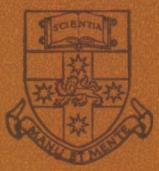
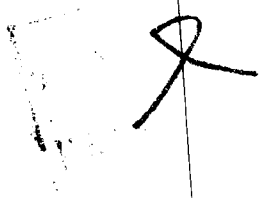
FACULTY OF ARCHITECTURE

1968 HANDBOOK



THE UNIVERSITY OF NEW SOUTH WALES



FACULTY OF ARCHITECTURE

1968 HANDBOOK

FIFTY CENTS

THE UNIVERSITY OF NEW SOUTH WALES
P.O. Box 1, Kensington, N.S.W., 2033.
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FOREWORD

Since the dawn of civilization man has sought to endow his environment with physical and spiritual qualities appropriate to his way of life, to explore the limits of his materials and techniques, and in so doing, to create buildings of enduring beauty. In each great culture of the past this search produced a characteristic architecture which was a true reflection of the aspirations and capabilities of its age.

Today's architects, builders and town planners face the same age-old problem, but their task is made infinitely more difficult by the complexity of modern requirements and the diversity of new materials and techniques available to them. For the first time in history material progress threatens to outstrip man's visionary powers and to overwhelm his capacity for assimilation.

Within the next twenty years the world must face a gigantic population explosion. Our building industry must undergo a revolution if it is to meet even the most elementary needs of the community, and our search for appropriate building forms must be related to the practical necessities of mass production on a hitherto unprecedented scale. The pressure will be felt in every field of human endeavour, but to those who choose to enter the land-use professions it will represent the greatest challenge and the greatest opportunity of all time.

CALENDAR OF DATES FOR 1968

Term 1: March 4 to May 18
Term 2: June 3 to August 10
Term 3: September 2 to November 2

JANUARY

Monday, 22	Last day for acceptance of applications to enrol by new students and students repeating First Year
Monday, 29	Australia Day—Public Holiday
Tuesday, 30 to Saturday, Feb. 10	Deferred examinations

FEBRUARY

Monday, 19	Enrolment Week commences for new students and students repeating first year
Monday, 26	Enrolment Week commences for students re-enrolling

MARCH

Monday, 4	First Term lectures commence
Friday, 15	Last day of enrolment for new students
Friday, 29	Last day for later year enrolments

APRIL

Friday, 12 to Monday, 15	Easter
Thursday, 25	Anzac Day—Public Holiday

MAY

Saturday, 18	First Term ends

JUNE

Monday, 3	Second Term commences
Monday, 10	Queen's Birthday—Public Holiday
Friday, 28	Last day for acceptance of applications for re-admission after exclusion under rules governing re-enrolment

JULY

Tuesday, 2	Foundation Day
Friday, 19	Last day for acceptance of applications for examinations

AUGUST

Saturday, 10	Second Term ends

SEPTEMBER

Monday, 2	Third Term commences

OCTOBER

Monday, 7	Eight Hour Day—Public Holiday

NOVEMBER

Saturday, 2	Third Term lectures cease
Saturday, 9	Examinations commence (30-week courses)

1969

Term 1: March 3 to May 17

Term 2: June 2 to August 9

Term 3: September 1 to November 1

JANUARY

Tuesday, 28 to Saturday, Feb. 8	Deferred examinations

FEBRUARY

Monday, 17	Enrolment Week commences for new students and students repeating first year
Monday, 24	Enrolment Week commences for students re-enrolling

MARCH

Monday, 3	First Term lectures commence

FACULTY OF ARCHITECTURE

Dean—Professor H. I. Ashworth

Chairman—Professor J. M. Freeland

SCHOOL OF ARCHITECTURE AND BUILDING

Professor of Architecture and Head of School

H. I. Ashworth, OBE, MA, BA(Arch) *Manc.*, FRIBA, FRAIA, MAPI, HonFRAIC

Professor of Architecture

J. M. Freeland, DFC, MArch DTRP *Melb.*, FRAIA

Associate Professors

N. J. Anderson, BArch *Syd.*, MArch *Liv.*, DipTP *Lond.*, FRAIA, AMTPI
G. Molnar, DiplIngArch *T.U. Bud.*, FRAIA
P. Spooner, DipLD *Durh.*, ASTC, FRAIA, ARIBA, FILA
J. H. Shaw, BE, DipTCP *Syd.*, MCD *Liv.*, AMTPI, FAPI, AMIEAust

Associate Professor of Building

E. Balint, MCE *Melb.*, AMIEAust, AMICE, AAIB

Senior Lecturers

R. D. Chalmers, BSc(Eng) *Lond.*, AMIEAust, AAIB
J. Conner, DipArch (Aberd.), ARIBA, ARAIA, ARIAS
E. C. Daniels, MArch *N.S.W.*, ASTC, ARAIA
W. A. Fraser, ASTC
A. A. Jack, MBuild *N.S.W.*, ASTC, AAIB
L. P. Kollar, MArch *N.S.W.*, ASTC, ARAIA
Mrs. Anita B. Lawrence, MArch *N.S.W.*, ARAIA
G. H. B. McDonell, BArch *Syd.*, FRAIA
A. H. Mack, BArch *Syd.*, ARIBA, FRAIA

R. O. Phillips, BArch *Syd.*, MArch *N.S.W.*, FRAIA, FIES(Aust)
R. G. Sutton, SM *M.I.T.*, ASTC, AAIB

Lecturers

C. W. Anderson, ASTC, AAIB
R. E. Apperly, BArch *Syd.*, ARAIA
N. F. Bazeley, ASTC
C. L. Bell, BA(Arch) *Calif.*
M. R. Coote, BArch *CapeT.*, ARIBA
E. D. Duek-Cohen, MA *Oxon.*, BArch *Liv.*, DipTP *Lond.*, ARIBA, ARAIA, AMTPI, MAPI, AMTPIC
A. G. L. Gibson, DipArch (Birm.), ARIBA
R. A. G. Head, ASTC, ARAIA
R. C. Irving, ARMTC, ARAIA
J. L. King, BArch, DipTCP *Syd.*, MAPI
D. Lennon, BArch *Syd.*, ARAIA
B. P. Lim, BArch, PhD, DipTCP *Syd.*, ARIBA, ARAIA
Lorna M. Nimmo, ASTC
I. R. Patrick, ASTC, ARIBA, ARAIA
A. E. R. Purkis, MArch *N.S.W.*, ARIBA, ARAIA
K. Sawdy, ASTC, ARAIA
C. W. Stevens, DipTCP *Syd.*, ASTC, ARAIA
B. V. Wollaston, BArch *Syd.*, ARAIA

Senior Tutors

Mrs. Judith Macintosh, BArch *Syd.*, ARAIA
W. M. Nicholson
Mrs. Nancy C. Peterson, BArch *N.Z.*, ANZIA, ARAIA
C. D. Smythe, ASTC

Teaching Fellow

L. W. Hegvold, BArch *N.S.W.*

Administrative Assistant

C. L. Durant, SC

Secretary to the Dean

Mrs. M. Conning

GENERAL INFORMATION

ADMISSIONS OFFICE

The Admissions Office provides intending students (both local and overseas) with information regarding courses, admission requirements, scholarships and enrolment.

Applications for special admission or admission with advanced standing to courses should be made at the Admissions Office. Local residents should apply prior to 31st December of the year preceding that in which admission is sought. Where applicable documentary evidence should be tendered with the application, and copies should accompany original documents, as this will allow the immediate return of the latter. Students applying from overseas for admission to undergraduate courses and to those post-graduate courses which require completion of formal lecture courses should lodge their applications prior to 1st October of the year preceding that in which admission is sought.

Applications for admission to undergraduate courses from students who do not satisfy the requirements for admission (see section on "Requirements for Admission"), from students seeking admission with advanced standing, and from students who have had 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 discuss their proposals initially with 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 the School, refers the application to the appropriate Faculty or Board of Studies Higher Degree Committee.

The Admissions Office also receives applications from students who wish to transfer from one course to another, or seek any concession in relation to a course in which they are enrolled. These applications should, wherever possible, be lodged before the commencement of the academic year in which the concession is to apply.

Students wishing to resume their studies after an absence of twelve months or more are required to apply to the Admissions

Office for permission to re-enrol. It should be noted that, unless permission has been given to defer their studies for a specified period which will not normally exceed twelve months, students will be required to re-enter the course under the regulations prevailing at the time of resumption. This condition will apply also to students who have been re-admitted to a course after exclusion under the rules restricting students re-enrolling.

The Admissions Office operates an Enrolment Bureau for undergraduate students enrolling in the University for the first time. Details of the procedure to be followed by such students will be published in the preamble to the Higher School Certificate Examination results, or may be obtained on application to the Admissions Office.

The Admissions Office is located on the upper campus in the Chancellery, telephone 663-0351. Office hours are from 9 a.m. to 1 p.m., and 1.45 p.m. to 5 p.m. Monday to Friday. An evening service is provided during the enrolment period.

REQUIREMENTS FOR ADMISSION

For admission to the degree courses in Architecture and Building, candidates must satisfy one of the following requirements:

(a) Pass the New South Wales Higher School Certificate Examination in at least five approved subjects at the one examination.

(b) Hold a Diploma from the New South Wales Department of Technical Education, or any other technical college which may from time to time be recognized by the University, subject to the Professorial Board being satisfied that the applicant's qualifications are sufficient for matriculation.

(c) Be a graduate of any approved university or a matriculant of any university whose requirements for entry are, in the opinion of the Professorial Board, comparable with those of the University of New South Wales.

(d) Produce evidence of at least one year's training at the Royal Military College of Australia or the Royal Australian Air Force College, or evidence of having satisfactorily completed the passing out examination of the Royal Australian Naval College.

The Professorial Board may in special cases declare any person qualified to enter a Faculty as a "provisionally matriculated student" although he has not complied with the requirements outlined above.

Intending applicants are advised to consult the University Calendar for details of approved matriculation subjects and conditions governing each of the above categories, or to contact the Admissions Office in the Chancellery at Kensington between 9 a.m. and 5 p.m. Telephone 663-0351.

ENROLMENT PROCEDURE

First Enrolments. Application for enrolment in First Year must wherever possible be made in person to the Student Enrolment Bureau, Unisearch House, 221 Anzac Parade, Kensington, as soon as the results of the Higher School Certificate Examination are published, but in any event not later than 22nd January.

Country residents who wish to enrol with the University should write to the Registrar, P.O. Box 1, Kensington, for a form on which to make their preliminary application. This form must be returned not later than 22nd January.

Applicants for enrolment with advanced standing or applicants relying on overseas examinations for matriculation should lodge an application with the Admissions Office prior to 1st October of the year preceding that in which admission is sought.

