems of descriptive and non-objective graphic presentation. Pictorial structure and content. Basic links with contemporary art styles.

11.4620 Presentation Graphics

3 credit points. Prerequisites: 11.4603, 11.4604.

Perspective and rendering techniques, materials, media. Graphic presentation of the natural landscape, forms and vegetation. Graphic presentation of the urban scene, people, vehicles, buildings, vegetation, street furniture, etc.

11.4621 Oral and Written Communication

2 credit points. Prerequisite: 11.4601.

Development of the critical, logical and stylistic skills involved in researching, writing and presenting essays, theses, articles, papers, reports, speeches, talks, etc.

11.4622 Spatial Communication

2 credit points. Prerequisites: nil.

Awareness and understanding of space as an important creative aspect of architecture. Historical analysis of spaces, the theoretical exploration of spatial concepts and characteristics, and the practical experience of space.

11.4623 Models and Materials

3 credit points. Prerequisites: nil.

The development of awareness and practical skills for three-dimensional project presentation. Materials, colour co-ordination, mechanical aids, assembly techniques, application. Purpose, types of models, visual impact. Analysis and synthesis of design problems. Programming and planning.

11.4624 Architectural Photography

3 credit points. Prerequisites: nil.

Development of photographic skills relevant to architectural recording, understanding of design, and presentation. Black and white, colour, still and moving photography; video and animation. Developing, enlarging and mounting.

11.4625 Constructional Geometry

3 credit points. Prerequisite: 11.4603.

Graphic study and analysis of the geometry of architectural constructions: the underlying geometric principles from which structural framing, ribbed and shell systems are derived. These include domes, hypars and other warped shapes of planes of double curvature, folded planes, etc, and the resultant effects of intersections and penetrations of multiple units. Study of applications through analysis of constructions in contemporary architecture.

11.4626 Architectural Ceramics and Sculpture

3 credit points. Prerequisites: nil.

Historical development of ceramics and sculpture as art, and their importance as a catalyst in the development of technology and the understanding of materials and spatial concepts. Theory and practice of ceramics manufacture and its application. Ceramics, sculpture, tiles and three-dimensional constructions applied to and integrated with architecture.

11.4627 Computer Graphics

4 credit points. Prerequisites: 11.4602 and 130 credit points.

Use of the computer for design graphics, presentation and production drawings and graphics programming.

11.4628 Aspects of Style in Art

4 credit points. Prerequisite: 11.4629.

Aspects of modern art movements and their influence as bases for stylistic developments evident today. Awareness of the sources of style in graphic and other art forms and a capacity to express ideas at a professional level, in these terms.

11.4629 Graphic Art

4 credit points. Prerequisite: 11.4604.

Graphic expression in theory and practice. Vision, perception and illusion. Perspective in the visual field. Analysis and synthesis in systems of descriptive and non-objective graphic presentation. Pictorial structure and content. Basic links with contemporary art styles.

11.4630 Drawing and Painting

4 credit points. Prerequisite: 11.4601.

Emphasis on direct drawing from sketches to graphic studies, in traditional and contemporary styles, using a variety of media and visual clues. Light and shade as pattern; positive and neutral space, dynamic relationships; surface, texture, etc.

Emphasis on different painting styles and media; space depth; light and shade; colour; brightness gradient; thematic development, etc.

11.4631 Advanced Graphic Concepts

4 credit points. Prerequisite: 11.4629.

The communication and definition of ideas, concepts, objective themes and structural form, and their uses in graphic (or other) terms. The subject is intended to promote in the student a professional level of performance tempered by the student's own personality, to lead to continuing development beyond immediate graphic needs; it also involves consideration of materials, methods and techniques as appropriate and ethical, and the development of skill and discrimination in the use of contemporary media.

Other Required Studies

11.4701 Graduation Project

8 credit points. Prerequisite: 130 credit points.

This project is available to those students intending to obtain the BSc(Arch) degree, and is intended as the culminating study of that area of architectural endeavour in which the student wishes to major. The area selected would be investigated to a degree of depth not normally required by practising architects, and thus would serve as an introduction to professional or consulting expertise in one aspect of architecture. The graduation project, communicated graphically or in writing, is to integrate the student's knowledge and skill in the selected area of study and the topic is to be submitted for approval by the Head of School. The Graduation Project can be credited only towards the BSc(Arch) degree.

11.4702 Thesis

12 credit points. Prerequisite: 156 credit points.

A specialized individual study taken under staff supervision with the object of allowing the student either to gain knowledge in some aspect of architecture which is not covered in the course or to increase knowledge in some aspect which has been covered. As such the thesis is essential evidence of this individual study. The study does not require original experimental research for the purpose of discovering new facts or the testing of an hypothesis; neither is it an essay permitting the student's unsupported opinion. The topic of the thesis is to be submitted for the approval of the Professor of Architecture.

11.4703 Practical Experience

6 credit points. Prerequisite: 130 credit points.

Each student is normally required to obtain, **before enrolling in the graduation semester,** Practical Experience under a registered architect for a period of six months. The experience is to be recorded in a log book to be signed by the registered architect. Periods of engagement of less than one month are not accepted.

No other subject may be taken concurrently with 11.4703 Practical Experience.

11.4705 Honours Project

26 credit points. Prerequisite: 156 credit points.

This subject is required for students who may enrol in the BSc(Arch) degree course at honours level and represents the architectural endeavour in which the student wishes to major. The project should demonstrate a depth of knowledge of the chosen aspect of architecture that extends beyond that normally required of a practising architect. It may be a graphic and/or written presentation. It normally extends over two semesters and the proposed program is to be submitted for approval to the Professor of Architecture five weeks before the beginning of the Session in which the student intends to enrol in the Honours Project.

General Studies Subjects

The student is to refer to the General Studies Handbook for details of subjects available in this area.

Other Elective Studies

11.4704 Architectural Research

4 credit points. Prerequisite: 156 credit points.

An elective designed for students wishing to pursue an independent course of study in a field of architecture not falling specifically within the domain of any existing elective. Students are required to present a detailed program of study for approval by the Professor of Architecture at the commencement of the semester preceding that in which it is intended to enrol in this elective.

11.4706 Architecture Graduation Project

20 credit points. Prerequisites: 208 credit points. Selection on merit.

This semester unit is available to students who wish to culminate their studies in a project in which a scheme is resolved in depth in selected and approved area(s) of architecture, including architectural design, urban design, interior design, construction, structure, services, acoustics, lighting or practice and management. Students are offered a project by the School, or may choose their own project to be submitted to the Head of School for approval two weeks before the commencement of the Session in which the student intends to enrol.

There is an opportunity for students to combine 11.4702 thesis with the Architecture Graduation Project by selecting a Thesis topic which provides the detailed brief or technological or management aspects applicable to the Architecture Graduation Project.

Other Subjects

11.134 Graphic Communication for Town Planners I

Technical drawing. Plane geometry. Plane curves of loci. Conics. Parallel projections of solid figures. Sections, intersections and interpenetrations. Surface developments, architectural drawing conventions.

11.135 Graphic Communication for Town Planners II

Graphic structure. Theory applied in technical and visual drawing. Vision and perception. Vision and illusion. Plastic elements. Symbol elements. Analysis and experiment with traditional media and grounds. Synthesis and application in the graphic design problems. The dependence of pictorial content on pictorial structure.

School of Psychology

Undergraduate Study

12.001 Psychology I F L3T2

An introduction to the content and methods of psychology as a behavioural science, with emphasis on the biological and social bases of behaviour, relationships to the environment and individual differences. Includes training in methods of psychological enquiry, and the use of elementary statistical procedures.

12.052 Basic Psychological Processes II S1 L2T2

Prerequisite: 12.001.

The basic phenomena of behaviour and experience in a biological context.

12.062 Complex Psychological Processes II S2 L2T2

Prerequisite: 12.001.

Information processing and cognitive functioning, and social bases of behaviour and personality.

12.152 Research Methods II F L2T1

Prerequisite: 12.001. Excluded: 12.082.

General introduction to the design and analysis of experiments; hypothesis testing, estimation, power analysis; general treatment of simple univariate procedures; correlation and regression.

Psychology III

Comprises four Level III units selected in consultation with the School of Psychology. Subject descriptions for Psychology Level III units are in the Sciences Handbook.

School of Accountancy

Undergraduate Study

14.001 Introduction to Accounting A

2 credit points; compulsory for BBuild degree course students. Prerequisites: nil.

An introduction for non-commerce students to the nature, purpose and conceptual foundation of accounting. Information systems including accounting applications. Analysis and use of accounting reports.

14.002 Introduction to Accounting B

2 credit points; compulsory for BBuild degree course students. Prerequisite: 14.001

An introduction for non-commerce students to managerial accounting. Long-range planning, budgeting and responsibility accounting; cost determination, cost control and relevant cost analyses.

14.051 Law for Builders I

2 credit points; compulsory for BBuild degree course students. Prerequisites: nil.

Law, including brief outline of sources of law in New South Wales and the system of judicial precedent. General principles of law of contracts. Contractual rights and obligations.

General principles of law of agency. Law of partnership.

14.052 Law for Builders II

2 credit points; compulsory for BBuild degree course students. Prerequisites: 14.051

Law of negotiable instruments. General principles of insurance law. Sale of goods and a general introduction to the law of bankruptcy and company law. Law related to non-commercial succession to property.

14.053 Law for Builders III

4 credit points. Prerequisites: 14.052.

Industrial law, including references to Commonwealth and State statutory provisions dealing with conciliation and arbitration. State and Commonwealth awards. Industrial disputes.

Employers' associations. Trade unions. Real property and local government law.

School of Economics

Undergraduate Study

15.901 Economics for Town Planners

Economic influences on land values. Economics of residential location. Intra-urban location decision of firms. Models of urban structure. Urban spatial dynamics. Urban growth theory. Externalities in a market economy. Economics of city size. Economics of housing. Input-output analysis. Cost-benefit analysis and planning balance sheet.

Department of Industrial Arts

Undergraduate Study

21.903 Project

21.311 Industrial Arts I

An introduction to the subject area of industrial arts. The central theme is the inter-relationship between people and artefacts. The course comprises the following six compulsory units:

21.3111 Workshop Practice

Safe working practices using selected woodworking and metalworking machines.

21.3112 Introduction to Design Methods

The need for design methodology and its application in the industrial situation, strategy planning, the methods with examples of their application, the problems of problem solving.

21.3113 Basic Design

Studio: the development of visual literacy and expression through the study and articulation of the basic aesthetic elements—colour, light, proportion, texture, mass, space, structure—and their representation in two and three dimensions.

21.3114 Introduction to Graphic Techniques

Studio: demonstrations and practical work in elementary graphic method and technique—photography, graphic layout and design, with emphasis on freehand drawing.

21.3115 History of Industrial Arts

Definitions, content and philosophy of industrial arts as an area of study. The development of methods of producing artefacts. Theoretical models of the relationship between social and technological factors.

21.3116 Research Methods

Research in the field of industrial arts. Data collection and reduction. The action-research model and its implications.

21.312 Industrial Arts II,

21.313 Industrial Arts III and

21.314 Industrial Arts IV

These subjects are divided into the following nineteen units.

See **Course Outlines** for choice of units.

Ethnotechnology

Ethnotechnology is the study of the way in which a particular society designs and produces its artifacts. As well as making a study of materials, tools and techniques, the historical, economic and sociological aspects of artifact production are examined.

The theoretical areas of ethnotechnology include: **1.** methodology and techniques of ethnotechnology. **2.** a systematic examination of the material culture and artifact production in societies such as those of the Australian aborigine and the people of Asia, and **3.** an examination of traditional technology in Australia.

The laboratory and fieldwork areas include group and individual projects involving: **1.** experimental laboratory work on the examination and production of artifacts using established techniques, and **2.** fieldwork examining a wide range of traditional technologies using ethnographic techniques.

21.3121 Ethnotechnology I

Prerequisite: 21.3116.

The relationship between science, technology and society. The relationship between ethnotechnology, ethnography and archaeology. The methodologies of the social and physical sciences and their application to ethnotechnology, a brief analysis with reference to a traditional material culture.

Laboratory and fieldwork: Investigation of various techniques used by traditional craftsmen in the production of artifacts.

21.3131 Ethnotechnology II

Prerequisite: 21.3121.

Social and technological aspects of ethnotechnology. The philosophies encompassing the etic and emic approaches to fieldwork. Methodologies of ethnographic reporting. The development of early Australian crafts and technologies.

Laboratory and fieldwork: The investigation of the Austalian traditional technologies of gold-mining and refining, timbermilling, brick-making and pottery, their background and development.

21.3141 Ethnotechnology III

Prerequisite: 21.3121.

The application of theoretical models to ethnotechnology. The study of socio-cultural systems with special reference to their material cultures. An advanced study of traditional Australian technology.

Laboratory: An investigation of the materials, techniques, tools and processes used by selected cultures in the production of artifacts. Advanced field research into the traditional Australian technologies. Advanced studies in the ethnotechnology of Asia.

Craft

The craft units are intended to develop appreciation of craft activities and integrate aesthetic experience with technological knowledge. While it is intended that students should be able to experience several crafts, such as ceramics, textiles and glassworking, at present only ceramics can be offered.

21.3122 Craft IA (Ceramics)

The characteristics of earthenware, stoneware and porcelain. Glazes, kilns and forming methods. An introduction to the geology of ceramic materials and their properties. Practical experience in hand building methods, introductory throwing and design in pottery.

21.3132 Craft IIA (Ceramics)

Prerequisite: 21.3122.

The history of pottery focusing on China and its relationship to other countries. The emergence of a ceramic industry in Europe. Body formulation, glaze chemistry and calculations. Further practical experience with emphasis on throwing and design skills.

21.3142 Craft IIIA (Ceramics)

Prerequisite: 21.3132.

Present day craft and industrial practice. Kilns and firing techniques. Setting up and running a craft pottery. Further practical experience with emphasis on throwing and design skills.

Industrial Design

The Industrial design units are made up of lectures, demonstrations, group discussions and criticism, with design projects as the subject core.

The theoretical aspects are concerned with:

1. the historic, social, psychological and economic aspects of industrial design and **2.** the methodology and techniques of industrial design.

