BOARD OF VOCATIONAL STUDIES

1971 HANDBOOK

THE UNIVERSITY OF NEW SOUTH WALES

80 CENTS

BOARD OF VOCATIONAL STUDIES

1971 HANDBOOK

EIGHTY CENTS

THE UNIVERSITY OF NEW SOUTH WALES

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INTRODUCTION

The Board of Vocational Studies was established for the purpose of supervising the teaching and examination of subjects which are primarily concerned with vocational training and which do not lend themselves to incorporation in the existing Faculty structure. Membership of the original Board was restricted, but as responsibilities increased with the expanded number of courses offered, it was decided, in 1970, to reconstitute the Board. The Board of Vocational Studies now functions on lines very similar to those of the normal university faculty, and the Board is responsible for all courses in the Schools of Education, Health Administration, Librarianship, Social Work, and the Department of Industrial Arts. The course in Wool Technology (Education option) is also within its area of responsibility.

Students should be aware that from 1971 they will have three elected representatives on the Board of Vocational Studies. Student representation on faculties and boards is a recent innovation in this University, and members of the Board of Vocational Studies are looking forward to the contribution which student members will make to the activities of the Board.

This handbook provides information concerning the requirements for admission, enrolment and re-enrolment, conditions for the award of degrees, course structures, subject descriptions and the textbook requirements. It is important that students become well acquainted with the information presented here, and if there is any difficulty they should consult the University's Admissions Office (Ground Floor, Chancellery) or their School Office.

A. H. WILLIS
PRO-VICE-CHANCELLOR
BOARD OF VOCATIONAL STUDIES

CALENDAR OF DATES FOR 1971

Session 1: March 1 to May 15
May Recess: May 16 to May 23
May 24 to June 12
Midyear Recess: June 13 to July 18

Session 2: July 19 to August 14
August Recess: August 15 to August 29
August 30 to November 6

JANUARY

Monday, 25	Last day for acceptance of applications to enrol by new students and students repeating first year
Tuesday, 26 to Saturday, Feb. 6	Deferred examinations

FEBRUARY

Monday, 1	Australia Day—Public Holiday
Thursday, 18 to Monday, 22	Enrolment period for new students and students repeating first year
Monday, 22	Enrolment week commences for students re-enrolling (second and later years)

MARCH

Monday, 1	**Session 1 lectures commence**
Friday, 12	Last day of enrolment for new students (late fee payable)
Wednesday, 31	Last day for later year enrolments (late fee payable)

APRIL

Friday, 9 to Monday, 12	Easter
Monday, 26	Anzac Day—Public Holiday

MAY

Sunday, 16 to Sunday, 23	May Recess

JUNE

Saturday, 12	**Session 1 ends**
Monday, 14	Queen's Birthday—Public Holiday
Wednesday, 30	Last day for acceptance of applications for re-admission after exclusion under rules governing re-enrolment

JULY

Monday, 19	**Session 2 commences**
Thursday, 29	Foundation Day

AUGUST

Sunday, 15 to Sunday, 29	August Recess

SEPTEMBER

Wednesday, 15	Last day for acceptance of corrected enrolment details forms

OCTOBER

Monday, 4	Eight Hour Day—Public Holiday
Wednesday, 6	Last day for acceptance of corrected enrolment details forms (late fee payable)

NOVEMBER

Saturday, 6	**Session 2 ends**
Tuesday, 9	Examinations begin

1972

Session 1: March 6 to May 13
May Recess: May 14 to May 21
May 22 to June 17
Midyear Recess: June 18 to July 23

Session 2: July 24 to August 12
August Recess: August 13 to August 27
August 28 to November 11

JANUARY

Tuesday, 25 to Saturday, Feb. 5	Deferred examinations

FEBRUARY

Monday, 14	Enrolment week commences for new students and students repeating first year
Monday, 21	Enrolment Week commences for students re-enrolling

THE ACADEMIC YEAR

The academic year is divided into two sessions, each containing 14 weeks for teaching. There is a recess of five weeks between the two sessions. In addition there are short recesses within the sessions—one week within Session 1 and two weeks within Session 2.