First Year Repeats. First Year students who fail all subjects at the annual examinations and who are not granted any deferred examinations must apply for re-enrolment to the Student Enrolment Bureau at the time set out above for First Enrolments. Other first Year repeat students follow the procedure set out below for Later Year Enrolments.

Later Year Enrolments. All students enrolling other than for the first time should enrol through the appropriate School and bring with them their notification of examination results for the previous year. This enrolment must be effected before or during the week before the commencement of First Term in accordance with the special arrangements made by the individual Schools.

Miscellaneous Subject Enrolments. Students may be permitted to enrol for miscellaneous subjects (i.e. as students not proceeding to a degree or diploma) provided the Head of the School offering the subject considers it will be of benefit to the student and there is accommodation available. Only in exceptional cases will subjects taken in this way count towards a degree or diploma. Where a student is under exclusion he may not be enrolled in miscellaneous subjects unless given approval by the Professorial Board.

Students who have completed the final examinations but have a thesis still outstanding are required to enrol for the period necessary to complete the thesis and to pay the requisite fees.

Course details must be completed during the prescribed Enrolment Week. For details of fee requirements, including late fee provisions, see under Fees.

Final Dates for Enrolment. No enrolments will be accepted from *new students* after the end of the second week of term (15th March, 1968) except with the express approval of the Registrar and the Head of the School concerned; no *later year enrolments* will be accepted after 31st March without the express approval of the Registrar which will be given in exceptional circumstances only.

Post-graduate Enrolments. Students enrolling in post-graduate courses which include formal instruction are required to attend the appropriate enrolment centre as prescribed annually in the leaflet "Enrolment Procedure for Students Re-enrolling".

UNIVERSITY UNION CARD

All students other than miscellaneous students are issued with a University Union Membership Card. This card must be carried during attendance at the University and shown on request.

The number appearing on the front of the card in the space at the top right-hand corner is the student registration number used in the University's records. This number should be quoted 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.

A student who loses a Union card must notify the University Union as soon as possible.

New students will be issued with University Union cards by mail to their address as soon as possible after fee payment. In the meantime, the fees receipt form should be carried during attendance at the University and shown on request. If the Union card is not received within three weeks of fee payment, the University Union should be notified.

FEES*

Fees for Undergraduate Courses

Fees for undergraduate courses in Architecture, Building and Town Planning are assessed on a term basis.

A full-time course fee will be charged for any term where more than 15 hours' per week instruction, etc., is involved.

(i) Full-time Course Fee (more than 15 hours' attendance per week)	$110 per term
(ii) Part-time Course Fee (over 6 hours' and up to 15 hours' attendance per week) ...	$55 per term
(iii) Part-time Course Fee (6 hours' or less attendance per week)	$28 per term

Fees for Higher Degrees

An approved applicant shall be required to pay the following fees:

(i) Qualifying Examination	$12
(ii) Registration Fee	$5
(iii) Internal Full-time Student Annual Fee ...	$69
Internal Full-time Student Term Fee	$23
(iv) Internal Part-time Student Annual Fee ...	$36
Internal Part-time Student Term Fee	$12
(v) External Student Annual Fee*	$23
(vi) Final Examination (including Graduation fee)	$35

*The fees quoted may be amended by Council without notice.

Fees for Graduate Diplomas

(i) Registration Fee, $5.

(ii) Award of Diploma Fee, $7.

(iii) Course Fee—calculated on the basis of a term's attendance at the rate of $6 per hour per week. Thus the fee for a programme requiring an attendance of 24 hours per week for the term is $144 per term.

(iv) Thesis or Project Fee, $35.

Other Fees

Students in any of the above categories are also required to pay the following fees:

Library Fee*	$12
University Union† (entrance fee)	$20
Student Activities Fees*	
University Union†	$12
Sports Association†	$2
Students' Union†	$4
Miscellaneous	$10
Total	$28

Late Fees

First Enrolments

Fees paid on the late enrolment session and before the commencement of term	$6
Fees paid during the 1st and 2nd weeks of term	$12
Fees paid after the commencement of the 3rd week of term with the express approval of the Registrar and Head of the School concerned	$23

Re-Enrolments

First Term

Failure to attend enrolment centre during enrolment week	$6

*Annual fee.

†Life members of these bodies are exempt from the appropriate fee or fees.

Fees paid after the commencement of the 3rd week of term to 31st March	$12
Fees paid after 31st March where accepted with the express approval of the Registrar	$23
Second and Third Terms	
Fees paid in 3rd and 4th weeks of term	$12
Fees paid thereafter	$23
Late lodgement of Application for Admission to Examinations (late applications will be accepted for three weeks only after the prescribed dates)	$5

Withdrawal from Course

Students withdrawing from a course are required to notify the Registrar in writing. Fees for the course accrue until a written notification is received.

PAYMENT OF FEES

Completion of Enrolment

All students are required to attend the appropriate enrolment centre during the prescribed enrolment period* for authorization of course programme. Failure to do so will incur a late fee of $6.

First Year students (including students repeating First Year) must complete enrolment (including fee payment) before they are issued with class timetables or permitted to attend classes. A First Year student who has been offered a place in a course to which entry is restricted and fails to complete enrolment (including fee payment) at the appointed time may lose the place allocated.

Fees should be paid during the prescribed enrolment period but will be accepted without incurring a late fee during the first two weeks of First Term. (For late fees see above). No student is regarded as having completed an enrolment until fees have been paid. Fees will not be accepted (i.e. enrolment cannot be completed) from

*The enrolment periods for Sydney students are prescribed annually in the leaflets "Enrolment Procedure for New Students" and "Enrolment Procedure for Students Re-enrolling".

new students after the end of the second week of term (i.e. 15th March, 1968), and after 31st March from students who are re-enrolling, except with the express approval of the Registrar, which will be given in exceptional circumstances only.

Payment of Fees by Term

Students who are unable to pay their fees by the year may pay by the term, in which case they are required to pay First Term course fees and other fees for the year, within the first two weeks of First Term. Students paying under this arrangement will receive accounts from the University for Second and Third Term fees. These fees must be paid within the first two weeks of each term.

Assisted Students

Scholarship holders or Sponsored Students who have not received an enrolment voucher or appropriate letter of authority from their sponsor at the time when they are enrolling should complete their enrolment paying their own fees. A refund of fees will be made when the enrolment voucher or letter of authority is subsequently lodged with the Cashier.

Extension of Time

Any student who is unable to pay fees by the due date may apply in writing to the Registrar for an extension of time. Such application must give year or stage, whether full-time or part-time, and the course in which the applicant wishes to enrol, state clearly and fully the reasons why payment cannot be made and the extension sought, and must be lodged before the date on which a late fee becomes payable. Normally the maximum extension of time for the payment of fees is until 31st March for fees due in First Term and for one month from the date on which a late fee becomes payable in Second and Third Terms.

Where an extension of time is granted to a First Year student in First Term, such student may only attend classes on the written authority of the Registrar, but such authority will not normally be given in relation to any course where enrolments are restricted.

Failure to Pay Fees

Any student who is indebted to the University and who fails to make a satisfactory settlement of his indebtedness upon receipt of

due notice ceases to be entitled to membership and privileges of the University. Such a student is not permitted to register for a further term, to attend classes or examinations, or to be granted any official credentials.

No student is eligible to attend the annual examinations in any subject where any portion of his course fees for the year is outstanding after the end of the fourth week of Third Term (27th September, 1968).

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

GENERAL CONDUCT

Acceptance as a member of the University implies an undertaking on the part of the student to observe the regulations, by-laws and other requirements of the University, in accordance with the declaration signed at the time of the enrolment.

In addition, students are expected to conduct themselves at all times in a seemly fashion. Smoking is not permitted during lectures, in examination rooms or in the University Library. Gambling is also forbidden.

Members of the academic staff of the University, senior administrative officers, and other persons authorized for the purpose, have authority, and it is their duty, to check and report on disorderly or improper conduct or any breach of regulations occurring in the University.

ATTENDANCE AT CLASSES

Students are expected to be regular and punctual in attendance at all classes in the course or subject in which they 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 a student may be excused by the Registrar from non-attendance at classes for a period of not more than one month, or on the recommendation of the Dean of the appropriate Faculty for any longer period.

Applications to the Registrar for exemption from re-attendance at classes, either for lectures or practical work, may only be granted on the recommendation of the Head of the appropriate School. The granting of an exemption from attendance does not carry with it exemption from payment of fees.

Application forms for exemption from lectures are available at the Admissions Office and should be lodged there (with a medical certificate where applicable). If term examinations have been missed this fact should be noted in the application.

Where a student has failed a subject at the annual examinations in any year and re-enrols in the same course in the following year, he must include in his programme of studies for that year the subject in which he has failed. This requirement will not be applicable if the subject is not offered the following year; 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.

Where a student has attended less than eighty per cent of the possible classes, he may be refused permission to sit for the examination in that subject.

ANNUAL EXAMINATIONS

The annual examinations take place in November-December for students in 30-week courses, and in September for students in 21- and 24-week courses. Students must make application to sit for examinations by a specified date, the procedure being described in the University Calendar. Enquiries should be directed to the Examinations Branch. Examination results are posted to the term addresses of students. No results will be given by phone.

APPLICATION FOR ADMISSION TO DEGREE OR DIPLOMA

Application for admission to a degree or diploma must be made on the appropriate form by 31st January. Applications for the award of a diploma of Associateship of Sydney Technical College (A.S.T.C.) awarded by the N.S.W. Department of Technical Education must be made on the appropriate form by 31st March. Applicants should ensure that they have completed all requirements for the degree or diploma, including industrial training where necessary.

STUDENT FACILITIES

THE ARCHITECTURE CLUB

Students of the Faculty of Architecture are encouraged to participate in extra-curricular activities through The Architecture Club, of which they automatically become members immediately upon registration. The Club, commonly known as T.A.C., is affiliated with the Australian Architectural Students' Association, with the International Union of Architectural Students, and is currently leading a movement to form a graduate club of architects, artists and sculptors with headquarters in the city.

In addition to sending representatives interstate and overseas, T.A.C. arranges outings, social functions and lectures, and produces both a broadsheet and a magazine, *Atelier*. It commands the enthusiastic support of all students, and provides a common interest which is invaluable in creating a school spirit.

LIBRARY

The University Library provides a reference and lending service for staff and students, and is open in term during day and evening sessions. There is also a Faculty reference library located within the Faculty of Architecture building.

THE UNIVERSITY OF NEW SOUTH WALES STUDENTS' UNION

The Students' Union is the parent student organization within the University and membership is compulsory for all registered students. It provides a wide range of cultural societies, and social facilities as well as producing a bi-weekly journal. The annual subscription is $4.

RESIDENTIAL COLLEGES

Accommodation for students is provided within the complex of the Residential Colleges of the University which comprise Basser College, Phillip Goldstein Hall, Postgraduate Hall, and the Philip Baxter College. The College complex houses 500 men and women

students, as well as staff members. Tutors in residence provide tutorial assistance in a wide range of subjects.