The design projects are set in many differing industrial and social frameworks, and give the student an opportunity to solve problems across the whole spectrum of Industrial Design. The understanding of the problem solving process and the individual student's own experience of it is considered to be of as much importance as the final solution. The brief for each project details the production and marketing situation, the criteria for design, the academic aims of the project, background information, a time schedule and the requirements for presentation of the student's analysis and final solution.

Visits to industrial organizations and design offices are undertaken in conjunction with other units of the Industrial Arts course.

21.3123 Industrial Design I

Prerequisites: 21.3112, 21.3113, 21.3114 or equivalents.

The emergence and development of the industrial design profession from 1850 to the present day.

Modelmaking techniques, a series of demonstrations of clay, plaster, timber, polystyrene, polyurethane, glass reinforced plastics and epoxy resin modelmaking.

Studio: Elementary design project work applying industrial design criteria and method to the solving of design problems. The solutions to be evaluated by means of prototypes, drawings and reports.

21.3133 Industrial Design II

Prerequisites: 21.3123, and 21.3144 or equivalents.

A study of industrial design case histories in Australia, Europe and USA. Local cases will be examined in conjunction with the Industrial Design Council of Australia.

Design and materials. An examination of the design potential of selected materials from an industrial design viewpoint.

Studio: Advanced design project work involving the reconciliation of multi-faceted industrial design problems, in a variety of materials. The solution to be evaluated by means of models, prototypes, graphics and reports.

21.3143 Industrial Design III

Prerequisite: 21.3133.

An international survey of design education from 1850 with particular reference to the contemporary situation.
Theories of Industrial Design with emphasis on the contemporary situation. The nature of 'good' design, the ethics of design, styling and design, design and the multi-nationals, design and the developing countries.

Studio: A major and minor design project to the student's own choice. The major project to be undertaken in conjunction with an external industrial organization or design office.

Graphics

The graphics units are concerned with two-dimensional means of analysis, abstraction, synthesis and communication, of two and three dimensional design problems and concepts. Initially the units are concerned with the application of graphic method to the industrial design, ethnotechnology and craft uniits, as well as to the solution of two-dimensional design problems. The course develops into the study and practice of graphic design. The units are made up of lectures, demonstrations, group discussions and criticism, with design projects as the subject core.

The theoretical aspects are concerned with:

1. the historic, social, economic, and psychological aspects of two-dimensional communication and graphic design **2.** the methodology and techniques of graphic design.

The design projects are set in many different media, and give the student an opportunity to solve problems over the whole spectrum of graphic design. Visits to the office of a consultant designer and a company design team, will be undertaken in conjunction with other units of the Industrial Arts course.

21.3124 Graphics I

Prerequisites: 21.3112, 21.3113, 21.3114, or equivalents.

The history and background of contemporary graphic design. Detailed study of graphic method and techniques—perspective, geometric projections, typography, photography, descriptive geometry, graphic design and layout, printing and photomechanical reproduction.

Studio: Project work using the above techniques to solve two-dimensional design problems, and to externalize, abstract, synthesize and communicate three-dimensional design problems and concepts.

21.3134 Graphics II

Prerequisite: 21.3124.

Advanced studies of dynamic symmetry, analysis of geometric solids, analysis of two-dimensional pattern in nature and man made objects, symbols and symbolism, visual illusion in art and nature, graphic techniques applied to industrial design.

A study of graphic design case histories.

Studio: Analytical work in the subjects covered by the lectures and design project work applying graphic design criteria and methods to the solving of design problems.

21.3144 Graphics III

Prerequisite: 21.3134.

Social and psychological aspects and effects of graphic design, with particular reference to advertising and the ethics of graphic design. Investigations of the effectiveness of visual communications in films, television, posters, books, computer systems.

Legibility of print, computer graphics, graphic visualization and representation of abstract data and ideas. Advanced photography, typography, techniques of printing and photomechanical reproduction and graphic communication.

Studio: Project work based upon lecture course and a major project to be undertaken in association with an external organization of a design office.

Industrial and Social Organization

The units in industrial and social organization are concerned with the theory and practice of human organization in industry and society. The inter-relationship between people and technology and the associated problems and their solutions provides the general framework. Teaching in these units is by way of lectures, case studies, various experiential exercises and visits to industrial organizations.

21.3125 Industrial and Social Organization I

Prerequisite: 21.3115.

The general development of twentieth century industrial organization and society. The nature of work and some important psychological, sociological and economic factors in industrial dynamics.

21.3135 Industrial and Social Organization II

Prerequisite: 21.3125.

The nature of management and the development of management and organization theory. The role of trade unions in social and technological change. The environment of industry.

21.3145 Industrial and Social Organization III

Prerequisite: 21.3135.

The nature of organizational behaviour; decision making, problem solving and adaptability. Organizational change. Social responsibility of industry. Present and future trends in organization and management.

21.3147 Appropriate Technology

Examination of problems in the relationship between people and technology in developed and in developing countries and at various levels of analysis. The concept of appropriate technology as a solution to such problems and the development of solutions which are evaluated on criteria of suitability, feasibility and acceptability.

21.3126 Project

The project provides the opportunity for practice in research methods, teamwork, and planning, organizing and conducting study in the field of industrial arts.

21.3146 Advanced Project

The advanced project provides the opportunity to conduct in depth study in the field of industrial arts.

21.3127 History of Art and Design

A brief chronological survey of the major art and design movements from the earliest times to the present day.

Graduate Study

21.501G Industrial Design

This area of the course is drawn from the existing body of knowledge concerning industrial design. In particular, it emphasizes design principles and the main functions, skills and responsibilities of the designer for industry. The subject matter is communicated through lectures, tutorials and practical assignments, the aims of which are to give the students a broad view of design in an industrial society, an aesthetic conviction and sensibility and the skills and methods required for the practice of industrial design.

Historical, social and aesthetic bases of industrial design.

Design Methodology.

Design Principles.

Signs, Symbols and Communication.

Ergonomics.

Professional, Commercial and Industrial Practice.

Design Media.

21.511G Design Projects

A continuous series of design exercises and projects, graduated in scale and difficulty and with varying emphasis on particular aspects of design technology.

These projects form the central part of the course. The subjects chosen relate to the current lecture or case study programs, so that theory and practice can be integrated. The design projects provide an experience in which technology, design method, aesthetics and social need are synthesized and in which inter-relationship must be sought and inconsistencies resolved. The student faces problems involving judgment, choice and decision, some of which can be based on objective, analytical study, whilst other studies are more subjective, intuitive and emotive.

The projects are supervised by the academic staff of the Department with assistance from an appropriate practising designer and, when necessary, academic staff from other sections of the University. Tutorials as well as discussions with individual students arise from the projects, especially during the design development phase. Opportunity is given for students to act as a member of a design team.

At the commencement of each design project the students are briefed in detail as to the intention, and object of the exercise; this brief also includes basic information, controlling factors, a time schedule and requirements for presentation.

21.501G Industrial Design

21.511G Design Projects

21.521G Seminar

In general, seminars are devoted to design theory and philosophy and to the presentation by students of papers on design problems. Seminars are closely integrated with the other sections of the course work. From time to time, such matters as general design problems, current issues in design, unusual design problems and addresses by visiting designers also constitute the topics of seminars.

21.531G Creative Art (Elective)

School of Geography

Undergraduate Study

27.801 Introduction to Physical Geography S1L2T2½

The mechanism of the physical environment with particular reference to Australia and to the Sydney region. Geologic controls of landform development; fluvial, slope and coastal processes and their landforms; cyclic and equilibrium approaches to landform studies. Global energy and atmospheric circulation; weather and climate in Australia and the Sydney region. The hydrologic cycle; processes and factors of soil formation and soil profile development. The ecosystem; controls of vegetation in the Sydney region.

Laboratory classes include the study and use of topographic maps, geological maps, and air photographs; the use of climatic data and the weather map; soil description; basic cartographic methods. Two field tutorials, equivalent to 16 tutorial hours, are a compulsory part of the course. Students must provide basic drawing instruments.

School of Surveying

Undergraduate Study

29.411 Surveying for Architects and Builders

2 credit points; compulsory. Prerequisites: nil.

Introduction. Chaining, methods of measurement, corrections, chain surveys. Level, differential levelling, booking. Contours, volumes of earthworks. Theodolite, methods of reading angles, applications in building. Traversing, setting out.

29.431 Surveying and Cartography

Surveying and its relationship to town planning. Types of survey; methods of linear measurement, corrections, chain surveys. The level, differential levelling, contours, volumes of earthworks. The theodolite, applications in building; traversing, setting out; plotting and plan drawing; measurement of areas by planimeters. Basic concepts of land tenure, land registration and cadastral surveying; plan registration. Mapping and map projections; control surveys; photogrammetry and orthophotographs.

School of Building

Undergraduate Study

Construction Studies Stream

The construction studies stream embraces both the functional requirements and methods of constructing buildings. An understanding of structural elements and materials is fundamental. The ability to compare design alternatives and to see buildings as part of an overall environment is developed as the student progresses.

35.202 Soil Mechanics for Building S2L1T1

2 credit points; compulsory. Prerequisites: nil.

The origins and formation of soils; Clay mineralogy; classification of soils; soil as an engineering material; site investigation; boring, sampling and in-situ testing; shear strength of soils; stress distribution in earth masses; consolidation and settlement; earth pressure calculations; bearing capacity; improvement of soil properties by compaction and stabilisation; introduction to foundation design; laboratory testing of soils.

35.500 Building Graphics S2L2T4

6 credit points; compulsory. Prerequisites: nil.

The development of visual awareness and the practical skills basic to the observation, analysis and recording of appearance. An introductory survey of the visual environment of man; buildings, precincts, squares, architectural and construction aspects. Descriptive geometry.

Practical exercises in two and three dimensional composition in various media.

35.501 Construction I S1L3T2

5 credit points; compulsory. Prerequisites: nil.

Functional requirements and methods of building single family dwellings: footings for various site conditions; brick, brick veneer and timber walls; flooring, ceiling and roof framing; domestic joinery; finishes; domestic plumbing, drainage and electrical services; methods of setting out and supervision.

35.502 Construction II S2L2T2

5 credit points; compulsory. Prerequisites: nil.

The major building trades and crafts including the use of tools and materials, and the on-site observation of trade practices: materials, techniques, tools, terminology, problem areas, quality control and supervision. The construction of a dwelling through its various stages incuding elementary time and motion studies.

35.503 Construction III S1L2T2

5 credit points; compulsory. Prerequisite: 35.501.

Small multi-storey buildings from the functional and construction operation viewpoints. Concepts from Construction I are further developed and new concepts are introduced: site work procedures; concrete as a building material; foundations and footings; types of wall construction; basement, ground floor and upper floor construction; methods of roofing, waterproofing; construction of staircases; joinery; steel as a building material; internal finishes; minor construction plant, formwork.

35.504 Construction IV S2L2T2

5 credit points; compulsory. Prerequisite: 35.503.

Functional requirements and methods of constructing light industrial buildings: further development of structural steel, large span factory roofing, welding techniques, fire requirements, cladding methods, installation of cranes and machine footings, scaffolding, relevant builder's plant and equipment.

35.505 Construction V S1L2T2

5 credit points; compulsory. Prerequisite: 35.504.

Functional requirements of high-rise buildings and major building projects: structural systems, enclosure systems and environmental control systems and their inter-relation from a building standpoint; various methods and materials commonly used to solve functional demands; comparison of systems of construction; building loads and load factors; stability of structures and structural components; creep, settlement and other movement; principles of fire protection in high-rise projects; cladding in concrete, metal and glass; ceiling and partition systems; integration and co-ordination of services.

35.506 Construction VI S2L2T4

4 credit points. Prerequisites: 35.505, 35.703.

Building techniques employed on major projects including the use of plant, equipment and various construction systems: excavation equipment, shoring, ground anchorage, pile drivers, formwork, slip form, craneage, concrete handling. Integrated construction systems. Students undertake on-site studies. Emphasis on method of construction rather than the attributes of the finished product.

35.507 Construction VII S2L2T2

4 credit points. Prerequisites: 35.505, 35.703.

Comparative studies of construction systems for the various types of buildings: industrialized housing, tilt-up, top-to-toe, progressive strength, lift slab, pneumatic structures, cable structures, pneumatic forming, foam structures, mobile buildings.

35.508 Construction VIII S1L2T3

4 credit points. Prerequisites: 35.505, 35.704.

Industrialized techniques of material and component manufacture. Production planning and control. Factory layout design, materials handling, plant and equipment, automatic and semi automatic processes, numeric control. Production machines and tools. Raw materials technology, timber, metals, ceramics, plastics, etc. Storage, packaging and transportation of finished products.

35.551 Structures I S2L2T2

5 credit points; compulsory. Prerequisites: nil.

External and internal forces. Conditions of equilibrium. Stress, strain. Bending moment, shearing and axial force. Loads on structures. Simple design of beams, trusses and columns. The function of bracing. Structural properties of timber, brick, steel and concrete. Basic structure costs.

35.552 Structures II S1L2T2

5 credit points; compulsory. Prerequisite: 35.551.

Revision of forces and equilibrium: oblique forces, cranked beams, beam-columns. Basic principles of space structures. Design of beams in timber, steel and reinforced concrete.

Beams of two materials. Deflection of beams. Design of axially loaded columns. Riveted and bolted joints of timber and steel structures. Combination of axial and bending stresses. Stability of eccentrically loaded structures. Costs of elements of simple structures.

35.553 Structures III S1L2T2

5 credit points; compulsory. Prerequisite: 35.552.

Equilibrium of forces in tow and three dimensions. Principles of statical determinancy. Indeterminate structures: slope deflection equations, moment distribution.

Use of computer packages in designing building frames.

Design of reinforced concrete elements: building frames, complex slabs, footings, retaining walls and continuous members. Principles of limit design. Composite construction.

Elements of prestressed concrete beam design. Cost comparison of single-storey frame structures.

35.554 Structures IV S2L2T2

4 credit points. Prerequisite: 35.553.

Structural safety and serviceability, limit state design. Structural forms for large spans and tall structures; factors determining structural form. Multi-story, multi-bay frames in steel and concrete; comparison of efficiencies, costs. Design of composite, reinforced concrete and prestressed concrete structures.