Board and residence fees, which are payable on a term basis, amount to $18.50 per week. Intending students should apply in writing to the Master, Box 24, Post Office, Kensington, N.S.W., from whom further information is available.

STUDENT EMPLOYMENT UNIT

The Student Employment Unit offers assistance in finding suitable full-time employment for evening students. It will also advise on Cadetships and permanent career employment. The unit is located in the Chancellery, Kensington, and is open 9 a.m.-5 p.m. daily. Telephone 663-0351.

STUDENT HEALTH UNIT

A free health service under the direction of a qualified medical practitioner is available to all students during office hours. The service is primarily diagnostic and not intended to replace the students' private doctor or the community health services available. Appointments may be arranged by personal contact or by telephoning 663-0351 ext. 2679.

STUDENT COUNSELLING AND RESEARCH UNIT

The Student Counselling and Research Unit is located at Kensington and is normally open from 9 a.m. to 9 p.m. daily. Students wishing to avail themselves of this advisory service should arrange an appointment by 'phoning 663-0351 ext. 2600-2605.

SPORTS ASSOCIATION

In December, 1952, the University Council approved the establishment of the Sports Association as the organization to control and sponsor sporting activities within the University.

Some 20 clubs provide a wide variety of sporting activities. Membership is compulsory for all registered students, the annual subscription being $2.

UNIVERSITY REGIMENT

The University Regiment trains selected undergraduates for commissioned rank in the Citizen Military Forces, and gives military training to undergraduates.

Training is conducted throughout the year both on a part-time and full-time basis, and is planned to fit in with the University's programme of activities. Part-time training is conducted on Friday nights, and on one weekend each month between March and August. Full-time training consists of a 21 day regimental field exercise in February or a 10-14 day camp in either the May or December vacations. Enquiries should be directed to the Adjutant, Regimental Headquarters, Day Avenue, Kensington.

N.S.W. UNIVERSITY SQUADRON

The N.S.W. University Squadron provides selected undergraduates with training which will prepare them for appointment to commissioned rank in the Citizen Air Force. Annual training is organized to fit in with Faculty activities and consists of lectures on Air Force organization, law and administration, and appropriate technical and specialist subjects applicable to the medical, technical, radio, works and administrative flights. Enquiries should be addressed to the Commanding Officer, N.S.W. University Squadron Headquarters, cnr. City and Darlington Roads, Darlington. Tel. 51-4664.

ROYAL AUSTRALIAN NAVY

The Royal Australian Navy offers direct entry commissions as Engineer Officers in the Royal Australian Naval Reserve for students studying first year Mechanical or Electrical Engineering. Successful applicants will enter the probationary rank of Midshipman (U), Acting Sub-Lieutenant (U) or Sub-Lieutenant (U) depending on whether they enter during their second, third or final year. On graduation Probationary Officers will be promoted to Lieutenant R.A.N.R. During long vacations, officers undergo naval training on both ship and shore commensurate with the industrial training requirements of their respective courses. Pay and allowances will be paid at the same rates as the Permanent Naval Forces during such periods. While serving as Probationary Officers, undergraduates may be exempted from National Service obligations.

While continuing studies at the University, the Department of the Navy will pay normal tuition fees and supply all necessary books, instruments, etc.

On graduation, Short Service and Permanent Commissions are available. Further information may be obtained by arranging an interview with the Royal Australian Naval Liaison Officer, Professor J. S. Ratcliffe, Lieutenant Commander, R.A.N.V.R., at the School of Chemical Engineering. Phone 663-0351, ext. 2406.

SCHOLARSHIPS, BURSARIES AND CADETSHIPS

A wide range of scholarships and cadetships will be offered to students commencing University courses in 1968.

Except where otherwise specified, applications on the forms obtainable from the Admissions Office ('phone: 663-0351, ext. 2485) must be lodged with the Registrar, the University of New South Wales, P.O. Box 1, Kensington, within seven days of the publication of the results of the N.S.W. Higher School Certificate Examination.

UNIVERSITY SCHOLARSHIPS

The University annually awards up to fifteen scholarships tenable in degree courses to students who have matriculated at the Higher School Certificate Examination; ten scholarships to students who have completed certificate courses (Department of Technical Education); ten scholarships to students who have completed Trade Courses (Department of Technical Education); and ten scholarships to part-time students who have taken the Diploma Entrance course of the Department of Technical Education. The scholarships are tenable in any Faculty and exempt the holder from payment of course fees during the currency of the scholarship. Scholarships will be awarded in order of merit on Higher School Certificate Examination results. They may be held only by persons who do not hold another award. Applications must be lodged after publication of Higher School Certificate and/or Leaving Certificate Examination results and after the announcement of the award of Commonwealth Scholarships, but not later than 31st January.

COMMONWEALTH SCHOLARSHIPS

Students enrolling in first degree courses at the University are eligible. Benefits include payment of all tuition fees and other compulsory fees, and living allowances (these latter being subject to a means test). The closing date for applications is 30th September in the year immediately preceding that for which the scholarship is desired. Full particulars and application forms may be obtained from the Officer-in-Charge, New South Wales Branch Office, Department of Education and Science, La Salle Building, 70 Castlereagh Street, Sydney, 2000 (Telephone 27-5475).

BURSARIES AWARDED BY THE BURSARY ENDOWMENT BOARD

A number of Bursaries tenable at the University are awarded to candidates of merit at the Higher School Certificate Examination whose family income falls within certain limits prescribed by the Bursary Endowment Board.

Applications should be made to the Secretary, Bursary Endowment Board, C/- Department of Education, Bridge Street, Sydney.

COMMONWEALTH SERVICE CADETSHIPS

The Commonwealth Service offers each year a number of cadetships in a wide variety of fields. British subjects, with Australian citizenship, under the age of twenty-eight years, are eligible to apply. These cadetships enable selected students to complete their courses full-time and receive a salary while doing so according to the scale below:

	Male	*Female*
Under 18 years	$1,542	$1,390
At 18 years	$1,800	$1,582
At 19 years	$2,061	$1,776
At 20 years	$2,321	$1,947
At 21 years	$2,344	$1,947
At 22 years	$2,482	$2,054
At 23 years	$2,609	$2,181
With increments to	$2,990	$2,562

Fees are refunded to the cadet on a proportionate basis according to his salary.

Applicants must have passed the Leaving Certificate or equivalent examination with passes in English, Mathematics and Physics, and they will be required to enter into a bond undertaking to remain in the Commonwealth Public Service for a period of up to five years after graduation. Either full-time or part-time courses may be undertaken if available.

Details of vacancies at any one time may be obtained from the University's Student Employment Officer or the Inquiry Officer, Commonwealth Public Service Inspector's Office, Commonwealth Centre, Chifley Square, Sydney. Telephone 28-5701.

W. J. McIVER SCHOLARSHIP

The W. J. McIver Scholarship is open to students who qualify at the annual examinations for admission to the Final Year course in Architecture. The scholarship provides a living allowance of at least $200 p.a. payable in term instalments.

Applications must be made on the approved form and lodged with the Registrar not later than 13th January each year.

UNDERGRADUATE PRIZES

Architecture Degree Course

The Joseph Auto-Hot ...	$600	Best student, Final Year.
Marley Reliance Industries Pty. Ltd.	$50	Best student, Year I.
Dunlop Rubber Aust. Ltd. ...	$52.50	Best student, Year III.
Board of Architects of N.S.W.	$40	School Prize Fund — subject selected by Head of School.
James Hardie & Co. Pty. Ltd.	$100	General excellence in the architectural subjects of the course.
W. A. Nelson	$60	Best specific studio project in Year IV.*
Frank W. Peplow	$24	Best student in ecclesiastic architecture.
Royal Australian Institute of Architects, N.S.W. Chapter	$50	Excellence in Design and allied subjects in final 2 years of course.

Building Degree Course

James Hardie & Co. Pty. Ltd.	$40	Best student, Year I.
Master Builders' Association of N.S.W.	$200	To be allocated at the discretion of the Head of the School.

General

Chamber of Manufactures of N.S.W.	$10	To be awarded at the discretion of the Head of the School.

*Bi-annual prize.

POSTGRADUATE AWARDS

Commonwealth Postgraduate Scholarships

The Department of Education, N.S.W., is prepared to consider as special cases students holding Commonwealth University Scholarships who wish to continue their studies for a further year in a full-time postgraduate diploma course.

Byera Hadley Travelling Scholarship

The Byera Hadley Travelling Scholarship is open to graduates in Architecture of the University of New South Wales. Candidates must be British subjects.

The scholarship is to assist the holder to proceed overseas and remain abroad for not less than one year and not more than three years. Value $1,200.

Byera Hadley Travel Grant

The Byera Hadley Travel Grant is open to graduates in Architecture of the University of Sydney or the University of New South Wales and Associates of the Sydney Technical College. All candidates must be British subjects. The grant is to assist the holder to travel and undertake a course of study. Value $600.

Board of Architects of New South Wales Travelling Scholarships

The Board of Architects of New South Wales offers two scholarships annually to holders of an Architecture degree from the University of Sydney or the University of New South Wales, or the diploma in Architecture of the Sydney Technical College, or to architects registered in the State of New South Wales. All candidates must be British subjects.

The scholarships are to assist the holders to proceed overseas and remain abroad for not less than twelve months and not more than three years. Value of each scholarship, $600.

Closing dates for applications and further details are available upon request from the Head of the School.

Sir Manuel Hornibrook Travel Grant

The Sir Manuel Hornibrook Travel Grant is open to Licentiate or Student members of the Australian Institute of Builders, from whom the Council of the Institute may invite applications in each alternate year.

The object of the Travel Grant is to advance the study and practice of building by competition for the award, and by subsequent travel overseas or interstate. The Travel Grant shall be of such value as the Council may from time to time determine. Details are obtainable from the Australian Institute of Builders, N.S.W. Chapter.

Housing and Neighbourhood Planning Scholarships

The Morrow and Gordon Scholarship, and the Peddle, Thorp and Walker Scholarship, each valued at $300 per annum, are available to assist suitable candidates attending the postgraduate course in Housing and Neighbourhood Planning.

UNDERGRADUATE COURSES

The Faculty of Architecture conducts undergraduate courses in Architecture, Building and Town Planning. These courses provide a thorough training in the arts and sciences upon which the design of modern cities and buildings depend.

In addition to the professional and vocational education and training, a study of general studies subjects is required in order to provide a broad knowledge of the humanities and social sciences.

The first year of all three courses is identical. This allows students who will later follow different but allied disciplines to meet and interchange ideas. It also enables students to switch from one course to another at the end of the first year without difficulty. Throughout their training, students of all courses share many common subjects and work in close association with one another upon their various assignments. This inter-relation between architect, builder and town planner during the formative years leads to an understanding of each other's problems and is invaluable in the subsequent practice of their related disciplines.

THE COURSE IN ARCHITECTURE

The architect is occupying an increasingly important position in the development of Australia. His contribution to society is primarily that of a planner. It includes understanding of the building needs of communities and individuals, skill in the effective creation and orderly disposition of space, and the design of economic and durable structures. In this he is concerned with research into human and functional needs and methods of construction. His main work as an artist is to fuse functional planning and scientific structure into an aesthetic unity which gives lasting pleasure. In architecture, science and art are one: they are absolutely inter-dependent and complementary. These ideas have been kept in mind in planning the syllabus of study.

In the course the main essentials of architecture—as an art, as a science and as a business and practical profession—are all given prominence. The course emphasizes the social responsibility of an architect, and also that man and his needs provide the prime causes

and reasons for an architect's work. The physical, functional, psychological and spiritual aspects of human beings and the interaction of each are central to architecture as studied in this course and the rational and scientific understanding, appraisal, evaluation and satisfaction of these are continuously stressed.

The early stages of the course concentrate on and provide a fundamental training in the basic sciences underlying building technology. This is necessary both to achieve a command of the new materials, new building methods and new ideas which characterize present-day architecture and for a soundly based development in the later and more advanced stages of architecture. Instruction in the principles of chemistry and physics as they affect the architect is included as a foundation to the studies in building science. A basic training in modern structures with the relevant amount of mathematics forms an important part of the course taken by all students. Concurrently with the scientific and structural subjects the aesthetic and creative abilities of the student are gradually developed. Minor emphasis is placed on these aspects in the early years but in its senior and maturer years come to form the major integrating aspect of the course. The underlying policy, which is implemented from the beginning of the course, is one of integration in which all the subjects of the course are stressed and treated as being only aspects of the one central subject—architecture.

In the latter part of the course the discipline of architecture is approached in an all-round and total way. However, the common core subjects taken by all students are handled in such a manner as to allow a student to concentrate on those aspects which most interest him. In addition, a wide variety of elective subjects allows the student to choose so that he may extend his study either in breadth or depth.

Introduction of the 1968 Course

This course will be introduced for the first time in 1968 and is referred to as the 1968 course. The course which operated in 1967 and before is referred to as the 1967 course, a description and details of which are given in the Calendar of the University of New South Wales 1967. The 1968 course will be implemented progressively, i.e. Year 1 in 1968, Years 1 and 2 in 1969, Years 1, 2 and 3 in 1970 etc.

The 1967 course will be withdrawn a year at a time beginning with the First Year in 1969 and continuing with each higher year successively.

General Description of the 1968 Course

The normal course in Architecture consists of six years of which all except the fourth year require full-time attendance at the University. On satisfactory completion of the first three years a student is awarded the degree of Bachelor of Science (Architecture). The fourth year of the course requires no formal attendance at the University. In this period the student is required to obtain practical experience (see *Practical Experience* below). Admission to the fifth and sixth years is selective and is based upon the ability revealed and the performance achieved up to the awarding of the first degree at Pass level. On satisfactory completion of the fifth and sixth years of the course the student is awarded a second degree of Bachelor of Architecture (B.Arch.).

The Part-time Programme

There is only one course in Architecture in respect of subjects, content, examinations and standards, which in the first three years leading to the B.Sc.(Arch.) and to meet the varying needs of students, may be taken on an attendance timetable which is wholly or largely full-time or wholly or largely part-time. The part-time programme requires up to three half-days' attendance each week during the day with the balance of the attendance in the evenings.

The subjects of two part-time stages are equivalent in all ways to those of one full-time year. At the end of the first or second year, or the second and fourth stages (i.e. Stages 1B and 2B), a student may elect to transfer to a different attendance programme without difficulty. *The fifth and sixth years of the course are available by full-time attendance only.*

Practical Experience

During the whole of the part-time period of the programme being followed a student is required to be employed on architectural work under the supervision of an approved architect. For this purpose an architect registered under any Australian State Architects' Registration Act is considered to be an approved architect. Students wishing to gain their practical experience under the supervision of any other person must submit the circumstances to the Professor of Architecture for approval.

Honours

Any student who satisfactorily completes the first three years of the course leading to the B.Sc.(Arch.) may elect to attempt the Honours requirement for this degree which, in addition to the prac-

tical experience requirement of the fourth year, requires formal attendance at the University for additional advanced work. A student cannot obtain both a Pass and an Honours first degree. The holding of an Honours first degree is not a pre-requisite for admission to the fifth and sixth years of the Architecture course, nor does it have any influence in gaining admission to those years, but it will be a pre-requisite for entry to enrolment in any Master's or Ph.D. degree which may in the future be built upon the first, B.Sc.(Arch.), degree.

In the second degree, Bachelor of Architecture, Honours are awarded on the basis of quality of performance during the fifth and sixth years of the course and in accordance with current Faculty regulations.

Professional Recognition

The degree of Bachelor of Architecture at the University of New South Wales is fully recognized by the Board of Architects of New South Wales for legal registration as an architect in New South Wales. It is also recognized by the Royal Australian Institute of Architects and the Royal Institute of British Architects for membership of those Institutes which, however, require in addition that graduates from all Schools of Architecture should have at least two years of practical experience, one of which at least must be after graduation, and pass the Institutes' special examination set in the subject of Architectural Practice.

Enrolment in 1968

Students enrolled for the first time in Year 1 or Stage 1A of the Architecture course in 1968 will be enrolled in the 1968 course as described herein.

Students who were enrolled in the Architecture course in 1967 will continue in the 1967 course until for any reason they reach a position from which it is not possible for them to complete the course by 1975. In this event the student so affected will be required to transfer to the 1968 course and will be given exemption from those parts of the course which are equivalent to the work already passed in the 1967 course.

Students who were enrolled in the First Year or Stage 1 of the 1967 course in 1967 and who for any reason are not permitted to progress to the next higher year or stage may elect to transfer to the 1968 course by application to the Registrar.

BACHELOR OF SCIENCE (ARCHITECTURE)—COURSE B.Sc.(Arch.)

	FIRST YEAR	Full-Time Programme	Part-Time Programme	
			Stage 1A	Stage 1B
		Hours/week	Hours/week	Hours/week
11.111	Design I	1	1	0
11.121	History of Architecture I	1	1	0
11.131	Graphic Communication I	9	0	0
11.131/1	Graphic Communication I, Part 1	0	5	0
11.131/2	Graphic Communication I, Part 2	0	0	3
11.211	Construction I	5	0	4
11.221	Structures I	3	3	0
11.271	Building Science I	8	0	0
11.271/1	Building Science I, Part 1	0	3	0
11.271/2	Building Science I, Part 2	0	0	5
		27	13	12

	SECOND YEAR	Full-Time Programme	Part-Time Programme	
			Stage 2A	Stage 2B
		Hours/week	Hours/week	Hours/week
11.112	Design II	7	0	7
11.132	Graphic Communication II	6	6	0
11.122	History of Architecture II	1	0	1
11.212	Construction II	6	0	6
11.222	Structures II	3½	3½	0
11.272	Building Science II	2	2	0
26.501 26.571	English *or* An Introduction to Modern Drama	1½	1½	0
		27	13	14

	THIRD YEAR	Full-Time Programme Hours/week	Part-Time Programme Stage 3A Hours/week	Part-Time Programme Stage 3B Hours/week
11.113	Design III	7	0	7
11.123	History of Architecture III	1	0	1
11.133	Graphic Communication III	3	3	0
11.213	Construction III	8	0	0
11.213/1	Construction III, Part 1	0	5	0
11.213/2	Construction III, Part 2	0	0	3
11.223	Structures III	3	3	0
11.273	Building Science III	2½	2½	0
11.331	Estimating and Specifications	1	0	1
	General Studies Elective	1½	0	1½
		27	13½	13½

	HONOURS—FOURTH YEAR	Hours/week
	General Studies Advanced Elective	1½
11.161*	Project	1
		2½

*The project will require 12-15 hours' work per week but not necessarily formal attendance at the University. However, staff supervision will be available to students for at least one hour per week. The subject and nature of the project will be proposed by the student and approved by the Head of the School.

BACHELOR OF ARCHITECTURE—COURSE
(B.Arch)

	FOURTH YEAR	Hours/week
	Practical Experience	—

	FIFTH YEAR	Hours/week
11.151	Architecture A	20
11.411	Town Planning	2
	Electives*	4
11.171A	Thesis†	1
		27

	SIXTH YEAR	Hours/week
11.152	Architecture B	20
11.321	Professional Practice	2
	Electives*	4
11.171B	Thesis†	1
		27

*Fifth year electives to a total minimum weekly time of four hours to be freely selected from the following, at least one hour being taken from either sub-section (b) or (c):

(a) Theory of Architecture A, Construction A, Structures A, Building Science A, Historical Research A, Interior Design A, Landscape Design A.
(b) Any Arts or Commerce subjects consistent with the rules for enrolment of the Faculty concerned.
(c) Any Humanities subjects consistent with the rules for enrolment of the Department of General Studies.

Sixth year electives to a total minimum weekly time of four hours to be freely selected from the following:

(d) Any subjects under (a), (b) or (c) above.
(e) Theory of Architecture B, Construction B, Structures B, Building Science B, Historical Research B, Interior Design B, Landscape Design B. (All to require the corresponding subject under (a) as a pre-requisite.)

†The subject of the thesis will be submitted by the student for the approval of the Head of the School at the beginning of fifth year and submitted for examination towards the end of the sixth year. Staff supervision will be available for one hour per week.

DEGREE COURSE IN BUILDING—B. BUILD.

The course in Building provides a basic training for management and executive careers in the building industry. It aims to develop in the student a sound conception of the related requirements and functions of the building-owner, the architect, the structural and mechanical engineers, the materials manufacturer and the builder in the process of planning, detailing and erecting buildings.

The course places emphasis on subjects dealing with law, management, accounting and finance. The course has relevance to a wide variety of careers in the management and supervision of building enterprises, building materials production and many other activities in building technology, administration and research—both in private and public employment.

General Description of the Course

The normal full-time course consists of four years, three years being full-time attendance and the fourth year part-time.

The Building degree course also provides University training in Quantity Surveying and the elective subject Quantity Surveying II is available in the fourth year (or Stage 7) for students who wish to make Quantity Surveying their career. It is expected that students who intend to practise Building will choose the alternative subjects of Management III and Law for Builders II. It is possible to acquire qualifications for both vocations by completing the three elective subjects.

The course leads to the degree of Bachelor of Building (B.Build.).

The Part-time Programme

There is only one course in Building in respect of subjects, content, examinations and standards which, to meet the varying needs of students, may be taken on an attendance timetable which is largely full-time or wholly or largely part-time. The part-time programme requires up to three half-days attendance during the day per week with the balance of the attendance in the evenings.