Temporary structures and construction loads; design for construction loads. Design of building foundations and temporary supports for foundation construction.

35.570 Environmental Studies S1 or S2L2

2 credit points. Prerequisites: nil.

Some of the problems faced by those who will be building and managing future projects. A broad introduction on the physical characteristics of the Sydney Region, ie **1.** projected land-use growth factors; **2.** major transport systems, and a brief summary of the architectural history of the Region.

Undesirable impact on the environment: **1.** noise; **2.** pollution of land, air, water; **3.** wastage of resources; **4.** re-development problems: (1) client's view, (2) architect's view, (3) landscaper's view, (4) role of environmental impact studies. Public reaction to the above. Comments and discussions with resident action groups, green ban supporters, etc. Seminars to discuss building techniques and possible structural methods to satisfy both client requirements and public concern.

35.580 Building Design Analysis S1L2T1

3 credit points. Prerequisites: 35.505, 35.704.

A critical analysis and evaluation of current building designs within the study areas of: communication and documentation, information flow, appropriate construction methods, constructibility and work flow, construction economics and cost-value analysis.

35.581 Historical Development of Building S1L2

2 credit points; compulsory. Prerequisites: nil.

Background to building: the ancient world, recent history: Europe, Asia, the Americas, Australia. Development of structures, construction, building science and building economics.

Rationalization and industrialization. Innovations, building research. Development of the structure of the industry and professions; laws and regulations, industrial relations, the contract document.

Building Science Stream

The underlying purpose of the building science stream is to impart to students an understanding of: the physical principles governing the behaviour of matter and the performance of building materials; the nature of the macro-environment and the parameters that control it and the principles involved in creating a suitable human environment; the mathematical tools and computer techniques necessary for the efficient design, construction, and operation of modern buildings.

35.601 Building Science I (Materials) S1L2T2

4 credit points; compulsory. Prerequisites: nil.

Properties of materials: plasticity, elasticity, density, porosity, hardness. Optical, electrical, thermal and acoustic properties.

Deterioration. Properties and manufacture of building materials: wood, wood products, cements, limes, concrete, bricks, metals, asbestos cement, ceramics, plastics, sealants and mastics, stones.

35.602 Building Science II (Energy) S1L3T3

5 credit points; compulsory. Prerequisite: 1.931.

The thermal environment: heat and comfort, heat transfer, thermal storage, thermal resistance, insulation, water vapour, condensation, vapour barriers, ventilation, environmental parameters, comfort indices, heat flow through glass, solar radiation, shading coefficient. Acoustics: the nature of sound: velocity, wavelength, frequency, intensity, sound pressure, sound power; sound analysis and subjective loudness: dBA level; assessment of noise annoyance: airborne sound transmission: sound attenuation, transmission loss, absorption coefficients, transmission class, composite partitions; recommended acoustic criteria, introduction to auditorium acoustics.

Solar control: solar position diagrams, spherical projections, shadow angles, effect of latitude, longitude, magnetic north and equation of time, shading devices, sky factor, sunlight in streets, shading by tall buildings. Daylighting: daylight factors, reflected daylight, availability of daylight, design.

Artificial light: light sources, colour, luminaires, luminance design, glare, lighting quality, spatial illumination, maintenance.

Fire: fire behaviour of building materials, fire behaviour of structures, systems for fire safety.

35.603 Building Science III (Computing) S2L2T4

5 credit points; compulsory. Prerequisite: 35.670.

Introduction to computer programming and applications. Anatomy of the computer; communication with computers, analysis of problems for solution by computer; elements of a computing language; programming via batch processing and time-sharing; processing of existing application programs; applications in general; applications in building; social issues.

35.604 Building Science IV (Plastics) S2L2T1

3 credit points. Prerequisite: 35.601.

Polymers in building: history and development of polymers, chemical structure, properties and applications of thermoplastics and thermosets, forming and design, reinforced plastics, fabrication techniques, building adhesives, elastomers, modified concrete.

35.605 Building Science V (Concrete) S1L2T1

3 credit points. Prerequisite: 35.601.

Concrete technology: cement aggregates, water and admixtures, properties of fresh concrete, strength considerations, durability, shrinkage and creep, special concretes, non-destructive testing, mix design.

35.606 Building Science VI (Metals) S2L1T2

3 credit points. Prerequisites: 35.601.

Metals in building; structural ferrous alloys, structural and architectural non-ferrous alloys; corrosion and protection; welding; types of failure; brittle fracture, fatigue, creep; impact resistance, tensile properties, hardness, strain hardening.

35.607 Building Science VII (Thermal) S2L1½T1½

3 credit points. Prerequisite: 35.602.

Building with climate: climate (global and local), thermal comfort factors and indices, effective temperature, principles of thermal design, thermal control, ventilation and air movement, light, daylighting, sound, noise control, shelter for various climate types, design aids.

35.608 Building Science VIII (Systems) S1L2T2

4 credit points. Prerequisite: 35.603.

Systems analysis methods. The systems approach of considering the interconnection of processes forming part of a larger whole, is introduced as a general concept applicable to biological, social and scientific disciplines. In particular, the systems analysis techniques of network analysis, mathematical programming, and simulation is studied in relation to the planning, design and construction management of building projects.

35.609 Building Science IX (Timber) S2L1½T1½

3 credit points. Prerequisite: 35.601.

The production and marketing of timber; test methods and properties; stress grading of timber, codes of practice; chemical, physical and biological attack and weathering of timber; protection and preservation; thermal, acoustic and aesthetic properties; factory techniques, plywood, particle board, hardboard, softboard, prefabricated building components, laminated beams.

35.651 Services I (Hydraulics) S2L2

3 credit points; compulsory. Prerequisites: nil.

Hydraulic services pertaining to small and medium size projects: hot and cold water reticulation; sewer and storm water drainage; sanitary plumbing; introduction to fire fighting equipment and services; regulatory authorities and requirements.

35.652 Services II (Environmental) S1L2

3 credit points; compulsory. Prerequisite: 35.602.

Environmental services for small to medium size projects: fuels and heating appliances; electrical trunking, switching and wiring; package air conditioning units; garbage disposal and incinerator systems; telephone and security systems; lifts and escalators.

35.653 Services III (High Rise) S2L4

4 credit points. Prerequisites: 35.651, 35.652.

Hydraulic and environmental services pertaining to major projects such as high-rise buildings; sanitary plumbing systems suitable for multi-storey buildings; air-conditioning loads, psychometrics, central air distribution; electricity supply and distribution, systems of wiring and trunking; fire fighting services and equipment; lift control systems; escalators and moving walks; communication systems, telephone, fire alarms, intercom, pneumatic tubes and mechanical mail conveyors; planned building maintenance; pollution, disposal for special wastes and an introduction to closed ecological systems.

35.670 Mathematics for Builders S1L4T2

4 credit points; compulsory. Prerequisites: nil.

Calculus: elementary functions, differentiation and integration, differential equations. Linear algebra: vectors, matrices.

Systems of linear equations, applications to three dimensional geometry. Probability: revision of sets. Union and intersection of events. Conditional probability, independence, many-stage experiments. Tree diagrams. Binomial experiments. Geometry: Conic sections, generation of surfaces, topology, networks, Euler's theorem, universal paths, one-sided surfaces. Polyhedra. Projective geometry.

Management Studies Stream

Building management includes management in theory and management in practice. It equips the student with well founded principles which he can apply to operational situations in the building process.

35.701 Management I — S1L2

4 credit points; compulsory. Prerequisites: nil.

Scientific management principles, administration and supervision; principles of organisation, individual and group behaviour; technical report writing; the Australian economy and the building and development industry; introduction to scientific methods of construction planning and control; the building and development industry, building acts and regulations, codes, local government authority powers, fees and approvals.

35.702 Management II — S2L2

4 credit points; compulsory. Prerequisite: 35.701.

The application of scientific management theory in practice with particular reference to building organisations. Business practice procedures in relation to: statutory requirements, employment, purchasing, safety and accident prevention, risks and insurance and the conduct of meetings and formal company procedures.

35.703 Management III — S1L2

4 credit points; compulsory. Prerequisite: 35.702.

Systems concepts and their relevance to building, planning and construction problems.

Basic decision theory, techniques and procedures. Operational research techniques with particular reference to the use of networks for planning and scheduling. Selected aspects of work study appropriate to the building industry. Technical supervision. Planning and control techniques and their application. Cost control.

35.704 Management IV — S2L2

4 credit points; compulsory. Prerequisite: 35.702.

Building contracts and contract administration. Site organisation, plant and equipment. Building methods and materials handling. Construction analysis and production methods.

35.705 Management V — S1L1T2

4 credit points. Prerequisite: 35.704.

Macro and micro construction planning methods. A systems approach to construction planning. CPM and PERT as applied to construction. Planning for repetitive construction. Planning materials handling. Productivity in construction. Preplanning for project financial control. Project management of the total building process. Application of decision theory.

35.706 Management VI — S2L1T2

4 credit points. Prerequisite: 35.704.

Business practice in relation to contract and project building. Industrial relations. Management games.

35.707 Management VII — S2L2T1

4 credit points. Prerequisites: 35.704, 35.862, 14.002.

Corporate strategy and the overall general management of an enterprise in the building and development industry, derivation of policy by top management together with planning of policy implementation. There is an integration and application of knowledge acquired in previous and concurrent courses. By using case studies students appraise the present position and future prospects of enterprises in the building industry; assess potential risks and opportunities; plan the human and physical resources and activities of the enterprises required to achieve corporate objectives.

35.708 Management VIII — S2L2T1

4 credit points. Prerequisites: 35.704, 35.862, 14.002.

Finance and marketing for builders and developers in the Australian and Pacific environment with particular emphasis on the marketing mix, the relationship between a marketing system and its environment, development of marketing, tactics and strategy, market segmentation and the buyer decision process together with the nature of financial management; the business environment; financial analysis; planning and control; capital investment decisions; organization of the financial structure; operating and working capital management; growth and development; and the causes and prevention of financial instability and failure.

35.710 Building Information Systems — S2L2T2

4 credit points. Prerequisites: 35.603, 14.001.

The specification, development and use of computer based information systems in the management of building companies.

35.720 Commercial Arbitration — S2L2T1

4 credit points. Prerequisite: 35.704.

The nature and function of arbitration in relation to building contract disputes, the parties to arbitration, the arbitrator, his duties and powers. Arbitration in contracts case studies, and moot arbitration.

Building Economics Stream

The subjects contained in the Building Economics Stream aim to provide a study of the economic aspects of building and real estate. This study is intended to develop an awareness of cost structure and characteristics from concepts to demolition and necessarily embraces a variety of operations and professions. Particular attention is given to the acquisition of skills in the various techniques used to control cost in a building program.

35.801 Quantity Surveying I (Measurement) — S2L3T1

4 credit points; compulsory. Prerequisite: 35.503.

Quantity surveying; historical background; functions of the quantity surveyor; the origin and development of the Australian Standard Method

of Measurement of Building Works, its importance and application; methods of recording dimensions, checking and correlating plans and specifications; principles of measurement; measuring techniques for single storey construction; billing fundamentals of item descriptions; taking off quantities from plans and specifications.

35.802 Quantity Surveying II (Billing) S1L3T1

4 credit points. Prerequisites: 35.504, 35.870.

Advanced quantity surveying, for the trades and hydraulic services; measuring techniques for multi-storey construction; detailed study of the Australian Standard Method of Measurement of Building Works; billing procedures for single items and complete trades; contract administration.

35.803 Quantity Surveying III (Cost Planning) S2L2

2 credit points. Prerequisite: 35.802.

Functions of the cost planner; liaison with consultants; cost planning techniques including practical exercises; cost control and design economics; professional practice.

35.851 Building Economics I S2L4T2

6 credit points; compulsory. Prerequisite: 14.002.

The national economy—its relation to and effect upon the building industry. Estimating techniques for building works; analyses of 'all-in' materials, labour and plant rates; analyses of trade unit rates; preliminary items.

35.862 Building Economics II S1L2T2

5 credit points. Prerequisite: 35.851.

Builders' plant scheduling and determining charge rates; establishing of general overheads; study of preliminary items; cost adjustment procedures; preliminary estimating; tendering procedures; competitive tendering; computer techniques applied to estimating.

Entrepreneurship in the building industry; depreciation, effects of taxation; building plant operation costs; materials handling; ergonomics; small business economics in the building industry; capital investment appraisals, economics life and replacement economy; operations research. Case studies.

35.853 Building Economics III S1L2T2

5 credit points. Prerequisite: 35.862.

Economic advantages and disadvantages of conventional onsite construction and industrialized building components and system building. Financial controls used in the erection, management, maintenance and demolition of buildings. Cost benefit analysis; utility, costs and benefits; compensation tests and equity; social welfare functions; accounting prices; external effects and public goods; social rate of discount; formulae for project choice; risk and uncertainty; case studies.

35.870 Building Specifications S2L2

2 credit points; compulsory. Prerequisite: 35.503.

Principles and methods involved in the compilation of a specification for building works; objectives and purposes of a specification; the specification as a contract document; legal, tender and working aspects; relationship to bill of quantities and drawings; schedules, sources of information, references; outright and performance specifications, prime cost and provisional sums; specification sections, clauses and language, 'master' specifications; preparation, format, binding and printing; explanation of documents and general conditions.

35.880 Development Project S2L1T2

4 credit points. Prerequisites: 35.504, 35.890.

A total approach to the building process through the four stages of pre-design, design, construction and post-construction. Market research, establishing client's needs, site selection and analysis, feasibility studies and financing methods. Selection and monitoring the work of the design team, preliminary designs, preparation of development applications.

Preplanning the building process, utilization of construction and management consultants. Development control during construction and in completion, tenant fit-outs and handing over to clients of the completed project.

35.890 Property Valuation S1L2

2 credit points; compulsory. Prerequisites: 35.503.

Legal background to valuation of land and property. Property inspection. Depreciation assessment. Building maintenance cycles. Time value of money and equivalence. Value as present worth of future income. Market value, comparable sales analysis. Capitalization rates. Statutory values and applications. Building investment feasibility assessment. Case studies of property valuations.

Special Requirements

35.900 Thesis (Building) S1 and/or S2

10 credit points; compulsory. Prerequisites: a total of 100 credit points.

A specialized individual study taken under staff supervision with the object of allowing the student either to gain knowledge in some aspect of building which is not covered in the course or to increase his knowledge of some aspect which has been covered. As such, the thesis is essentially evidence of this individual study. The study does not require original experimental research for the purpose of discovering new facts or the testing of an hypothesis. Neither is it an essay permitting the student's unsupported opinion. The topic of the thesis is to be supplied by the student for the approval of the Head of School. A student may not commence the thesis until 100 credit points have been accrued and it must be submitted for examination before the close of the last semester attended by the student. Students are permitted to extend this subject over two consecutive sessions (if desired) and may commence in Session 1 or Session 2.

35.910 Industry Semester S1 or S2

3 credit points; compulsory. Prerequisites: 35.503, 35.702.

It is desirable for students to be exposed, at the appropriate time during their course, to industrial conditions and experiences and this can best be achieved by continuous experience on a building site (or other approved situation). Students will be required to arrange approved continuous employment for a period of six months (one semester plus vacation periods).

The industry semester is most beneficial if taken at about midway through the course, and must be taken at a stage which will enable students to subsequently complete a minimum of 12 credit points, apart from credit points obtained for 35.900 Thesis.

During the industry semester, students are under the supervision of a staff member and are required to submit a report on an approved topic.

Other Subjects

35.920 Building Techniques — Town Planning

A general background of the building industry, its products and those who produce them. Directed towards the interests of Town Planners, study areas include the building process, principles of construction, construction methods and economic aspects.

Graduate Study

35.212G Pre-Construction Management S1L2

2 credit points. Prerequisites: nil.

Changing roles and responsibilities; the integration of construction skills with design as a pre-contract input; the costs and benefits of such an approach; user-owner brief; total project planning, administration of contracts, progressive design input and as executed drawings.

35.213G Building Contract Management S2L2

2 credit points. Prerequisites: nil.

Contract administration, sub-contractors, relationship and communications during construction and commissioning, case studies, analysis of areas of dispute between parties.

35.231G Operations Planning S1L4

4 credit points. Prerequisites: nil.

Advanced planning and control systems, computer application to planning and control. Time, cost and quality trade-offs, management models, decision theory and risk analysis, construction strategy, resource scheduling.

35.232G Systems Modelling S2L2

2 credit points. Prerequisites: nil.

Systems concepts and modelling. Applications, including the location, planning and design of buildings, and the relevance of urban energy usage to the siting of buildings. Analytical tools used in systems analysis and their application to building decision problems. Systems design allowing for non-quantifiable factors and multiple objectives. Decision theory and risk analysis.

35.242G Graduate Project (Compulsory) FL1

10 credit points. Prerequisites: nil.

Each student is registered for the Graduate Project throughout his or her course. *Semesters 1 & 2:* Survey of the project area, preliminary submission containing an outline of the project. *Semesters 3 & 4:* consultations, group discussions and seminars on the project topics; preparation of a graduate project.

35.254G Personnel Management S2L3

3 credit points. Prerequisites: nil.

Management of design and construction of personnel, motivation and personnel theory, selection and development, industrial psychology, industrial relations.

35.275G Property Management S2L2

2 credit points. Prerequisites: nil.

Designing for better property management, maintenance, plant and equipment selection, economic, technical and tax trade offs, obsolescence, material selection, development proposals.

35.296G Construction Techniques S1L3

3 credits points. Prerequisite: 35.505 or equivalent.

Techniques for the demolition of existing buildings and the excavation for and construction of new buildings. Determinants such as new techniques,, industry cost structure, materials handling equipment and transportation costs and their effect on construction techniques. A study of recent methods through case studies will be undertaken. Rehabilitation of existing buildings.

35.297G Developments in Building Materials S1L2

2 credit points. Prerequisites: nil.

Current developments in the application of building materials. Technical developments and innovations affecting the utilization of building materials, case studies of recent designs and applications.

35.330G Cost Planning and Analysis S1L2

2 credit points. Prerequisites: nil.

Cost planning history, definitions, processes and applications: survey of world usage; the viewpoints of the Architect, the Manager, the Cost Planner and the Services Engineer; case studies; seminars.

35.355G Computer Graphics S2L2

2 credit points. Prerequisites: 35.360G.

Introduction to computer graphics and graphic devices: drum and flat-bed plotters; electrostatic printer/plotters; storage tube and refresh tube graphic displays; digitizers. Use of software and application packages in the following areas; buildng plans, perspectives, shadows, land form, quantity surveying, networks, etc.

35.360G Computer Techniques and Applications I S1L3

3 credit points. Prerequisites: nil.

Nature and use of digital computers. Components of a system. Introduction to interactive computing and terminals, elements of the Fortran language. Application of computers in various areas: scheduling; structural design; services; statistics; data reduction; information systems.

35.361G Computer Techniques and Applications II S2L2

2 credit points. Prerequisite: 35.360G.

Further development of computing concepts. Completion of the Fortran language. Assignments in some of the following areas: scheduling; operations planning; structures; statistics; simulation; linear programming.

35.370G Experimental Techniques S2L2

2 credit points. Prerequisites: nil.

Purposes of and methods used in building research, experimentation and testing. Design of experiments, method of dimensions and principles of similarity. Analysis of experimental results; regression techniques. Experimental techniques used in building science, and in assessing building materials and mechanical equipment. Methods used in socio-economic analysis; factor and component analysis. Design of subjective experiments and questionnaires.

35.381G Building Physics S2L2

2 credit points. Prerequisites: nil.

Thermal balance and energy conservation in buildings. Utilization of solar energy for heating and cooling. Effect of building components, materials and services on the internal environment: effect of walls, floors and fenestration.

35.382G Building Psychophysics S1L2

2 credit points. Prerequisites: nil.

Psychophysical analysis of parameters affecting comfort; the visual acoustical and thermal environment; human engineering.

35.390G Co-ordination of Structures and Services S2L2

2 credit points. Prerequisite: 35.425G.

A qualitative study of structural systems and their interaction with services. Integration of services and structure. Case studies of special integrated solutions, with particular reference to prefabrication and industrialized building. Co-ordination of services.

35.400G Economics of Services S2L2

2 credit points. Prerequisites: nil.

Costs in use: Initial costs; running and maintenance costs; effect of interest rates and inflation; statistics. Maintenance methods and costs: methods of approach and analysis; planned maintenance; repair and renewal. Evaluation methods for building cost appraisal. Cost benefit analyses.

35.426G Building Services S1L3

3 credit points. Prerequisites: nil.

A study of thermal, electrical, hydraulic and mechanical services in buildings with regard to flexibility, space usage, long-term efficiency, design life and economy.

35.460G Applied Building Economics S2L2

2 credit points. Prerequisites: nil.

The inter-relationship between the national economy and the building industry; entrepreneurship in the building industry; small-business economics in the building industry; the economics of conventional and industrialized buildings; financial management of building contracts; economics of property development. Life cycle costs of buildings.

35.470G Analysis and Valuation of Property S1L2

2 credit points. Prerequisites: nil.

Buildings as an investment: Site value and selection; optimum site development; assessment of depreciation. Feasibility assessment,

including renovation or demolition decision. Amortization of depreciating assets. Economic analysis of hypothetical development of sites. Valuation reports including case studies of building investment projects.

35.480G Managerial Economics in Building S2L2

2 credit points. Prerequisite: 35.460G.

Advanced techniques of pragmatic concern to the building economist: Techniques, problems and model derivation; decision theory; planning of production, labour and inventories; design of decision systems; dynamic programming; sensitivity analysis; integrated models of the firm; econometric models of the economy. Marketing.

School of Town Planning

Undergraduate Study

36.131 Communication Techniques

Presentation and layout of information. Reproduction of drawings, maps and reports. Photographic processes. Model-making. Audio-visual techniques. Report- and letter-writing. Public speaking and oral communication.

36.271 Environmental Science

Climates and climatic elements. Design for climate. Man-environment studies. Pscyhometry. Sun control including shading devices. Nature of sound. Sound sources: analysis and measurement. Noise levels inside and outside buildings. Shadows and shading. Daylight as a planning control. Wind effects. Ecology.

36.411 Town Planning

The urban planning process. Appearance of cities. Historical outline of cities. Levels of planning and types of plans. Ecological land use planning. Regional planning. Metropolitan planning. Neighbourhood planning. Planning law and administration. Social objectives in planning. Environmental impact assessment. Aspects of housing, new towns, the city centre and transportation. Futuristic concepts.

36.437 Civic Survey Camp

Fifth year students are required to attend a Civic Survey Camp of up to two weeks' duration. The camp is held in or near an appropriate country centre. Students under staff supervision study the character and function of a regional centre, patterns of rural settlement, and rural land use classifications.

36.438 Urban Government

Urban Government systems in a number of metrpolitan cities are compared, and local governments are studied as participants in these systems and as political entities offering special opportunities for comparative studies. Some general political issues related to urban affairs are examined, especially in Australia. A major aim is to acquaint students with recent developments in the study of government, politics and urban affairs and to show how some of these approaches could be used in the Australian context.

36.440 Planning Elective

Students have the opportunity to develop with staff a specialization in an area of interest such as: Australian planning history, recreation planning, urban systems. The study area depends on staffing resources and facilities.

36.451 History of Town Planning

The origin of urban centres. Geographical, social, economic and political factors influencing urban settlement. Elements of Egyptian, Greek and Roman town planning. Medieval communities. The Renaissance. The Baroque city. The French and English landscape garden movements. The Agrarian and Industrial Revolutions. Nineteenth century social reforms and planning theories. Company Towns. The Garden City movement. New Towns.

36.461 Civic Engineering

Road location, design and construction. The provision of public utility services: town water supply, sewerage treatment and disposal, electricity and gas supply, telephone communications. Drainage. Ports, railways, aerodromes.

36.472 Planning Law

The purpose of town-planning legislation and its evolution in the United Kingdom. The NSW Local Government Act, 1919 (and relevant Ordinances), in particular Parts XI, XII and XIIA; residential district proclamations, sub-division regulations; preparation, approval and implementation of planning schemes. Interim development control, compensation, betterment, resumption, appeals. The State Planning Authority Act, 1963. Nature of legislation in other States.

36.473 Statutory Planning

An Introduction to the techniques needed to transform the policies and details of planning proposals into documents which will have the support

of the law. Complementary to 36.472 Planning Law. Includes the evolution of statutory planning in the United Kingdom and Australia, with particular reference to New South Wales.

36.474 Planning Administration

A general outline of public administration in Australia. The administration of planning at National, State and Local levels in Australia. Overseas models of planning administration. The development application process. Personnel administration. The role and function of the Royal Australian Planning Institute.

36.482 Land Valuation

The need for land valuations. Legal background to valuation. Economic basis of land valuation. Valuations under Valuation of Land Act (NSW). Legislative schemes for the aquisition of land for public purposes. Compensation. Betterment. Interrelationships of planning, valuation and rating.

36.491 Thesis

A specialized individual study taken under staff supervision with the object of allowing students either to gain knowledge in some aspect of town planning which is not covered in the course or to increase their knowledge of some aspect which has been covered. As such the thesis is essentially evidence of this individual study. The study does not require original experimental research for the purpose of discovering new facts or the testing of an hypothesis; neither is it an essay permitting the student's unsupported opinion. The thesis topic is submitted by the student for the approval of the Professor of Town Planning at the end of the fourth year of the course and the completed thesis is submitted for examination towards the end of the fifth year.

Students participate in seminars on report and thesis writing during fifth year and present progress reports on their theses at the seminars.

36.503 Practical Experience

For the period covered by Session 2 of Year 3 and Session 1 of Year 4 the students must be engaged in approved employment related to the course; for example, in government planning and housing authorities, in municipal and shire councils preparing or implementing town and country planning schemes, in private development companies or with planning consultants. The type of employment proposed must be submitted to the Professor of Town Planning for approval.

36.511 Introduction to Planning

The subject serves to introduce planning as an academic and professional discipline.

Levels of planning and types of plans. Planning issues at world, national, regional, city, town and neighbourhood levels. Types of plans prepared for these levels.

The interaction of land use and movement is studied and the implications of this relationship are considered.

36.512 The Planning Process

The concept that planning is a process is considered including the evolutionary aspects. A cyclical process for the preparation of plans at any level is studied. Social, economic and environmental implications of planning are considered at all levels from world to neighbourhood.

36.513 Precinct Planning

Prerequisite: 36.511, 36.512.

Precinct planning in existing urban areas. The scope and limitations of small-scale local planning in existing urban areas, and the role of the town planner in this. Objectives; surveys; analyses; identification of options. The role and methods of citizen participation. The nature and purpose of zoning. Studio and field exercises in civic survey, and environmental studies.

36.514 Neighbourhood Planning

New residential neighbourhoods. The nature and elements of the neighbourhood. The skills necessary to design residential areas for up to 10,000 people. Constraints. Requirements: community services and facilities. The design process. Methods of implementation. Effects on land values and taxes.

36.515 Planning of Towns

Prerequisite: 36.513, 36.514.

Lectures on the growth, change and decay of urban areas, on new towns in Australia and overseas, and on commercial and industrial areas. General town design concepts and issues.

Field excursions and studio exercises in the planning and design of existing and new urban areas in both the metropolitan and rural context. Synthesis of previous studies in plan preparation and administration, in neighbourhood planning, and in transportation and traffic planning.

36.516 Metropolitan Planning

Prerequisite: 36.515.

An understanding of the workings of a metropolitan area, as a basis for planning decisions. Seminar topics and investigations, with verbal and written submissions, in the fields of: metropolitan lifestyles, societal values and their expression in the city, semi-public decisions, public policies, and metropolitan form.

36.517 Regional Planning

Prerequisite: 36.516.

Planning theory and practice at a regional level of scale. Regional analysis including location theory, strategies of regional policy. Trends in Australian agriculture. Sub-regional analysis including ecological land-use planning, recreation and preservation. Introduction to research techniques.

36.521 Research Methodology

Social science research methods. Sampling techniques, questionnaire design, interviewing, data processing, use of packaged computer programs. Introductory statistical methods: applications to data. Demographic methods, growth rates, population composition.