The subjects of two part-time stages are equivalent in all ways to one full-time year. At the end of the first and second years or the second and fourth part-time stages a student may elect to transfer to a different attendance programme without difficulty.

Practical Experience

Students are required to be in approved employment related to their course during the whole of the part-time period of their programme. The type of employment proposed must be submitted to the Associate Professor of Building for approval.

Honours

In the Bachelor of Building degree Honours are awarded on the basis of quality of performance throughout the whole course with particular emphasis on the later years and 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 Builders or, alternatively, for membership by the Institute of Quantity Surveyors, Australia, or both.

BUILDING DEGREE COURSE

Bachelor of Building

	FIRST YEAR	Full-Time Programme	Part-Time Programme	
			Stage 1	Stage 2*
		Hours/week	Hours/week	Hours/week
11.111	Design I	1	1	0
11.121	History of Architecture I	1	1	0
11.131	Graphic Communication I	9	0	0
11.131/1	Graphic Communication I, Part 1	0	5	0
11.131/2	Graphic Communication I, Part 2	0	0	3
11.211	Construction I	5	0	4
11.221	Structures I	3	3	0
11.271	Building Science I	8	0	0
11.271/1	Building Science I, Part 1	0	3	0
11.271/2	Building Science I, Part 2	0	0	5
		27	13	12

* These courses have been revised. Students proceeding to either Stage 2 or 4 in 1968 should consult the 1967 Calendar for course details.

	SECOND YEAR	FULL-TIME PROGRAMME	PART-TIME PROGRAMME	
			Stage 3	Stage 4*
		Hours/week	Hours/week	Hours/week
8.242	Soil Mechanics for Builders	1½	0	1½
11.212	Construction II	7½	0	0
11.212/1	Construction II, Part 1.....	0	4	0
11.212/2	Construction II, Part 2.....	0	0	4
11.222	Structures II	3½	3½	0
11.272	Building Science	2	2	0
11.711	Quantity Surveying I	3	0	3
11.731	Management I	2	0	2
14.011	Accounting and Costing for Builders I	1½	0	1½
26.501 / 26.571	English *or* An Introduction to Modern Drama	1½	0	0
26.501	English	0	1½	0
		22½	11	12

*These courses have been revised. Students proceeding to either Stage 2 or 4 in 1968 should consult the 1967 Calendar for course details.

	THIRD YEAR	FULL-TIME PROGRAMME	PART-TIME PROGRAMME	
			Stage 5	Stage 6
		Hours/week	Hours/week	Hours/week
11.203	Construction IIIA	10	0	0
11.203/1	Construction IIIA, Part 1...	0	5	0
11.203/2	Construction IIIA, Part 2...	0	0	5
11.223	Structures III	3	3	0
11.273	Building Science III	2½	2½	0
11.721	Estimating I	2	2	0
11.732	Management II	2	0	2
14.051	Law for Builders I.....	2	0	2
14.012	Accounting and Costing for Builders II	2	0	2
11.311	Specifications and Reports	1	1	0
	Humanities	1½	0	1½
		26	13½	12½

	FOURTH YEAR OR STAGE 7	Hours/week
	PART-TIME COURSE	
11.011H	History of Fine Arts *or* General Studies Elective not already taken	1½
14.321	Business Finance	2½
11.411S*	Town Planning	1½
11.722	Estimating II	2
11.841	Building Science A *or*	
11.831	Structures A	1
11.733	Management III *and*	2
14.052	Law for Builders II	3
	or	
11.712	Quantity Surveying II	4
		12½/13½

*Terminates at end of second term.

DEGREE COURSE IN TOWN PLANNING—B.T.P.

As town planning is concerned with determining the best use of land and creating a better environment, students in this course are trained in aesthetic and civic design principles as well as in land-use studies. Particular features of the course are the emphasis on the study of new techniques in planning strategies, decision-making, programming, budgeting and implementing of development plans; on urban research and on the inter-action of land uses and transportation.

General Description of the Course

The course is of five years' duration. The first and second years are full-time, the third and fourth years part-time requiring up to three half-days attendance with the balance in the evenings, and the fifth year full-time.

The course leads to the degree of Bachelor of Town Planning (B.T.P.).

Practical Experience

For the two part-time years the students must be engaged in approved employment related to the course; for example, in govern-

ment 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 Associate Professor in Town Planning for approval.

Honours

In the Bachelor of Town Planning degree, Honours are awarded on the basis of quality of performance throughout the whole course with particular emphasis on the later years and in accordance with current Faculty regulations.

Professional Recognition

The course is recognized by the 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.

TOWN PLANNING DEGREE COURSE

Bachelor of Town Planning

FIRST YEAR

(30 weeks' full-time)

		Hours/week
11.111	Design I	1
11.121	History of Architecture I	1
11.131	Graphic Communication I	9
11.211	Construction I	5
11.221	Structures I	3
11.271	Building Science I	8
		27

SECOND YEAR

(30 weeks' full-time)

		Hours per week Lec.	Prac.
11.132	Drawing II	0	6
11.431	Town Planning Theory and Practice I	1	3
11.441	Design II for Town Planners	1	6
11.451	History of Town Planning	1	0
11.461	Civic Engineering	1	3
25.101S	Geology for Engineers	2	1
26.501	English *or*		
26.571	An Introduction to Modern Drama	1	½
		7	19½

THIRD YEAR

(30 weeks' part-time)

		Hours per week Lec.	Prac.
8.431	Surveying and Cartography	1	1
11.432	Town Planning Theory and Practice II	1	3
11.471	Planning Law and Administration	2	0
	Two General Studies Electives	2	1
		6	5

FOURTH YEAR

(30 weeks' part-time)

		Hours per week Lec.	Prac.
11.433	Town Planning Theory and Practice III	1	3
53.321	Urban Sociology	1	0
54.211	Central and Local Government	1	0
	Urban Geography	1	0
	An Advanced General Studies Elective	2	0
		6	3

FIFTH YEAR

(30 weeks' full-time)

		Hours per week Lec.	Prac.
11.434	Town Planning Theory and Practice IV	1	15
11.442	Civic and Landscape Design	1	3
11.481	Land Valuation and Economics	2	0
19.511	Transportation Engineering	1	0
19.521	Statistical Methods and Data Processing	1	0
11.491	Thesis	-	-
		6	18

EXTENSION COURSES

The School of Architecture and Building from time to time conducts extension courses in specialist fields of study related to architecture and building. These courses are normally open to qualified members of the various land-use professions, upon payment of a fee appropriate to the length of the particular course.

POSTGRADUATE STUDY

HIGHER DEGREES

Following the award of a first degree in Architecture or Building of the University of New South Wales or other approved university, graduates may apply to register for the degrees of Master of Architecture or Master of Building. Facilities are also available for research towards the degree of Doctor of Philosophy. For details concerning this degree consult the Calendar or write to the Dean.

Summary of the Conditions for the Award of a Master's Degree

(1) Every candidate for the degree shall be required to carry out a programme of advanced study, to take such examinations, and to perform such other work as may be prescribed by the Faculty. The programme shall include the preparation and submission of a thesis embodying the results of an original investigation or design relative to architecture or building. 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 six complete terms from the date from which the registration becomes effective, save that in the case of a full-time 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 three terms.

(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 the 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, 1912-1950, the University may issue the thesis in whole or in part in photostat or micro-film or other copying medium.

Admission

An application to register as a candidate for the degree of Master of Architecture or Master of Building 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 term in which the candidate desires to register.

POSTGRADUATE COURSES

In addition to the facilities available for the pursuit of higher degrees, formal diploma courses are offered in the following postgraduate fields:

(1) Architectural Acoustics
(2) Building Construction
(3) Housing and Neighbourhood Planning
(4) 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 programme is also available.

Admission

Applicants for admission to these courses shall be graduates in Architecture of the University of New South Wales, or the holders of such other qualifications as may be approved by Faculty.

Nature of Award

Successful completion of the prescribed course of study will lead to the award of a postgraduate diploma.

GRADUATE DIPLOMA IN ARCHITECTURAL ACOUSTICS
(Dip.Arch.Acoustics)

Over the past decade the science of acoustics has received such widespread attention that it is now recognized as a vital factor in the establishment of optimum conditions for human efficiency and comfort.

The course in Architectural Acoustics concentrates upon these aspects which are typical of our urban environment, ranging from the control of community noise and noise in buildings to the design of concert halls and auditoria. Consultants in this field are normally graduates in architecture, engineering or science, and the course has been designed to provide specialized graduate training appropriate to each of these disciplines.

The School possesses an extensive range of precise acoustic measuring equipment, and the course will include practice in its use.

Admission Requirements

An applicant for admission to the Architectural Acoustics course shall be—

(i) a graduate in Architecture, Engineering, or Science of the University of New South Wales; or

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

Course Structure

		Hours per week Term 1 Lec.	Prac.	Term 2 Lec.	Prac.	Term 3 Lec.	Prac.
First Year (30 weeks)							
1.292G	Acoustic Theory A	1	0	1	2	0	0
11.942G	Acoustic Theory B	0	0	2	0	2	3
11.943G	Subjective Acoustics	0	0	1	0	1	0
1.291G	Applied Physics						
	or	2	3	0	0	0	0
11.941G	Construction						
		3	3	4	2	3	3
Second Year (30 weeks)							
1.293G	Electro-acoustics	0	0	1	0	0	0
11.944G	Applied Acoustics A	1	3	1	3	2	0
11.945G	Applied Acoustics B	2	0	1	3	1	3
11.949G	Research Project	–	–	–	–	–	–
		3	3	3	6	3	3

A. The co-requisites to be undertaken (1.291G Applied Physics or 11.941G Construction) will be determined by the Head of the School, but in general, the following will be the requirement:

1.291G Applied Physics—for graduates in architecture.
11.941G Construction—for graduates in engineering or science.

B. In addition to the foregoing there will be daytime exercises embracing practical and field work.

BUILDING CONSTRUCTION GRADUATE COURSE
(Dip.Build.Const.)

This two year, part-time course has been designed to provide opportunities for advanced study in the science of construction with emphasis on two broad fields: (i) theoretical and practical studies in techniques and methods of structures, materials, services, fabrication and assembly; and (ii) analysis and design of operational procedures in building contracts. It aims at attracting the practising qualified builder who wishes to widen his knowledge and understanding of construction elements and processes.

Admission Requirements

Candidates should be graduates in Building, but other graduates of the School of Architecture and Building at the University of New South Wales, and any qualified applicant who has had suitable experience in building may be admitted to the course on the recommendation of the Head of School and the approval of Faculty.