Graduate Study

36.930G Theory of Neighbourhood Planning I

36.931G Theory of Neighbourhood Planning II

The neighbourhood concept: its historical evolution and development. The contributions of Ebenezer Howard, Unwin and Parker, Clarence Perry, Stein and Wright and others. Neighbourhood structure, elements and form. Relationship to town and metropolitan planning.

36.940G Practice of Neighbourhood Planning I

36.941G Practice of Neighbourhood Planning II

36.942G Practice of Neighbourhood Planning III

36.943G Practice of Neighbourhood Planning IV

Dwelling types. Residential densities. The design and layout of groups of dwellings, open spaces, streets and pathways in high, medium and low density housing estates. Mixed development. Subdivision patterns and standards. Community facilities including shopping and civic centres. Urban renewal is living areas. Organization of neighbourhood development.

36.922G Communications and Public Utilities

Interaction of land use and transportation. Vehicular and pedestrian circulation patterns. Traffic function and capacity of district and neighbourhood roads. Principles and practice of local road construction, water supply, sewage treatment and disposal, and drainage. Local supply of electricity, gas, telephone, and other services.

36.923G Land and Housing Economics

Outline of principles and practice of land valuation with special emphasis on valuation of residential land and buildings. Rating and taxing systems. Effect of zoning and redevelopment on land values. National income and its distribution. Goals of a modern economy. Demand and supply analysis. Economics of road transport and public utilities in urban development. The costs of urban growth. Cost-benefit analysis.

36.924G Urban Sociology

A sociological approach to the study of urban phenomena. Lectures deal with both methodological and theoretical issues relating to the study of urban social structures. Seminars provide students with the opportunity to examine critically a number of community studies. A research project is undertaken by each student.

36.925G Housing Law and Administration

Housing acts and regulations at Commonwealth, State and local levels. Related town planning acts and ordinances. Commonwealth-State Housing Agreements. The organization and administration of public housing authorities. Significant overseas housing policies.

School of Landscape Architecture

Undergraduate Study

37.0014 Introduction to Computer Applications — S2 L1T1

The use of computers by landscape architects. Necessary knowledge to make full use of opportunities that the computer can provide including time sharing, batch processing and the use of graphic output. Components of the computer and their inter-relationships, data processing, file management, use of library programs, interpretation of results, basic programming.

37.3013 Man in His Environment — S1 L2T1

An appreciation of man through behavioural studies, including territoriality and personal space identity. The understanding of the effect of environmental changes on man. Sociological techniques for understanding user requirements.

37.3015 Environmental Impact Evaluation I — S1 L1T1

37.3016 Environmental Impact Evaluation II — S2 L1T1

Available to students of the BArch degree course in Year 2 or Year 3. Prerequisite: 156 credit points, or as otherwise approved by Subject Authority.

The environment defined in terms of bio-physical and socio-economic factors. Introduction to the general principles of environmental survey and analysis and the assessment of impact. Specific methodologies are reviewed on a comparative basis. The importance of communication between the environmental sciences and professions and the problems of objectivity.

Emphasis is upon the role that environmental impact assessment should play as part of the planning process and landscape assessment methodologies are reviewed with specific reference to their adaptability for use as a 'before and after' technique for comparatively assessing impact in relation to visual/aesthetic factors.

The student undertakes a specific study of current social significance on a group basis in two phases over two consecutive sessions, in the same year. Each phase is used as a partial assessment of progress.

37.3338 Landscape Conservation and Rehabilitation — S2 L1T3

An examination of the various interpretations which have been placed upon both words, of the emotionalism which has clouded numerous conservation issues. Conservation is then studied as 'the rational use of the environment to achieve the highest sustainable quality of living for mankind'. Following the general examination of conservation and rehabilitation principles a number of specific examples are studied, representative of landscapes threatened or adversely affected by increasing recreational use, mineral extraction, waste disposal and industrial blight. The studies include methods of control and rehabilitation.

37.5731 Landscape Prehistory I — S1 L1

37.5732 Landscape Prehistory II — S2 L1

The history of landscape evolution with particular reference to the Australian region. Continental drift, orogenesis, ice ages and climatic change. First pre-literate human societies. Hunter-gatherers, herders and farmers. The effects of man's activities upon the environment. Extant primitive societies.

37.5802 Natural Communities — S2 L1T2

Fundamental characteristics of biological systems, with emphasis on relationships with the physical environment. Survey of Australian plant communities and associated fauna with particular emphasis on the Sydney region.

37.5813 Plants and Environment — S2 L2T1

Basic ecological concepts. Plant succession from rock, sand and water. In-depth ecological and floristic study of sites of undisturbed vegetation with measurement of human impact on similar sites. Development of methods of management of natural vegetation.

37.6041 Landscape Graphics I — S1 L2T4

37.6042 Landscape Graphics II — S2 L2T4

Basic landscape drawing with emphasis on pencil techniques, drafting conventions, layouts, lettering, instruments, drawing types, use of scales. The principles and application of orthographic, axonometric and isometric drawing, plane geometry and solid geometry. Basic use of symbols to graphically depict environmental factors.

Advanced drawing techniques including the use of media other than pencil. An investigation of perspective theory. Application of the principles of perspective to the drawing of landforms and elements in the landscape.

37.6043 Landscape Graphics III — S1 L1T2

37.6044 Landscape Graphics IV — S2 L1T2

Advanced perspective including multiple vanishing points. Isometric drawings of complex landforms. Shadow projection. Techniques for use in presentation drawings.

Advanced graphic presentation techniques of survey, analysis, synthesis and final design documentation. A major graphic project is integrated with Landscape Design and Construction.

37.6245 Landscape Engineering I — S1 L2T1

Basic principles of road design. Introductions to: railway permanent way, airfield location, ports, harbours, structures in rivers, wave action and beach erosion. Uses of photogrammetry.

37.6246 Landscape Engineering II — S2 L2T1

Quarries, aggregate production, earth movement planning and equipment. Pavement design and materials. Hydrology, rural and urban drainage, wastewater and sewage treatment.

37.6271 Fundamental Landscape Techniques — S1 L2T1

Introduces basic techniques, including land measurement, elementary surveying, map reading, understanding of contours, grading, earth work manipulation, cut and fill calculations and some design theory in order to develop skills used in the practice of landscape architecture. Also included is a revision of basic mathematics as well as an understanding of slope and gradient measurements and calculations.

37.6352 Plants and Planting Methods I — S2 L2T1

General horticultural study of propagation techniques, current nursery practice, impact of weeds, plant diseases, planting techniques and forestry practice. Plant collecting and identification.

37.6353 Plants and Planting Methods II — S1 L2T1

Plants as design elements, management of plant designs. Planting on reclaimed sites. Plants for specific sites; water plants, indoor plants, roof gardens. Observation of existing landscape schemes.

37.6585 Professional Practice I **S1 L2**

The landscape architect's responsibility in law; client and other professional's involvement in project development. The ethics and responsibilites of other design professions. Project procedure; the stages of a capital development project. Contracts, types of consulting and construction contracts, subcontracts and contract procedures. Contract documentation and preparation of tender documents, determination of nominated suppliers and subcontractors.

37.6586 Professional Practice II **S2 L2**

The specification, its function, its various forms. Relevant SAA Specifications and other performance codes. General Conditions of Contract, a comparative evaluation. The relationship of specifications to other contract documents. Detailed study of specification preparation by elements and by trades.

37.6587 Professional Practice III **S1 L2**

Contract administration and supervision; the role of the landscape architect. Site inspections, instructions, certificates, variations and extras; processing claims and contract works. Practical completion; inspections, outstanding works, rectification, handover upon completion. Adminstration of the defects liability period and/or the plant maintenance period. Responsibilities involved in administration of a construction contract; as a prime consultant or as a subconsultant. Insurances, bonding, and other control on contract finance. The rights and duties of the client and the contractor. Responsibilities of the landscape architect in contract administration.

Arbitration and litigation. Post-contract activities; maintenance manuals, appraisal of design and construction, retention of records. The Statute of Limitations.

37.6588 Professional Practice IV **S2 L2**

Landscape architecture as a profession; obligations, liabilities and responsibilities. The Australian Institute of Landscape Architects; history, organization, relationship to registration of landscape architects. Office management and practice; the keeping of records, bookkeeping and accounting, taxes, correspondence and goodwill. Insurances and other requisites of practice and business operation. Copyright and document control.

37.7011 Landscape Graphics (Art) I **S1 L1T2**

37.7012 Landscape Graphics (Art) II **S2 L1T2**

Practical exercises in the basic grammar of form as an element of composition.

Projects planned to develop:

1. Appreciation of the principles of composition in relation to a total graphic structure.

2. Effective graphic communication of ideas and concepts in terms of a variety of media.

3. The use of methods and techniques to effect clear graphic statements with an economy of means.

37.7013 Landscape Graphics (Art) III **S1 L1T2**

37.7014 Landscape Graphics (Art) IV **S2 L1T2**

Projects planned to develop:

1. A more complex and able employment of the graphic language.

2. An increasing ability to balance and judge the demands of pictorial content and formal structure in the graphic presentation of pictorial material or plans.

3. The potential of the individual student towards a personal expression based on increasing technical command of materials in a lucid, graphic style.

37.7042 Landscape Appreciation **S2 L1T2**

Observation and interpretation of both the physical and biological environment and their interrelationships. Perception and appreciation of landscape character through sensory inputs of sight, sound, smell and touch. Recording and presentation techniques associated with landscape surveys.

37.7117 Landscape Planning I **S1 L2T2**

37.7118 Landscape Planning II **S2 L2T2**

Current techniques of land-use planning based upon an analysis of natural phenomena and resource data. Landscape resources and data gathering techniques followed by the manipulation and modelling of resource data, introducing the idea of landscape values, sieve processes, mathematical models, statistical methods and evaluation procedures. Various analysis and assessment techniques developed by outstanding leaders in the landscape planning arena since the early 1960's are studied in detail, as well as a number of planning studies and the recent work of government agencies which are concerned with wise land use resource allocation, modification or conservation.

Visual analysis, assessment and evaluation techniques are explored in detail in order to incorporate this important aspect into planning models. Computer applications, including the LANPLAN program comprises an important component of the course.

37.7123 Landscape Design and Construction I **S1 L4T6**

37.7124 Landscape Design and Construction II **S2 L3T7**

Landscape Design and Construction studies as an integrated process. Material properties and construction techniques. The development of a

logical design process. Simple landscape design exercises in applying the materials and techniques of construction to small-scale projects.

Development of design ability incorporating sophisticated construction techniques and basic specification clauses with an emphasis on user requirements. Design and construction associated with medium-scale projects.

A specific project is constructed during a one-week camp.

37.7125 Landscape Design and Construction III **S1 L2T8**

37.7126 Landscape Design and Construction IV **S2 L2T8**

More advanced exercises wherein students find it necessary to undertake considerable research and make value judgments based upon an extensive range of factors. Projects may include the design of regional parks, and open-space systems, nature reserves, camping and caravan parks, golf courses and sports fields, highways, housing estates, shopping malls and civic squares. A number of the exercises call for group work.

Several are directed towards the solution of real design briefs.

37.7127 Landscape Design and Construction V **S1 L2T8**

37.7128 Landscape Design and Construction VI **S2 L2T8**

Students are called upon to employ all the knowledge, skill and understanding they have gained in previous years.

Projects are few in number, but call for solutions of professional standard, supported by thorough documentation. Group work predominates.

Projects are representative of our major environmental problems, ranging from expressways to mineral extraction and from National Parks to solid and liquid waste disposal.

37.7213 Landscape Structures and Materials I **S1 L2**

37.7214 Landscape Structures and Materials II **S2 L2**

Introduction to structural design as applied to landscape architecture. Historical development of structures, understanding of structural terminology and systems of measurement. Conditions of stability and equilibrium as applied to earth retaining structures, materials in common use. Importance of material selection in remote areas.

Behaviour of elevated structures. Beam, column and bracing design. Structural systems for bridging streams, for lookouts, fire towers and specialized buildings.

Importance of equilibrium and stability in elevated structures, analysis of forces and member stresses with commonly used materials.

37.7965 Recreation Planning I **S1 L2**

37.7966 Recreation Planning II **S2 L2**

Open space capable of use for public recreation is studied as a diminishing national resource, subject to increasing demand. Various open-space classifications—primitive areas, scenic areas, native reserves, national parks, historic sites, foreshore reserves and sports arenas—are examined with respect to their individual characteristics and usage capacity. Current open-space legislation is reviewed, together with the aims and achievements of the National Parks and Wildlife Service, and successful Australian and overseas examples of planned recreational use are studied in detail.

37.8087 Landscape Thesis **FT4(aeq)**

A specialized individual study under staff supervision enabling the student to gain knowledge in some aspect of landscape architecture which has not been covered, or to extend his knowledge and/or understanding in one which has. As such the thesis is essentially evidence of this individual study. The study does not require original experimental research for the purpose of discovering new facts or the testing of an hypothesis. Neither is it an essay permitting the student's unsupported opinion.

The topic of the thesis must be submitted for approval of the Professor of Landscape Architecture at the close of the third year. The completed thesis must be submitted for examination at the close of the fourth year.

37.9003 History of Landscape Architecture I **S1 L1**

37.9004 History of Landscape Architecture II **S2 L1**

Changing patterns of land-use throughout history as a reflection of their times and an expression of man's attitude toward nature and of his basic individual and social needs. Ancient Egypt, Assyria and Babylonia, Greece, Imperial Rome, the Middle Ages, Persia and Moorish Spain.

The Renaissance in Europe, the English Landscape School and the Picturesque Movement. Effects of the Industrial Revolution and scientific plant exploration. The emergence of public parks. Eastern landscape traditions—Chinese, Indian and Japanese garden design and their influence on western landscape architecture. The emergence of landscape architecture in North America and Australia.

Landscape Electives for Students of Architecture and Related Disciplines

The following landscape electives require attendance of two hours per week over a period of 14 weeks. They are offered subject to demand and availability of resources, consequently students are advised to contact the School before finalising their program. Credit point values and prerequisites specifically refer to students of Architecture enrolled in courses 3270, 3280, or 3290.

37.100 Site Planning Elective **S1 L2**

2 credit points. Prerequisite: 52 credit points.

Recognition of natural processes and factors in site analysis. Opportunities and constraints with respect to potential development. Development of a logical approach to site planning.

37.200 Landscape Construction Elective S1 L2

2 credit points. Prerequisite: 156 credit points, or as otherwise approved by Subject Authority.

A general philosophy of care for the site, its landscape and wider environment is applied to the theory and practice of landscape construction. Students are given an understanding of why as well as how particular construction procedures and elements are used. Emphasis is upon the observation and measurement of natural drainage systems and microclimates and their application to the landscape design and construction process. Specific reference is made to the construction of roof gardens and earth-sheltered buildings.

37.300 Planting Design Elective S1 L2

2 credit points. Prerequisite: 104 credit points.

The selection and use of plant materials within the built environment with particular reference to visual and ecological considerations.

37.400 Urban Landscape Elective S1 L2

2 credit points. Prerequisite: 104 credit points.

The treatment of spaces between and upon buildings. 'Hard' and 'soft' landscape treatments. Functional uses of open space within the built environment and the design of street furniture.

37.500 Recreation Planning Elective S1 L2

2 credit points. Prerequisite: 156 credit points.

Various recommended provisions for open space allocation for recreation are examined and classified in terms of contemporary needs. Specific requirements of a range of recreation facilities are studied in detail and successful Australian and overseas examples evaluated.

Graduate Study

37.910G History of Landscape Design

Primitive cultures and their impact upon the landscape through farming, transport and settlement patterns. Social influences, aesthetic beliefs and their expression through the ages in the design of parks and gardens. The industrial revolution and resultant changes in the humanised landscape. Landscape development in America and Australia.

37.912G Landscape Engineering

1. Classification of soils, shear, compaction, consolidation and permeability. Stability of walls, embankments, cuttings and earth dams. Common causes of failure and remedial measures. **2.** Elementary hydrostatics and hydraulics. Bernoulli's Theorem, flow through orifices, over notches, in channels and pipes. Pumps and reticulating equipment.

37.913G Theory and Practice of Landscape

Aesthetic philosophies of landscape design—scale—texture and colour. Design, construction and maintenance in urban and rural environments, including highways, residential areas, parks and gardens. Erosion control and shore protection.

Landscape surveys and analyses. Specifications, contracts, and office procedure.

37.914G Forestry and Horticulture

Principal commercial trees—identification—planting techniques, care and maintenance, including fire and insect pests, and felling techniques. Forest nursery practice and forest economics. Characteristics, identification and specific requirements of selected plants and shrubs. Soil requirements and cultivation. Grasses, lawn and playing field construction. Use of herbicides and selective weed killers—control of insect pests.

37.915G Landscape Design

A series of design assignments to be executed in the studio. It is anticipated that some work will be required to be done at home.

Graduate School of the Built Environment

Graduate Study

Not all graduate course subjects are necessarily offered in any one year.

39.101G Contextual Studies S1

The scope and international context of conservation. History, concepts and philosophies of the discipline. Definitions of conservation

processes, including preservation, restoration, rehabilitation, reconstruction, alteration, repair, adaptation and reuse, infill, urban conservation. Conservation as a heritage consideration, including the criteria for selecting, listing and classifying structures; as a non-heritage consideration, including aspects of economics and construction; and as a planning, landscape and townscape consideration. The current legal framework. Government, semi-government and community conservation organizations and their roles.

39.102G Architectural History S1

The rationale, investigation and interpretation of architectural history. The cause-and-effect relationships, particularly social, underlying architecture. Influences upon Australia from other countries. Detailed studies of selected aspects of architectural and building history, mainly Australian. Traditional technology. Development of technology and the manifestation of style. Histories of selected building types, methods, materials and finishes.

39.103G Conservation Management S2

Environmental psychology and conservation. Individual, group and community processes and responsibilities. Public policy and public opinion. The organization of conservation treatments and processes, projects and procedures. Professional, contractual and legal roles and responsibilities. Evaluation of historic and non-historic old buildings and their sites. Feasibility and economic considerations. Revolving funds. Acts and ordinances. Labour and materials resources. Model management plans. Case studies.

39.104G Analysis and Documentation A S1

Interpretation of extant structures. Introduction to historical industrial and structural archaeology. Research methodology. Comparative analyses, typologies and surveys. Case studies.

39.105G Analysis and Documentation B S2

Preparation of documentary studies: measurement, photography, reportage. Photogrammetry and its applications.

39.106G Conservation Technology A S1

The integrity of old buildings and their environments, including planning, landscape and architectural considerations. Effects of acts and ordinances.

39.107G Conservation Technology B S2

Identification, understanding and diagnosis of deterioration in traditional structure, construction, decoration and building environments. Development of general techniques for preservation, restoration, reconstruction and adaptation. Comfort criteria and other functional considerations.

39.108G Conservation Technology C S1

Prerequisite: 39.107G.

Policies and techniques appropriate to preservation, restoration, reconstruction and adaptation of heritage structures. Integration of new services and functions. Case studies.

39.109G Conservation Technology D S2

Prerequisite: 39.107G.

Policies and techniques appropriate to adaptive reuse and other treatments of non-heritage structures. Integration of new services and functions. Case studies.

39.110G Graduate Project F

An appropriate conservation topic from any apposite area, including such fields as historical archaeology, documentation, legislation, economics, technology, or a specific building restoration project. Conditions governing submission of the Graduate Project appear in the Calendar.

39.651G Mechanical Shock and Vibration S1 L1T1

Prerequisite: nil.

Vibrating systems, strings, rods, beams; plates, shells; radiation characteristics of noise sources; random vibration; structures; fatigue; filters, isolators, attenuators, dampers; impedance.

39.652G Noise Control in Industry S1 L2T2

Prerequisites: 1.937G, 1.957G, 39.651G, 39.993G.

Hearing conservation and community noise; standards and regulations; industrial noise sources; mechanical noise, electrical machinery, aerodynamic noise, jets, ventilation system noise, combustion noise; vibration; noise-reduction techniques: transmission and insertion loss; absorbers; impedance mismatch, vibration isolation; enclosures, barriers; room acoustics; practical measurement of sound power, sound pressure and directivity.

39.993G The Ear, Hearing and Hearing Conservation S1 L1T1

Prerequisite: nil.

Physiological and psychoacoustic factors in sound perception; discrimination, masking; loudness and annoyance; subjective scales and units; hearing threshold shift; damage risk criteria; hearing conservation programmes and audiometry; standards and regulations.

39.994G Graduate Project A S1

Prerequisite: 10 credit points.

An individual research project on an approved topic in acoustics; preliminary report.

39.995G Community Noise **S2 L2T2**

Prerequisites: 1.927G, 1.937G, 39.993G.

Sources of community noise; sound propagation out of doors; barrier theory; road, rail and air transportation noise; land-use zoning; measurement and assessment of community noise annoyance; standards, acts and regulations.

39.996G Graduate Project B **S2**

Prerequisite: 39.994G.

An individual research project on an approved topic in acoustics; final report.

39.997G Auditorium Acoustics **S2 L2T1**

Prerequisites: 1.927G, 1.937G, 39.993G.

Subjective and objective criteria for speech and music; speech intelligibility; characteristics of musical sources; reverberation theory, diffusion; steady-state and transient room response; design methods including graphical and model analysis; sound reflectors; sound absorbents.

39.998G Noise Control in Buildings **S2 L2T2**

Prerequisites: 1.927G, 1.937G, 39.651G, 39.993G.

Airborne and impact sound transmission theory and measurement; vibration isolation; single, multiple-leaf and composite partitions; ventilation, plumbing and services noise control; criteria; regulations and standards.

School of Botany

Undergraduate Study

43.202 Plant Structure and Function **S1 L2T4**

How green plants function. What is known about how plants grow. Specific topics include: what happens in a plant meristem, hormone interactions and growth, transport systems in plants, water uptake and use, mineral nutrition, the role of light and leaves in photosynthesis, control of flowering process, germination and senescence. Emphasis is on the interaction between plant struture and function.

Graduate Study

43.211G Botany and Ecology

Plant anatomy and cytology — growth and reproduction — photosynthesis, transpiration and water relations. Principles of plant classification and the use of a flora. Principal soil types, chemical and physical properties, soil profiles. Composition of selected plant communities in relation to their environment. Plant succession and climax communities with special reference to Australian conditions.

School of Sociology

Undergraduate Study

53.321 Urban Sociology

A sociological approach to the study of urban phenomena. Seminars deal with both methodological and theoretical issues relating to the study of urban social structures and provide students with the opportunity to examine critically a number of community studies. A research project is undertaken by each student.

School of Education

Undergraduate Study

58.602 Theory of Education I **FL1**

Education Psychology: Processes affecting learning, thinking and behaviour in the classroom. Includes learning, cognition, individual

differences and cognitive development. Detailed classroom applications. Where possible phenomena described are demonstrated experimentally.

Sociology of Education: Deals mainly with the problem of inequality of educational opportunity. Different conceptions of inequality of opportunity; documenting the extent to which different social groups experience inequality, with special reference to low socio-economic groups, migrants and women, possible causes of difference in the achievement rates of different social groups; compensatory education; and implications for social policy.

58.603 Theory of Education II — FL1

Prerequisite: 58.602.

Educational Psychology: Extends the introductory studies of learning, cognition, individual differences and cognitive development with a concentration upon child development. Classroom applications are emphasised. Where possible, phenomena described are experimentally demonstrated.

Sociology of Education: Sociological factors which influence educational practice and on social consequences of educational practices. Throws light on sociological phenomena which are useful to be aware of in the process of educating and on some of the connections between education and society which increase insight into the nature and purpose of education. Main topics are: the socialization function of education, along with related concepts such as social control, social order, anomie and deviance; perspectives offered by contemporary critics on the role of education in society; some major societal trends and the implications for education; sociological aspects of teaching, including the sociology of knowledge, the sociology of the school and the teaching profession.

58.612 Teaching Practice I — F 10 days

A gradual introduction to teaching in the school situation.

58.613 Teaching Practice II — F 10 days

Prerequisites: 58.612, 58.622 or 58.632 or 58.642 or 58.652. Co-requisites: 58.623 or 58.633 or 58.643 or 58.652.

The subject provides extensive opportunities for students to develop teaching competence. Each student is placed in a high school for two weeks and works in close association with a teacher.

58.622 Industrial Arts Curriculum and Instruction I — F L1½T2

Prerequisite: 21.311. Co-requisite: 58.602.

An introduction to Industrial Arts education to provide students with basic knowledge about classroom management, workshop organization and the various special methods employed in the teaching of Industrial Arts in secondary schools. Encompasses a general consideration of the scope of secondary school Industrial Arts and, through a general survey of syllabus material, a preliminary consideration of aims and objectives of the various school programs including the place of personal skills development in Industrial Arts.

The laboratory program provides basic workshop/laboratory methodology applicable to junior school Industrial Arts, such methodology being particularly applicable to the syllabi for Form 1 Craft, Technics years 7-10 (in particular those strands drawing from the broad areas of woodworking and metalworking), and Industrial Arts, years 9-10 (in relation to its workshop/laboratory aspects only).

Students join other trainee-teachers in a segment known as *Applied Studies in Teaching Practice.* Here, problems of communication are discussed and the nature, use and role of language in learning situations is examined. The development of communication and teaching skills is furthered by means of peer-group microteaching.

58.623 Industrial Arts Curriculum and Instruction II — F L1½T2

Prerequisites: 21.312, 58.602, 58.622. Co-requisite: 58.603.

School structure and organization, the roles of teachers and administrators and the rights, responsibilities and legal obligations of teachers; methods of instruction applicable to the various aspects of secondary shool industrial arts, with use being made of micro-teaching techniques to allow students the opportunity for personal development in the general area of class control and management; safety in school workshops and laboratories, particularly in relation to teacher responsibility for adequate safety instruction and supervision. The requirements of the NSW Department of Education and the Department of Labour and Industry are examined, the aim being to develop in the students desirable attitudes and practices relating to the provision of a safe working environment in the secondary school.

The laboratory component of the course is primarily directed towards workshop/laboratory methodology applicable to junior school syllabi, with emphasis upon more advanced methodology applicable to the wood, metal, plastic and leatherwork strands of technics. The application of design and planning is emphasized and is shown to be especially applicable to Industrial Arts years 9 and 10. Aspects of the Industrial Arts-Engineering Science Syllabus are also explored.

In essence the students are involved in a problem-solving situation where both practical and intellectual skills are experienced in the context of applying these skills to programming and teaching through the junior school syllabi.

A segment known as *Applied Studies in Teaching Practice* is common to all third year curriculum and instruction subjects. A number of topics dealing with specific classroom problems, measurement and evaluation are studied.

*58.604 Theory of Education III

*58.614 Teaching Practice III

*58.624 Industrial Arts Curriculum and Instruction III

*Subject descriptions for 58.604, 58.614 and 58.624 have not been finalised.

Financial Assistance to Students

The scholarships and prizes listed below are available to students whose courses appear in this handbook. Each faculty handbook contains in its **Financial Assistance to Students** section the scholarships and prizes available within that faculty. The **General Information** section of the Calendar contains a comprehensive list of scholarships and prizes offered throughout the University.

Scholarships

Undergraduate Scholarships

As well as the assistance mentioned earlier in this Handbook (see **General Information: Financial Assistance to Students**) there are a number of scholarships available to students. What follows is an outline only. Full information may be obtained from the Student Employment and Scholarships Unit, located in the Chancellery.

Unless otherwise indicated in footnotes, applications for the following scholarships should be made to the Registrar by 14 January each year. Please note that all of these awards are available every year.

Donor	Value	Year/s of Tenure	Conditions
General			
Bursary Endowment Board*	$150 pa	Minimum period of approved degree/combined degree course 1 year	Merit in HSC and total family income not exceeding $4000.

*Apply to The Secretary, Bursary Endowment Board, Box 7077, GPO, Sydney 2001 immediately after sitting for HSC.

Undergraduate Scholarships (continued)

Donor	Value	Year/s of Tenure	Conditions
General (continued)			
Sam Cracknell Memorial	Up to $3000 pa payable in fortnightly instalments	Minimum period of approved degree/combined degree course 1 year	Prior completion of at least 2 years of a degree or diploma course and enrolment in a full-time course during the year of application; academic merit; participation in sport both directly and administratively; and financial need.
Girls' Realm Guild	Up to $1500 pa	1 year renewable for the duration of the course subject to satisfactory progress and continued demonstration of need	Available only to female students under 35 years of age enrolling in any year of a full-time undergraduate course on the basis of academic merit and financial need.