A.S.T.C. Diplomates in Building may be accepted at the discretion of the Head of the School, but will be required to complete the following pre-requisites in a preliminary year: History or Philosophy; Social Science elective, Business Finance and Mathematics.

FIRST YEAR*
(30 weeks' part-time course)

		Hours per week for 3 terms Lec. Prac.
11.961G	Building Components	1 — 1
11.962G	Advanced Construction I†	2 — 0
11.964G	Construction Planning I†	2 — 1
11.966G	History of Building	1 — 0
		6 — 2

*All students except candidates holding a Bachelor of Building will be required to complete Law for Builders I as an additional subject.

†Involves co-ordinated projects.

SECOND YEAR

(30 weeks' part-time course)

		Hours per week for 3 terms Lec.	Prac.
11.963G	Advanced Construction II*	1	2
11.965G	Construction Planning II*	1	2
11.967G	Advanced Equipment and Services*	1	0
11.968G	Building Operations	1	0
		4	4

*Involves co-ordinated projects.

HOUSING AND NEIGHBOURHOOD PLANNING GRADUATE COURSE (Dip.H.N.P.)

This course provides for postgraduate 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.

It is a one year full-time, or two years' part-time course, and leads to the award of a Graduate Diploma in Housing and Neighbourhood Planning (Dip.H.N.P.).

Admission Requirements

A candidate shall be—

(i) a graduate in Architecture of the University of New South Wales; or

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

Course Structure

Providing demand is adequate, the course may be available on a full-time basis over one year or on a part-time basis over two years. The programme is as tabled below.

		Full-Time	Part-Time*	
			First Year	Second Year
		30 weeks Hours per week Lec. Prac.	30 weeks Hours per week Lec. Prac.	30 weeks Hours per week Lec. Prac.
11.920G	Theory of Neighbourhood Planning	1 — 0	1 — 0	0 — 0
11.921G	Practice of Neighbourhood Planning	1 — 9	1 — 3	0 — 6
11.922G	Communications and Public Utilities	1 — 0	0 — 0	1 — 0
11.923G	Land and Housing Economics	1 — 0	1 — 0	0 — 0
11.924G	Urban Sociology	1 — 1	1 — 1	0 — 0
11.925G	Housing Law and Administration	1 — 0	0 — 0	1 — 0
		6 —10	4 — 4	2 — 6

*Two evenings and one afternoon.

GRADUATE DIPLOMA IN LANDSCAPE DESIGN (Dip.L.D.)

This course, the first of its kind to be offered in Australia, has been designed to extend the knowledge of architects to embrace an important environmental study closely associated with that of their own profession. It is a discipline which has so far received little attention in this country, yet may be expected to play a significant part in the future shaping of our environment.

Admission Requirements

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

(i) a graduate in Architecture of the University of New South Wales; or

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

Course Structure—two years' part-time study

	Year I	Term 1 Lec. Prac.	Term 2 Lec. Prac.	Term 3 Lec. Prac.
11.910G	History of Landscape Design	1 — 0	1 — 0	0 — 0
25.531	Geology for Engineers*	1 — 2	1 — 2	1 — 2
11.911	Botany and Ecology*	1 — 2	1 — 2	1 — 2
11.912G	Landscape Engineering	0 — 0	0 — 0	2 — 0
		3 — 4	3 — 4	4 — 4

	Year II	Term 1 Lec. Prac.	Term 2 Lec. Prac.	Term 3 Lec. Prac.
11.913G	Theory and Practice of Landscape	1 — 0	1 — 0	1 — 0
11.914	Forestry and Horticulture*	2 — 1	2 — 1	2 — 1
11.915G	Landscape Design	0 — 3	0 — 3	0 — 3
		3 — 4	3 — 4	3 — 4

Enquiries

Initial enquiries regarding postgraduate courses should be addressed to:

The Dean,
School of Architecture and Building,
University of New South Wales,
P.O. Box 1,
Kensington,
New South Wales, Australia.

*Practical work in Geology, Botany and Forestry will include a number of Saturday excursions.

BUILDING RESEARCH LABORATORY

The Faculty controls a Building Research Laboratory situated in the University of New South Wales Research Station, King Street, Randwick. The Laboratory which concentrates on postgraduate research and research for industry has sections equipped for work on Environment and Climate, Materials, Model Testing, Services, Lighting and Acoustics. The Laboratory has extensive testing and research equipment and workshop facilities including a wind-rain machine, a weatherometer, an artificial sky, a structural testing bay and a controlled atmosphere chamber. The equipment and facilities of the Laboratory are continually being added to. Research work and testing programmes carried out in the Laboratory 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 pre-stressed concrete structures.

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

Penetration of moisture into and through concrete.

DESCRIPTION OF SUBJECTS

The following brief synopses are intended to outline the scope of individual subjects. The subjects are not arranged numerically but are grouped in the following categories: Design, History of Architecture, Construction, Structures, Building Science, Graphic Communication, Management, Town Planning, Theses and Postgraduate subjects.

Students are informed of text books and recommended reference books for the subjects at the beginning of each year.

DESIGN

The design and construction of buildings and environment, including the solution of functional problems, study and application of specialized building techniques, engineering services and equipment; documentation; estimating and building job organization. In all years theoretical aspects are covered in lectures and applied by the student in studio work. The first three years give a basic understanding primarily in the functional and practical aspects of architecture; the last two years involve the student additionally in aesthetic and philosophic values.

11.111 Design I

A series of lectures giving an introductory survey of the visual environment of man: large scale environment, natural, modified by man and man-made; man's settlements: cities, towns and villages. Urban precincts, squares, streets, parks. The "equipment" of public environment. Buildings. Architectural provisions for individual man.

(In studio work of other subjects the principles of two- and three-dimensional composition are introduced and exercises are given beginning with the simple elements including building elements and simple spaces with simple functions.)

11.112 Design II

Introduction to the design process. Design for needs of individuals and small groups based on physical factors of health, comfort, safety and convenience. Emphasis on internal environment.

Inter-relation of people within small groups. Relationship between internal and external spaces. Design of small and simple multi-cell buildings. Influence of climate, structure and materials on architecture.

11.113 Design III

Design process and its application in larger and more complex architectural problems. Larger groups of people and adequate provision for their needs. Design of buildings becoming more complex in function, form and structure. Related buildings with simple functions and massing, and control of external spaces. Design for comfort and efficiency under diverse conditions. Design of buildings with special requirements of structure, material and/or equipment.

11.151 Architecture A

Discussion and application in the studios. The study of various theories and philosophies of architecture with the emphasis on aesthetics. The aims and responsibilities of the architect. Study of spatial relationships. Group building design and equipment of interior and exterior spaces. Landscaping. The development of the concept of the totality of architecture and an awareness of the inter-relation of the multiplicity of factors and influences which determine the final result. Problems in design within the concept of total architecture, involving the creation and control of the human environment, its construction and implementation in all aspects.

11.152 Architecture B

The development of a personal philosophy of architecture with the emphasis on mental and spiritual needs. The continuation at a more detailed and complex level of the concept of "total architecture". Problems involving the mental and spiritual needs of the individual and the society. Advanced planning involving urban environmental design and the associated questions of economics and services.

11.811 Theory of Architecture A (Elective)

Studies of representative theories of art and architecture.

11.812 Theory of Architecture B (Elective)

Study of one particular theory of architecture with the object of highlighting the problems involved in all aspects.

11.861 Interior Design A (Elective)

The principles of interior design with the emphasis on function. Anthropometrical, ergonomical aspects. Materials and manufacturing processes. Perception and taste. Colour and texture.

11.862 Interior Design B (Elective)

Emphasis on the psychological aspects of interior design. Atmosphere. Lighting. Furniture and furnishing selection.

11.871 Landscape Design A (Elective)

A general study of the theory and practice of landscape architecture.

11.872 Landscape Design B (Elective)

The development in depth of the work involved in Landscape Design A particularly related to the solving of projects in Australian conditions.

HISTORY OF ARCHITECTURE

In this subject architecture is treated as the expression of a cause/effect relationship, and the student is guided in understanding why and how the man-made environment has developed during the history of Western civilization.

11.121 History of Architecture I

A broad and general treatment of the history of architecture from the earliest times to the present day.

(a) Introduction. A framework of reference for architectural history: (i) Architecture as the "built environment"—a partnership of man and nature. (ii) The human and environmental influences that affect architecture throughout history.

(b) A general chronological survey: part (i)—Primitive and communal architecture; the ancient world; the Classic world of Greece and Rome; the Dark Ages; Medieval architecture; Renaissance architecture.

(c) A general chronological survey: part (ii)—Baroque and Rococo architecture; Rationalism, Romanticism and the Industrial Revolution; the twentieth century.

11.122 History of Architecture II

A more detailed treatment of some aspects of history of architecture and their relevance today.

(a) A brief history of planning as a response to human needs and its expression as architectural space.

(b) A study of some important structural, constructional, technological and organizational innovations and their influences, particularly in the Middle Ages, nineteenth and twentieth centuries.

(c) An outline of the evolution of form, proportion and detail, and other related visual aspects of architecture, particularly in Classic, Renaissance and twentieth century architecture.

11.123 History of Architecture III

A history of architecture in Australia, in which the general studies of first and second years find more particular application.

(a) The historical, human and environmental context of Australian architecture.

(b) Architecture from the foundation of the colony to the end of World War I.

(c) Architecture since World War I.

11.851 Historical Research A (Elective)

A basic knowledge and training in research in the field of Australian architectural history. An appreciation of the purpose of the research, familiarization with sources of materials and the way in which these are best used; proper techniques in the recording and cataloguing of material together with its critical assessment and evaluation and its integration, interpretation and presentation.

11.852 Historical Research B (Elective)

A development of Historical Research A in which the student's endeavours are directed towards the initiation and completion of an original research project in Australian architectural history.

CONSTRUCTION

The study of the fabric of buildings: the materials, elements, systems, procedures for erection and performance of the fabric determined by considerations of building functions, material properties, environment, climate and site: methods of communicating information. The order of study is from simple buildings for basic functions to buildings for multiple functions and complex procedures.

The theoretical lecture material is reinforced by visits to factories and building works and is applied and integrated with design in the studio and in special projects.

11.211 Construction I

Unit shelter for simple activity: single storey: level site.

(a) Single roofs: solid and framed walls: footings. Stones, bricks, tiles, slates, sheets, timber, lime and cement.

(b) External doors: cavities, d.p.c.; floors, linings. Wrot timber, concrete, plasters, d.p. materials.

(c) Windows, ventilators. Glass, metals. Cold water supply, waste and rain water disposal.

11.212 Construction II

Single and two-storey, multi-cell shelters: group activity shelter; sloping sites.

(a) Ridged roofs: partitions: storage fitments. Plywood, finishes, hardware. Plane surveys, chaining, angular measurement. The level, differential levelling, booking: contours: the theodolite. Setting out.