Graduate Scholarships

Application forms and further information are available from the Student Employment and Scholarships Unit. This unit provides information on additional scholarships which may become available from time to time, mainly from funds provided by organizations sponsoring research projects.

Where possible, the scholarships are listed in order of the schools within the faculty.

General

University of New South Wales Research Awards	Living allowance of $4200 pa. Other allowances may also be paid.	1-2 year for a Masters and 3-4 years for a PhD degree	Applicants must be honours graduates (or equivalent). Applications to Registrar by 31 October (30 November in special circumstances)

Graduate Scholarships (continued)

Donor	Value	Year/s of Tenure	Conditions
General (continued)			
Commonwealth Postgraduate Research Awards	Living allowance of $4200 pa. Other allowances may also be paid.	1-2 year for a Masters and 3-4 years for a PhD degree	Applicants must be honours graduates (or equivalent) who will graduate with honours in current academic year, and who are permanent residents in Australia.
Commonwealth Postgraduate Course Awards		1-2 years; minimum duration of course	Preference is given to applicants with employment experience. Applicants must be graduates or scholars who will graduate in current academic year and who are permanent residents of Australia, and who have not previously held a Commonwealth Postgraduate Award. Applications to Registrar by 30 September (in special circumstances applications will be accepted 30 November).
Australian American Educational Foundation Travel Grant*			Applicants must be graduates, senior scholars or post-doctoral Fellows. Applications close 30 September.
Australian Federation of University Women	Amount varies depending on award	Up to 1 year	Applicants must be female graduates who are members of the Australian Federation of University Women.
The British Council Commonwealth University Interchange Scheme	Cost of travel to UK or other Commonwealth country university		Applicants must be: **1.** University staff on study leave. Applications close with Registrar by 30 November, for visits to commence during ensuing financial year 1 April to 31 March. **2.** Graduate research workers holding research grants. Applications close with Registrar in December for visits to commence during ensuing 1 April to 31 March.
The Caltex Woman Graduate of the Year	$5000 pa for further studies in USA, UK, Northern Europe or in special cases Australia. There are no special allowances for travel or accommodation for married graduates.	2 years	Applicants must be female graduates who have completed a University degree or diploma this year and who are Australian citizens or have resided in Australia for at least seven years. Selection is based on scholastic and literary achievements, demonstrable qualities of character, and accomplishments in cultural and/or sporting recreational activities.

*Application forms are available from: The Secretary, Department of Education, AAEF Travel Grants, PO Box 826, Woden, ACT 2606.

Graduate Scholarships (continued)

Donor	Value	Year/s of Tenure	Conditions
General (continued)			
Commonwealth Scholarship and Fellowship Plan	Varies for each country. Generally covers travel, living, tuition fees, books and equipment, approved medical expenses. Marriage allowance may be payable.	Usually 2 years, sometimes 3	Applicants must be graduates who are Commonwealth citizens or British Protected Persons, and who are not older than 35 years of age. Applications close with Registrar by 1 October.
Sam Cracknell Memorial	Up to $3000 pa		See above under **Undergraduate Scholarships, General**
Ruth A. Cumming (ESU)	$500-$2000		Applicants must be residents of NSW or ACT. Awarded to young graduates to further their studies outside Australia.
Gowrie Graduate Research	Maximum $2000 pa in Australia, and $2750 if tenable overseas	2 years	Applicants must be members of the Forces or children of members of the Forces who were on active service during the 1939-45 War.
Harkness Fellowships of the Commonwealth Fund of New York*	Living and travel allowances, tuition and research expenses, health insurance, book and equipment and other allowances for travel and study in the USA	Between 12 to 21 months	Candidates must be either: **1.** Members of the Australian or a State Public Service or semi-government Authority. **2.** Staff or graduate students at an Australian university. **3.** Individuals recommended for nomination by the Local Correspondents. The candidate will usually have an honours degree or equivalent, or an outstanding record of achievement, and be not more than 30 years of age. Applications close July.
Frank Knox Memorial Fellowships at Harvard University	Stipend of $3800 pa plus tuition fees	1, sometimes 2 years	Applicants must be British subjects and Australian citizens, who are graduates or near graduates of an Australian University.
Nuffield Foundation Commonwealth Travelling Fellowships†	Living and travel allowances	1 year	Australian citizens usually between 25 and 35 who are graduates preferably with higher degrees and who have at least a year's teaching or research experience at a university. Applications close by February.

*Application forms must be obtained from the Australian representative of the Fund, Mr L. T. Hinde, Reserve Bank of Australia, Box 3947, GPO, Sydney, NSW 2001. These must be submitted to the Registrar by 24 July.

†Applications to the Secretary, The Nuffield Foundation Australian Advisory Committee, PO Box 783, Canberra City 2601.

Graduate Scholarships (continued)

Donor	Value	Year/s of Tenure	Conditions
General (continued)			
The Rhodes Scholarship**	Approximately £3300-£3600 stg pa	2 years, may be extended for a third year	Unmarried male and female Australian citizens, between the ages 19 and 25 who have been domiciled in Australia at least 5 years and have completed at least 2 years of an approved university course. Applications close in July each year.
Rothmans Fellowships Award‡	$14000 pa	1 year, renewable up to 3 years	The field of study is unrestricted. Applications close early September each year.
Architecture			
The Master Builders' Association of NSW	$500 ($250 at commencement of each year)	2 years	Applicants must be graduates who have enrolled in the Master of Science (Building) Course.
Wightman/University Scholarship	$2000 pa	1 year	Best final-year student in BArch degree course.
The Lindsay Robertson Memorial Travel Award	A maximum of $1000	1 year	Candidates should be Landscape Architecture graduates of the University of New South Wales. The award is to undertake full-time graduate study or research in landscape architecture at an approved overseas University or other approved overseas institution. Applications close 30 May.
Wormald International Scholarship	$4500 pa	1 year	Applicants must be honours Architecture graduates of the University of New South Wales.

**Applications to Mr H. McCredie, Secretary of the NSW Committee, University of Sydney, NSW 2006.
‡Applications to The Secretary, Rothmans University Endowment Fund, University of Sydney, NSW 2006.

Prizes

Undergraduate University Prizes

The following table summarizes the undergraduate prizes awarded by the University. Prizes which are not specific to any School are listed under **General.** All other prizes are listed under the Faculty or Schools in which they are awarded.

Donor/Name of Prize	Value $	Awarded for
General		
Sydney Technical College Union Award	50.00 and medal	Leadership in the development of student affairs, and academic proficiency throughout the course.
University of New South Wales Alumni Association	Statuette	Achievement for community benefit—students in their final or graduating year.
School of Architecture		
Board of Architects of New South Wales	100.00	An outstanding graduand in the School of Architecture.
Byrne & Davidson Roll-A-Door	100.00	11.121 History of Architecture I.
Chamber of Manufacturers of New South Wales	15.00	Subject selected by Head of School.
Frank Fox	100.00	11.8511, 11.8521 or 11.8522 Historical Research.
James Hardie & Co Pty Ltd	100.00	General proficiency throughout the Bachelor of Architecture degree course.
Frank W. Peplow	24.00	Church Architecture.
Lindsay Robertson Memorial	100.00	11.512 Landscape Design II.
Royal Australian Institute of Architects	100.00	Architectural Design and allied subjects in last two years of Bachelor of Architecture degree course.

Undergraduate University Prizes (continued)

Donor/Name of Prize	Value $	Awarded for
School of Building		
Byrne & Davidson Roll-A-Door	100.00	Bachelor of Building, Year 3.
James Hardie & Co Pty Ltd	50.00	Bachelor of Building, Year 1.
Master Builders' Association of New South Wales	200.00	Merit performance in the Bachelor of Building degree course.
School of Town Planning		
The NSW Planning and Environment Commission	150.00	Bachelor of Town Planning degree course, Year 5.
Royal Aust Planning Institute, NSW Division	150.00	Bachelor of Town Planning degree course, Year 3.
John Shaw Memorial	100.00	Best result in Thesis in the Bachelor of Town Planning degree course.

Graduate University Prizes

School of Building		
Alex Rigby	105.00	Master of Science (Building)—Distinguished graduate.

Faculty of Architecture

Staff

Comprises Schools of Architecture, Building; Department of Industrial Arts; Schools of Landscape Architecture, Town Planning; and Graduate School of the Built Environment.

Dean

Professor G. E. Roberts

Chairman

Professor J. M. Freeland

Executive Assistant

P. A. Johnson

Senior Administrative Officer

Brian John Newell, BCom *N.S.W.*

Professional Officers

Terrence Edward Gill, BE *N.S.W.*
Roderick Craig McGregor, BSc *N.S.W.*
Richard Rosenberger, BE *Timisoara*

School of Architecture

Professor of Architecture and Head of School

Gareth Edward Roberts, BArch MCD *Liv.*, FRAIA, FRAPI, MRTPI, ARIBA

Professor of Architecture and Head of Department of Graduate Studies

John Christopher Haskell, DipTP *Lond.*, MArch *Natal*, Rome Scholar, RIBA, FRTPI, ARAIA

Professor of Architecture and Head of Department of Undergraduate Studies

Eric Charles Daniels, MArch *N.S.W.*, ASTC, LFRAIA, Hon.MIES

Associate Professors

Neville Joseph Anderson, BArch *Syd.*, MArch *Liv.*, DipTP *Lond.*, FRAIA, MRTPI
Richard Eric Apperly, BArch *Syd.*, MArch *N.S.W.*
Laszlo Peter Kollar, MArch PhD *N.S.W.*, ASTC, FRAIA

Administrative Officer

Randall Watkins, DipTech *N.S.W.I.T.*

Senior Lecturers

John Albyn Ballinger, BArch *Adel.*, FRAIA
Robert G. Head, MSc(Building) *N.S.W.*, ASTC, FRAIA
Russell Callam Jack, ASTC, FRAIA, ARIBA
Paul Alan Johnson, BArch *Syd.*, DipCD *N.S.W.*, FRAIA
Peter Thomas Oppenheim, BArch *Cape T.*, MArch PhD *N.S.W.* ARIBA
Sidney Charles Palmer, BArch *Syd.*, MArch *N.S.W.*, FRAIA
Richard Patrick Parlour, BSc *Lond.*, PhD *N.S.W.*, DipEng *Lough.*
Nancy Claire Peterson, BArch *N.Z.*, MBdgSc *Syd.*, FIEC, ANZIA, ARAIA
Arthur Edgcombe Rupert Purkis, MArch *N.S.W.*, FRAIA, ARIBA
Peter Leggett Reynolds, BArch PhD *N.S.W.*
Clive William Stevens, MArch *N.S.W.*, DipTCP *Syd.*, ASTC
Barry Vivian Wollaston, BArch *Syd.*, MArch *N.S.W.*, FRAIA

Lecturers

Chris LeRoy Bell, BA(Arch) *Calif.*

Robert John Bryant, BArch *N.S.W.*, MTCP *Syd.*, ASTC, MRAPI, ARAIA

Geoffrey Lindsay Dwyer, FRAIA

Richard Grantley Fitzhardinge, DipArch *Kingston on Thames Poly.*, MArch *Calif.*, ARIBA, ARAIA

John Barrie Fraser, DipArt(Ed)

Peter Hale, BArch *N.S.W.*, ARAIA

Graeme Ross Hewett, MSc(Building) *N.S.W.*, ASTC, ARAIA

Richard Hough, BSc BE *N'cle.(N.S.W.)*, MEng *Tor.*, MIEAust

Geoffrey Kenneth Le Sueur, BArch GradDip *N.S.W.*

Nicholas Marinov, DipArch *Prague*, ARAIA

Lorna Muir Nimmo, ASTC, FRSA

Ian Roy Patrick, ASTC, ARIBA, FRAIA

Peter Reginald Proudfoot, BArch *Syd.*, MArch *Penn.*, PhD *N.S.W.*, Rome Scholar

Vinzenz Franz-Josef Sedlak, DiplIngArch. *T.U. Graz*, MPhil *Sur.*

Harry Anthony Stephens, BArch DipLD *N.S.W.*, ARAIA

Kwong Hon Tang, BArch *H.K.*, MArch *Melb.*, ARIBA, ARAIA

Brian Woodward, DipLArch *Oxf.*, RIBA

Senior Tutors

Victor Martin Berk, BArch DipAdmin *N.S.W.*

Marion Anne Burgess, BSc *Syd.*, MSc(Acoustics) *N.S.W.*, MAAS

Elizabeth Ann Howard, BArch *Syd.*, BA *Macq.*

Paul Edward Walsh, BArch *N.S.W.*

Tutor

George Michael Rich, BArch *N.S.W.*

School of Building

Professor of Building and Head of School

Arthur Raymond Toakley, BCE BA MEngSc *Melb.*, PhD *Manc.*, CEng, FIEAust, FAIB

Associate Professor

Roger Mark Anthony Miller, BBuild *N.S.W.*, SM CE *M.I.T.*, AAIB

Senior Lecturers

David Nevil Hume Hassall, BE MBdgSc *Syd.*, MIEAust

John Malcolm Hutcheson, MC, BE *Syd.*, BCom *Qld.*, MBA *N.S.W.*, FIEAust, FID, FIArbA, AAUQ, LGE, AASA(Snr), AFAIM, AAIB, ACIS

Allan Alexander Jack, MBuild *N.S.W.*, ASTC, FAIB

Graham Edward Levido, BBuild MSc(Building) *N.S.W.*, AAIB

James Francis Mooney, MBuild *N.S.W.*, ASTC, FIQSA, FIArbA

Lecturers

Ojars Indulis Greste, ME *N.S.W.*, DEng *Calif.*

Bruce Hedford Hawkins, BE *W.Aust.*

Martin Marosszeky, BE *N'cle.(N.S.W.)*, MEngSc *N.S.W.*, MIEAust

Clyde Donald Smythe, MBuild *N.S.W.*, ASTC, AAIB

Thomas Edward Uher, BBuild MSc(Building) *N.S.W.*, AAIB

Department of Industrial Arts

Senior Lecturer and Acting Head of Department

William Richard Lawson, BSc PhD *N.S.W.*, MAPsS, MAIHR

Lecturers

Donald McArthur Godden, MSc *N.S.W.*

John Kyle Redmond, MA *R.C.A.*, DipAd *C.S.A.D.*, FRSA, AIDIA

Bruce Bernard Riddell, BA *Lond.*

School of Landscape Architecture

Professor of Landscape Architecture and Head of School

*Peter Spooner, DipLD *Durh.*, ASTC, FILA, FAILA, ARIBA

Senior Lecturer

Finn Christopher Thorvaldson, BArch *N.S.W.*, MLArch *Mich.*, ARAIA, AAILA

*Retired from the University, 31 December 1979.

Lecturers

Helen Beatrice Armstrong, BSc *Syd.*, GradDip *N.S.W.*

Sydney Allison Baggs, MArch DipLD *N.S.W.*, ASTC, FRAIA, AAILA, ARIBA

Donald Guy Sigsby, MLArch *Mich.*, AAILA

Russell Colin Smith, DipLD *N.S.W.*, ASTC, FRAIA, AAILA

School of Town Planning

Professor of Town Planning and Head of School

Hans Leo Westerman, ME *Delft*, FRAPI, MIEAust

Associate Professor

Elias David Duek-Cohen, MA *Oxf.*, BArch *Liv.*, DipTP *Lond.*, FRAPI, MRTPI, ARIBA, ARAIA

Senior Lecturers

Douglas Robert Daines, DipTCP *Syd.*, MTP *N.S.W.*, MRAPI, ACIV

James Leslie King, BArch MTCP *Syd.*, FRAPI

Zula Nittim, BArch *Melb.*, DipCD PhD *N.S.W.*, FRAIA, MRAPI

Robert Bolles Zehner, BA *Amh.*, MA PhD *Mich.*

Lecturers

Stephen Harris, BTP *N.S.W.*, MRAPI

Neville Thomas Schaefer, BA *N.E.*, PhD *N.S.W.*

Graduate School of the Built Environment

Professor of Architecture and Head of School

John Maxwell Freeland, DFC, MArch DTRP *Melb.*, MArch DLitt *N.S.W.*, LFRAIA, FRSA

Associate Professors

Anita Barbara Lawrence, MArch *N.S.W.*, FRAIA, MAAS

Kenneth James Wyatt, BE *Qld.*, MBdgSc *Syd.*, MIEAust

Senior Lecturer

Robert Charles Lewis Irving, MArch *N.S.W.*, ARMTC, FRAIA

The University of New South Wales Kensington Campus 1980

Theatres

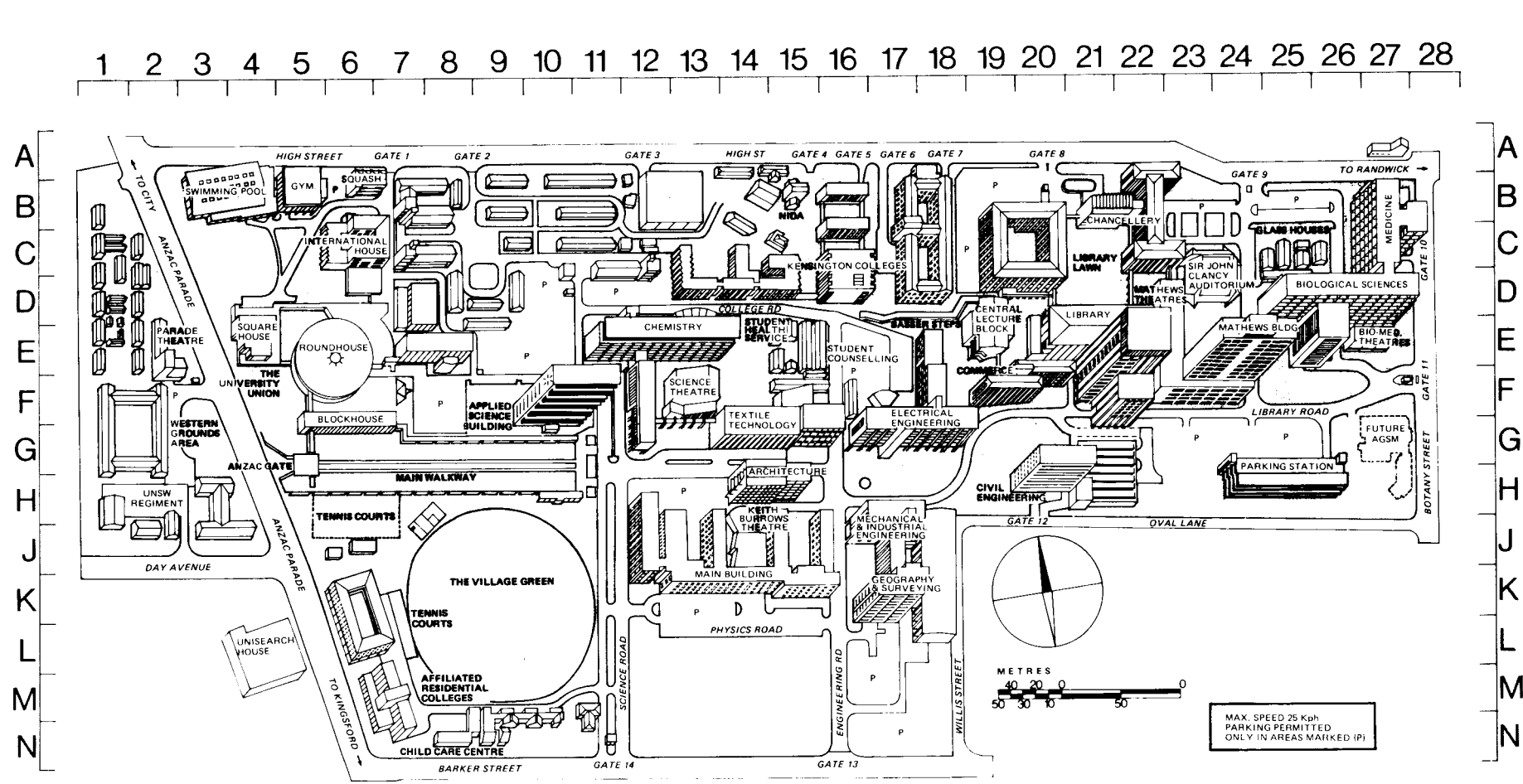
Biomedical Lecture Theatres E27
Central Lecture Block E19
Classroom Block (Western Grounds) H3
Electrical Engineering Theatre F17
Keith Burrows Lecture Theatre J14
Mathews Theatres D23
Old Main Theatrette K14
Parade Theatre E3
Science Theatre F13
Sir John Clancy Auditorium C24

Buildings

Affiliated Residential Colleges
New (Anglican) L6
Shalom (Jewish) N9
Warrane (Roman Catholic) M7
Applied Science F10
Architecture H14
Arts (Morven Brown) C20
Banks F22
Barker Street Gatehouse N11
Basser College C18
Biological Sciences D26
Central Store B13
Chancellery C22
Chemistry
Dalton F12
Robert Heffron E12
Civil Engineering H20
Commerce (John Goodsell) F20
Dalton (Chemistry) F12
Electrical Engineering G17
Geography and Surveying K17
Goldstein College D16
Golf House A27
Gymnasium B5
House at Pooh Corner N8
International House C6
John Goodsell (Commerce) F20
Kensington Colleges C17
Basser C18
Goldstein D16
Philip Baxter D14
Main Building K15
Maintenance Workshop B13
Mathews F23
Mechanical and
Industrial Engineering J17
Medicine (Administration) B27
Menzies Library E21
Metallurgy E8
Morven Brown (Arts) C20
New College (Anglican) L6
Newton J12
Parking Station H25
Philip Baxter College D14
Robert Heffron (Chemistry) E12
Sam Cracknell Pavilion H8
Shalom College (Jewish) N9
Sir Robert Webster
(Textile Technology) G14
Squash Courts B7
Swimming Pool B4
Unisearch House L5
University Regiment J2
University Union
(Roundhouse) — Stage I E6
University Union
(Blockhouse) — Stage II G6
University Union
(Squarehouse) — Stage III E4
Wallace Wurth School of Medicine C27
Warrane College (Roman Catholic) M7
Wool and Pastoral Sciences B8

General

Accountancy F20
Admissions Office C22
Anatomy C27
Applied Geology F10
Applied Science (Faculty Office) F10
Appointments Office C22
Architecture
(including Faculty Office) H14
Arts (Faculty Office) C20
Australian Graduate
School of Management F23
Biochemistry D26
Biological Sciences (Faculty Office) D26
Biological Technology D26
Biomedical Library F23
Bookshop G17
Botany D26
Building H14
Cashier's Office C22
Centre for Medical Education
Research and Development C27
Chaplains E15a
Chemical Engineering F10
Chemical Technology F10
Chemistry E12
Child Care Centre N8
Civil Engineering H20
Closed Circuit Television Centre F20
Commerce (Faculty Office) F20
Committee in Postgraduate Medical
Education B27
Community Medicine D26
Computing Services Unit E21
Drama D9
Economics F20
Education G2
Electrical Engineering G17
Engineering (Faculty Office) K17
English C20
Examinations and Student Records C22
Fees Office C22
Food Technology F10
French C20
General Studies C20
Geography K17
German C20
Graduate School of the Built
Environment H14
Health Administration C22
History C20
History and Philosophy of Science C20
Industrial Arts C1
Industrial Engineering J17
Institute of Languages G14
Institute of Rural Technology B6
Kindergarten *(House at Pooh Corner/*
Child Care Centre) N8
Landscape Architecture H14
Law (Faculty Office) E21
Law Library E21
Librarianship B10
Library E21
Lost Property F20
Marketing F20
Mathematics F23
Mechanical Engineering J17
Medicine (Faculty Office) B27
Metallurgy E8
Microbiology D26
Mining Engineering K15
Music B11
National Institute of Dramatic Art C15
Nuclear Engineering G17
Optometry J12
Organizational Behaviour F20
Pathology C27
Patrol and Cleaning Services F20
Philosophy C20
Physics K15
Physical Education and
Recreation Centre (PERC) B5
Physiology and Pharmacology C27
Political Science C20
Postgraduate Extension Studies (Closed
Circuit Television) F20
Postgraduate Extension Studies (Radio
Station and Administration) F23
Psychology F23
Public Affairs Unit C22
Regional Teacher Training Centre C27
Russian C20
Science and Mathematics Course
Office F23
Social Work E1
Sociology C20
Spanish and Latin American Studies C20
Student Amenities and Recreation E15c
Student Counselling and Research E15c
Student Employment C22
Student Health E15
Students' Union E4
Surveying K17
Teachers' College Liaison Office F16
Tertiary Education Research Centre E15d
Textile Technology G14
Town Planning K15
University Union (Blockhouse) G6
Wool and Pastoral Sciences B8
Zoology D26


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
A B C D E F G H J K L M N
HIGH STREET
GATE 1
GATE 2
GATE 3
HIGH ST
GATE 4
GATE 5
GATE 6
GATE 7
GATE 8
GATE 9
TO RANDWICK
TO CITY
ANZAC PARADE
SWIMMING POOL
GYM
SQUASH
INTERNATIONAL HOUSE
NIDA
KENSINGTON COLLEGES
CHANCELLERY
GLASS HOUSE
MEDICINE
GATE 10
LIBRARY LAWN
SIR JOHN CLANCY AUDITORIUM
MATHEWS THEATRES
BIOLOGICAL SCIENCES
COLLEGE RD
CHEMISTRY
STUDENT HEALTH SERVICE
STUDENT COUNSELLING
CENTRAL LECTURE BLOCK
LIBRARY
MATHEWS BLDG
BIO-MED. THEATRES
PARADE THEATRE
SQUARE HOUSE
ROUNDHOUSE
THE UNIVERSITY UNION
SCIENCE THEATRE
COMMERCE
GATE 11
WESTERN GROUNDS AREA
BLOCKHOUSE
APPLIED SCIENCE BUILDING
TEXTILE TECHNOLOGY
ELECTRICAL ENGINEERING
LIBRARY ROAD
FUTURE AGSM
ANZAC GATE
MAIN WALKWAY
ARCHITECTURE
PARKING STATION
CIVIL ENGINEERING
UNSW REGIMENT
TENNIS COURTS
KEITH BURROWS THEATRE
MECHANICAL & INDUSTRIAL ENGINEERING
GATE 12
OVAL LANE
BOTANY STREET
DAY AVENUE
MAIN BUILDING
GEOGRAPHY & SURVEYING
THE VILLAGE GREEN
TENNIS COURTS
PHYSICS ROAD
UNISEARCH HOUSE
AFFILIATED RESIDENTIAL COLLEGES
SCIENCE ROAD
ENGINEERING RD
WILLIS STREET
TO KINGSFORD
CHILD CARE CENTRE
BARKER STREET
GATE 14
GATE 13
METRES
40 20 0 0
50 30 10 50
MAX. SPEED 25 Kph
PARKING PERMITTED
ONLY IN AREAS MARKED (P)

This Handbook has been specially designed as a source of reference for you and will prove useful for consultation throughout the year.

For fuller details about the University – its organization, staff membership, description of disciplines, scholarships, prizes, and so on, you should consult the Calendar.

The Calendar and Handbooks also contain a summary list of higher degrees as well as the conditions for their award applicable to each volume.

For detailed information about courses, subjects and requirements of a particular faculty you should consult the relevant Faculty Handbook.

Separate Handbooks are published for the Faculties of Applied Science, Architecture, Arts, Commerce, Engineering, Law, Medicine, Professional Studies, Science (including Biological Sciences and the Board of Studies in Science and Mathematics), the Australian Graduate School of Management (AGSM) and the Board of Studies in General Education.

The Calendar and Handbooks are available from the Cashier's Office. The Calendar costs $3.50 (plus postage and packing, 90 cents). The Handbooks vary in cost. Applied Science, Arts, Commerce, Engineering and Sciences are $2.50. Architecture, Law, Medicine, Professional Studies and AGSM are $1.50. Postage is 40c in each case. The exception is General Studies, which is free.