(b) Upper timber floors, stairs: retaining walls and membranes, semi-basements, concrete floors on the ground. Fuels and power supplies; thermal insulation: condensation; vapour barriers. Hot water supply; drainage and sanitary plumbing.

(c) Roof coverings; lighting. Introduction of steel and concrete as structural materials; simple trusses and connections; single span r.c. floors. Tiles, renders, paints, steel sections, concrete mixes. Ventilation, ducting, pumps. Heating and cooling appliances and plant.

11.213 Construction III

Buildings requiring structural frames: multiple activities.

(a) Framing systems and floors. Water and drainage services, fire protection and fire-fighting. Lifts and escalators.

(b) Roofs, claddings, internal provisions. Central conditioning plant. Light fittings. Integration of services.

(c) Basements, tanking, footings. Additions and alterations, adjustable and demountable structures. Procedures, economics. Communication systems.

11.213/1 Construction III, Part 1

The same theoretical and lecture material and specifically Construction assignments as for Construction III.

11.213/2 Construction III, Part 2

The Construction assignments of Construction III taken in connection with Design III.

11.203 Construction IIIA

In addition to 11.213 Construction III, the following: (a) Building Techniques and Materials—Investigations and analyses of various methods and materials. Survey of building projects, and field trips. Research, readings and reports in seminars on uses of new materials and structural systems, industrial prefabrication of component parts of buildings. (b) Specialist Services—Instruction in the specialist services of the various sub-contractors normally engaged in the execution of building construction projects. (c) Building Analysis Project—A study of the functional, structural and equipment relationships of various types of building. Approved projects for analysis are selected by the student and are based on construction in progress, or proposed buildings. Emphasis is placed on the integration of structural, mechanical and electrical systems with the architectural scheme.

11.203/1 Construction IIIA, Part 1
11.203/2 Construction IIIA, Part 2 } The syllabus of Construction IIIA taken over two years.

11.821 Construction A (Elective)

The study of such aspects as services, environment control, shelter provisions, materials testing and constructional performance in greater depth.

11.822 Construction B (Elective)

Continues the provisions of Construction A. The field is extended to include such aspects as prefabrication, modular construction, the design and use of industrially produced components, the integration of functions and the design for special environments.

STRUCTURES

The course covers structures as it affects the architect and the builder. Exercises in structural design and testing work in Structure Laboratory supplement the theoretical work.

11.221 Structures I

Elements of structural design, equilibrium, graphical and analytical analysis of forces in pin-jointed structures. Simple beams, moments and shear. Simple riveted and welded joints.

11.222 Structures II

Beam theory, moments and shear analysis, properties of sections, deflection and bending moment, factor of safety. Column theory, slenderness ratio, bending and direct stress. Properties of structural timber, permissible stresses and design. Design of simple footings and gravity retaining walls. Composite beams and columns.

11.223 Structures III

Revision of statics: Forces and structures in space and plane. Statical determinacy. Methods for the solution of space structures. Steel structures: design of beams, columns and joints. Reinforced concrete structures: design of beams and slabs. Continuity: the three-moment equation. Reinforced concrete columns, footings, retaining walls and tanks. Structural design: steel frame industrial buildings; single space frames; reinforced concrete frames and floor systems.

11.224 Structures A (Elective)

Design of rigid frames and portals by moment distribution, continuity in frames.

Flat slab and flat plate design applications. Comparison of different design methods. Prestressing in structures. Structural considerations of special type buildings integrated with Construction IV. Problems in foundations and soil mechanics.

11.225 Structures B (Elective)

The plastic theory of steel structures; ultimate strength design of reinforced concrete; principles of design of shell roofs, folded plates and suspended structures. A selected structure or a constructional system, the preparation of a study report and construction of a scale model to demonstrate structural design principles. Lecturette by student followed by class discussion.

BUILDING SCIENCE

The application of the methods and findings of science to the design and construction of buildings.

Study commences with basic physical phenomena and their mathematical description. The principles so established are applied to the analysis of the functional requirements of buildings, in terms of their ability to withstand and control the natural environment, and to satisfy human, thermal, visual and auditory requirements.

11.271 Building Science I

Mathematics

(a) Elementary computer programming; differentiation and integration of simple functions; the definite integral.

(b) Application to curve sketching, arc lengths, areas and volumes, moments of inertia, fluid pressures.

(c) Plane curves; conics and surfaces of revolution; quadric surfaces; ruled and warped surfaces; convex bodies; spherical trigonometry; projective configurations.

Physics

(a) Mechanics, laws of motion, equilibrium, friction, simple harmonic motion. Hydrostatics and hydrodynamics, surface tension, elasticity. Wave motion, progressive and standing waves; resonance interference, diffraction. Temperature, calorimetry, mechanical equivalent of heat; convection, conduction and radiation.

(b) Reflection and refraction of light; lenses, mirrors, dispersion and spectra, polarization; photometry. Electricity and magnetism; Ohm's law, resistance, conductance, capacitance; direct current circuits and measurement.

(c) Application: Analysis of the functional requirements of buildings. Climate and shelter from the elements; temperature, humidity and air flow; exclusion of water, thermal and moisture movement, durability and weathering. Density, elasticity and mechanical properties of building materials; testing methods and statistical interpretation.

11.272 Building Science II

(a) The sky as a sphere; map projections as representations of a spherical surface; geometrical aspects of natural lighting and sun control. Sky factors, Waldram diagrams, daylight protractors.

(b) Sun position and its representation by solar charts; radiant energy from the sun; design of hoods; louvres and sun control devices.

(c) Thermal properties of buildings, heat transmission and insulation. Hygrometry and condensation. Principles of heating, cooling and natural ventilation.

11.273 Building Science III

(a) The lighting of buildings; the eye and vision; general requirements of good lighting. Natural lighting from non-uniform skies; inter-reflected light. Use of charts, tables and other design aids. Artificial lighting; light sources and their spectral characteristics. Luminaires and light control; the lumen method of design. Quality of lighting and glare control.

(b) Fire in buildings; fire load; fire resistance of buildings. Acoustics, basic concepts and units. The ear and hearing. Transmission of air-borne and structure-borne sound; methods of noise control and sound insulation.

(c) Design of auditoria including analysis of shape and control of reflected sound; sound absorbent materials. Simple sound reinforcement systems. Application to various building types.

11.841 Building Science A (Elective)

The study of acoustics, lighting, sun control and similar topics at greater depth, with particular emphasis on co-ordination with studio projects.

11.842 Building Science B (Elective)

A continuation of Building Science A involving project work on a specific topic and the presentation of a research report.

GRAPHIC COMMUNICATION

The development of visual awareness and the practical skills basic to the observation, analysis and recording of appearance and to the construction of visualization and co-ordination drawings.

11.131 Graphic Communication I

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. Application in the graphic design problems.

Technical Drawing. Plane geometry. Plane curves of loci. Conics. Parallel projections of solid figures. Sections, intersections and interpenetrations. Surface developments. Architectural drawing conventions.

Visual Drawing. Perspective projection theory, and construction methods. Expedients and mechanical aids. Sciagraphy. Relationship to the three-dimensional illusion. Testing of theory through observation and experiment.

11.131/1 Graphic Communication I, Part 1;
11.131/2 Graphic Communication I, Part 2

The work of Graphic Communication I taken over two years. Broadly Part 1 covers Descriptive Geometry and Part 2 the remainder.

11.132 Graphic Communication II

Graphic Structure. Analysis, in theory and in practice, of a communication process. Studies in the development of symbolic and literal systems of representation. Media studies include the more sophisticated contemporary range.

Technical Drawing. Extension and development from the Stage 1 series in the context of the Architectural design and construction programme.

Visual Drawing. Extension and development from the Stage 1 series in the construction of visualization and co-ordination drawings.

11.133 Graphic Communication III

Further extension of Graphic Communication II with special emphasis on analytical observation and the capacity to construct visualization and co-ordination drawings.

MANAGEMENT

11.331 Estimating and Specifications

(a) *Estimating*

The practical methods used in the estimating of the financial cost of architectural works.

Methods used for estimating; standard mode of measurement; examples of "building up" the elements of a unit cost for pricing a bill of quantities; typical problems in estimating costs of building works.

Measuring and methods of adjusting variation; comparison of costs for alternative methods of construction related to structural parts of buildings; prepara tion of preliminary estimates from sketch plans.

(b) *Specifications*

The principles and methods and the changing trends involved in the compilation of a specification complementing other architectural documents.

Definition, objects and purposes of a specification; evolution of specifications; specification as a contract, legal and working document; relationship to Bill of Quantities and drawings; schedules; reference material; specification writing; "Master" specifications; outright and performance specifications; prime cost and provisional sums; specification sections, clauses and language; preparation and format of specifications; printing, binding and distribution.

Explanation of documents; general conditions; specifications of individual "trades"; schedule of p.c. and provisional sums; specifications for alterations, additions and new works; specification assignment.

11.711 Quantity Surveying I

Instruction in the method of obtaining from plans and specifications and otherwise the quantities of material and labour necessary in the construction of a building and other structures. The use of scales, figures, dimensions, plans, sections, elevations and details in relation to quantities. Techniques used in taking off and billing of quantities.

11.712 Quantity Surveying II

Traditional methods of quantity surveying: Scottish and London methods. Conventional format of bills: provisional and operational bills. Schedule of contracts; variations; progress reports. Professional practice in quantity surveying.

11.721 Estimating I

Methods used for estimating; standard mode of measurement; profit; establishment and other on-cost charges; awards, insurance, taxes, etc.; scale of fees and charges by local and other authorities.

The subject matter for each trade or operation includes: current material prices; schedule of labour units. Memoranda in respect to: weights, mixing proportions and yields of materials, waste allowances, working costs and depreciation of plant, scaffolding, etc.; examples of "building up" the elements of a unit cost for pricing a bill of quantities; topical problems in estimating costs of building works.

Measuring and methods of adjusting variations; grouping of unit items to obtain a bulked cost rate for different structural parts of buildings; comparison of costs for alternative methods of construction related to structural parts of buildings; preparation of preliminary estimates from sketch plans.

11.722 Estimating II

Suitability and capacity of on-site plant; organization as basis for estimating; inspections and reports on actual building sites; examples of "working up" unit cost rates for the various trades and operations on large building projects; pricing selected bills of quantities in respect of domestic, industrial and commercial buildings; recording and adjusting costs of variations to contracts. More advanced work than that given in Estimating I in respect of comparative costs or alternative methods of construction and detailing.

11.731 Management I

Introduction to scientific management principles, administration and supervision. Principles of organization. Individual and group behaviour. The structure of the building industry. Types of contracts, contract documents. Building Acts and Regulations, Codes, Local Government Authority powers, fees and approvals. Industrial relations—employment; industrial organizations. Safety and accident prevention. Technical supervision.

11.732 Management II

Management functions—planning, organizing, staffing, directing, co-ordinating, controlling and appraisal. Construction planning and control. Critical path method. Functions of personnel—job specifications—organization structure. Administrative procedures. Conditions of contract. Cost analysis—statistical data—work study. Reports and records—conduct of meeting. Technical supervision.

11.733 Management III

Construction management. Construction analysis—preplanning. Construction methods—appraisal and quantitative decision making. Case studies and models for construction planning. Services aspects of construction.

11.741 Building Acts and Regulations

Investigations of the Acts, Regulations, By-laws, Codes, etc., which govern and control the design and erection of all classes of building in New South Wales. The lectures deal with:

(a) The method by which the New South Wales Parliament confers powers on various government departments to prepare and police regulations and by-laws, thus controlling building within their jurisdiction;

(b) A general interpretation and knowledge of the contents of the relevant Acts and Regulations.

14.001 Accounting and Costing for Builders

A basic treatment of accounting principles and a guide as to their application in managerial decision making using the main areas of (*a*) basic accounting theory and practices; (*b*) financial reporting; (*c*) accounting information for management purposes as related to the construction industry; and (*d*) management planning and control including such techniques as critical path method.

14.051 Law for Builders I

Introduction to the law, including brief outline of sources of law in New South Wales and the system of judicial precedent.

General principles of law of contract. Some special forms of building contract. General principles of law of agency. Sale of goods and hire purchase law. Law of negotiable instruments. Law of partnership. General principles of insurance law. Commercial arbitration. General introduction to the law of bankruptcy and company law.

14.052 Law for Builders II

Introduction to industrial law, including reference to Commonwealth and State statutory provisions dealing with conciliation and arbitration.

State and Commonwealth awards. Industrial disputes. Employers' associations. Trade Unions.

11.321 Professional Practice

The ethical, legal and common standards and responsibilities governing the relations between the architect, the client and the builder; office practices and procedures; financial aspects of the practice of architecture and building.

(a) Historical background; professional institutions; code of ethics; conditions of engagement; scale of professional charges; specialist consultants.

(b) The Architects' Registration Act of New South Wales. Laws of contract; types of contract; articles of agreement; relationship of contracting parties and the architect; architects' responsibilities; negligence; arbitration; litigation; statutory controls; copyright.

(c) Office administration; correspondence; reports; insurance; finance; tenders; contract administration; organization of the building industry; problems of practice.

TOWN PLANNING

11.411 Town Planning

The study of factors influencing the direction of the development and use of land in the public interest.

Objectives of town and regional planning; historical background; contemporary planning techniques; New South Wales planning law and administration; parks and playing field; housing and neighbourhood planning; traffic and transport; the central area; elements of civic design; the city of the future.

Studio work in the design and layout of residential neighbourhoods.

11.441 Design II for Town Planners

The lectures are those given in the subject of 11.112 Design II but the studio exercises are specially adapted for planning purposes, and to emphasize environmental design problems.

11.442 Civic and Landscape Design

Relationship of buildings, spaces and landscape. Street architecture, street furniture. Height, floor space and building regulations; architectural controls. Design envelopes. Three dimensional redevelopment schemes. Preservation of buildings of architectural and historic interest. History and principles of landscape design. Open spaces. Trees and tree planting.

11.451 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 meaning of the Renaissance. The Baroque city. The Agrarian and Industrial Revolutions. Nineteenth century social reforms and planning theories. The Garden City movement. The significance of the Barlow, Scott and Uthwatt Reports. The British New Towns. The evolution of Australian town planning. Contemporary cities.

11.461 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.

11.471 Planning Law and Administration

The purpose of town planning legislation and its evolution in the United Kingdom. The N.S.W. Local Government Act, 1919 (and relevant Ordinances), in particular Parts XI, XII and XIIA; residential district proclamations, subdivision 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.

11.481 Land Valuation and Economics

General principles of urban and rural land valuation. Unimproved and improved capital values. Valuation of leasehold and freehold land. Subdivisional value of land. Valuation of buildings. Relevant Acts and Regulations. N.S.W. Land and Valuation Court proceedings and decisions. National income and its distribution, employment, housing, economics of location. Compensation and betterment. Cost-benefit analysis of planning. Financial planning and budgeting. Investment criteria.

THESES

11.171A and 11.171B Thesis (Architecture)

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 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 submitted by the student for the approval of the Professor of Architecture at the beginning of the fifth year and the completed thesis submitted for examination towards the end of the sixth year.

11.491 Thesis (Town Planning)

An individual study of an approved subject similar to 11.171A and 11.171B but done in one year by Town Planning students.

GRADUATE SUBJECTS

1.291G Applied Physics

Revision and extension of background materials; S.H.M., wave theory; Fourier analysis; complex numbers; electrical circuit analogies; statistics and computation.

1.292G Acoustic Theory A

Characteristics of sound and vibration; the wave equation; sound propagation in solid, liquid and gaseous media, impedance, resonance and modes; pulses; complex sound waves; Fourier analysis.

1.293G Electro-Acoustics

Principles of design of sound reinforcement systems for speech and music; artificial reverberation; ambiophony; assisted resonance; special requirements for translation, language laboratories, etc. Specification of sound systems. Characteristics of microphones, amplifiers and loudspeakers.

11.910G History of Landscape Design

Early cultures and their impact upon the primitive landscape through farming, transport and settlement patterns. Religious and social influences as reflected in the design of parks and gardens throughout history. Architectural expression and aesthetic beliefs. The Industrial Revolution and its effect upon the humanized landscape.

REFERENCE BOOKS

Gothein, M. L. *A History of Garden Art.* 2 Vols.

Clifford, D. *A History of Garden Design.*

Stroud, D. *Humphrey Repton.*

Wilbur, D. N. *Persian Gardens and Garden Pavilions.*

Wright, R. *The Story of Gardening.*

11.911 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.

11.912G Landscape Engineering

(a) Classification of soils, shear, compaction, consolidation and permeability. Stability of walls, embankments, cuttings and earth dams. Common causes of failure and remedial measures.

(b) Elementary hydrostatics and hydraulics. Bernoulli's Theorem, flow through orifices, over notches, in channels and pipes. Pumps and reticulating equipment.

REFERENCE BOOKS

King and Cresswell. *Soil Mechanics Related to Building.*

Soil Mechanics for Road Engineers. H.M.S.O., London.

Lewitt. *Hydraulics.*

Walshaw and Jobson. *Mechanics of Fluids.*

Rouse. *Elementary Mechanics of Fluids.*

Steel. *Water Supply and Sewerage.*

Lensley, Kohler and Paulhus. *Hydrology for Engineers.*

Brown and Bryant. *Engineering Science.* Vols. 1, 2 and 3.

11.913G 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.

REFERENCE BOOKS

Crowe, S. *The Landscape of Power.*

Crowe, S. *The Landscape of Roads.*

Crowe, S. *Tomorrow's Landscape.*

Eckbo, G. *The Art of Home Landscaping.*

Lynch, K. *Site Planning.*

Simonds, J. O. *Landscape Architecture.*

Snow, W. B. *The Highway and the Landscape.*

Colvin, B. *Land and Landscape.*

11.914 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.

REFERENCE BOOKS

Lord, E. E. *Shrubs and Trees for Australian Gardens.*

Beadle, Evans and Carolin. *Handbook of the Vascular Plants of the Sydney District and Blue Mountains.*

Dallimore and Jackson. *A Handbook of Coniferae.*

Anderson, R. H. *Eucalypts of New South Wales.*

Hellyer. *The Gardener's Golden Treasury.*

Dawson. *Practical Lawncraft.*

Rees, J. L. *Lawns, Greens and Playing Fields.*

11.915G Landscape Design

A series of design assignments involving the application of lecture material. It is anticipated that extra-mural work will be necessary in addition to the studio periods provided for this subject.

11.920G Theory of Neighbourhood Planning

Theoretical concepts of community planning. The work of Ebenezer Howard, Unwin and Parker, Clarence Perry, Stein and Wright, Frank Lloyd Wright and Le Corbusier. Civic design in the city region, central business district, district centre, neighbourhood unit and environmental areas.

11.921G Practice of Neighbourhood Planning

The design and layout of groups of buildings, streets and urban spaces. Principles and practice of landscape design. Community facilities including shopping and civic centres. Zoning regulations, civic design "envelopes", subdivision standards. Development control. Organization of neighbourhood design, layout and construction. Urban renewal.

11.922G Communications and Utility Services

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, etc. services.

11.923G 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. The housing problem. Economics of housing. Public housing as an essential social service. The future of public housing in Australia. Statistical methods and data processing.

11.924G Urban Sociology

The nature of Australian society; historic, geographic and economic factors relating to the Australian way of life. The nature of Australian settlement: metropolitan and suburban, and the country town. Social objectives in terms of social institutions such as family, education, religion, government etc. Social survey techniques.

11.930 Landscape Design

An extension of basic design training introducing the principles and philosophies of landscape design as a necessary component of our environment. Lectures include an introduction to ecology, plant morphology and plant selection, and are accompanied by group discussions. In the latter part of the year students must prepare a paper on the landscaping of a current architectural design problem, and take part in group research.

11.941G Construction

Elements of construction, single and multi-storey buildings; building services; materials. Exercises in analysis of architectural and engineering drawings.

11.942G Acoustic Theory B

Characteristics of airborne sound sources, speech, musical instruments, machinery, traffic; vibration and structure-borne sound. Sound power and sound intensity; propagation of sound in open air, sonic boom. I.S.O. Standards for acoustic measuring apparatus and measurement of sound powers and intensity. Practical field and laboratory measurements.

11.943G Subjective Acoustics

Perception of sound and vibration; frequency, intensity and time dependence; subjective scales of loudness; speech intelligibility, masking; echo discrimination; noise annoyance; hearing damage criteria, ear protection and hearing conservation programmes.

11.944G Applied Acoustics A

Airborne and impact sound transmission in buildings; single, multiple and complex partitions; floors; flanking transmission. Machinery and services noise reduction, vibration reduction and duct silencers. Criteria for sound insulation in buildings; methods of specification. Community noise and town planning; zoning and traffic engineering; effect of screens, embankments, distance. I.S.O. Standards of measurement of Sound Transmission Loss in the field and laboratory; practical measurements.

11.945G Applied Acoustics B

Room acoustics; subjective and objective criteria. Classical development of reverberation theory. Echoes, diffusion, rise and decay times; steady state and transient response. Sound reflectors and absorbers. Geometrical, statistical and model analyses of rooms. I.S.O. Standards of measurement of sound absorption coefficients. Field and laboratory exercises.

11.949G Research Project

An individual topic to be selected from one of the following fields; physical theory; machinery, duct and vibration noise; building insulation; community noise; room acoustics; or electro-acoustics.

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