The first session commences on the first Monday of March.

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GENERAL INFORMATION

ADMISSIONS OFFICE

The Admissions Office which is located in the Chancellery on the upper campus provides intending students (both local and overseas) with information regarding courses, admission requirements, scholarships and enrolment. Office hours are from 9.00 a.m. to 1.00 p.m. and 2.00 p.m. to 5.00 p.m. Monday to Friday and an evening service is provided during the enrolment period.

Applications for special admission, admission with advanced standing and from persons relying for admission on overseas qualifications should be lodged with the Admissions Office. The Office also receives applications from students who wish to transfer from one course to another, resume their studies after an absence of twelve months or more, or seek any concession in relation to a course in which they are enrolled. It is essential that the closing dates for lodgment of applications are adhered to, and, for further details the sections on "Rules Relating to Students" and "Enrolment Procedure for Undergraduate Courses" should be consulted.

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.

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

Persons seeking entry to first year courses in one or more of the three Universities in the Sydney Metropolitan Area (Macquarie University, The University of New South Wales and the

University of Sydney) are required to lodge a single application form with the Metropolitan Universities Admissions Centre, Third Floor, 13-15 Wentworth Avenue (near Museum Station), Sydney (P.O. Box 7049 G.P.O. Sydney, 2001). On the application form provision is made for applicants to indicate preferences for courses available in any one of the three Universities. Students are notified individually of the result of their applications and provided with information regarding the procedures to be followed in order to accept the offer of a place at this University and complete their enrolment at the Enrolment Bureau, Unisearch House, 221 Anzac Parade, Kensington.

Bachelor of Social Work—Since personal qualities are of particular significance in the practice of social work, it has been found useful for intending students to be interviewed by a member of staff in the School of Social Work at some stage prior to enrolment.

Matriculation requirements are the same as for the Faculty of Arts.

REQUIREMENTS FOR ADMISSION

A person who seeks to become a candidate for any degree of Bachelor of the University must first have qualified for matriculation and have satisfied the requirements for admission to the particular Faculty, course or subject chosen.

In addition to complying with these conditions candidates must be selected before being permitted to enrol in a course. In 1971 it will be necessary for the University to limit the number of students enrolling in all undergraduate courses.

A candidate who has satisfied the conditions for matriculation and for admission to a course of study shall be classed as a "matriculated student" of the University, after enrolment.

A person who has satisfactorily met the conditions for admission may be provided with a statement to that effect on the payment of the prescribed fee.

SECTION A

GENERAL MATRICULATION AND ADMISSION REQUIREMENTS

1. A candidate may qualify for matriculation by attaining in recognised matriculation subjects at one New South Wales Higher School Certificate Examination or at one University of Sydney Matriculation Examination a level of performance determined by the Professorial Board from time to time.
2. The level of performance required to qualify for matriculation shall be
   (a) passes in at least five recognised matriculation subjects, one of which shall be English and three of which shall be at Level 2 or higher;

   and

   (b) the attainment of an aggregate of marks, as specified by the Professorial Board, in not more than five recognised matriculation subjects, such marks being co-ordinated in a manner approved by the Board.
3. The following subjects, and such other subjects as may be approved by the Professorial Board from time to time, shall be recognised matriculation subjects:—

English	Greek	Chinese
Mathematics	Latin	Japanese
Science	French	Hebrew
Agriculture	German	Dutch
Modern History	Italian	Art
Ancient History	Bahasa Indonesia	Music
Geography	Spanish	Industrial Arts
Economics	Russian	

4. A candidate who has qualified to matriculate in accordance with the provisions of Clauses 1, 2 and 3 may be admitted to a particular Faculty, Course or Subject provided that:—
   (a) his qualification includes a pass at the level indicated in the subject or subjects specified in Schedule A as Faculty, Course or Subject Pre-Requisites;

   or

   (b) the requirements regarding these particular Faculty, Course or Subject Pre-Requisites, as specified in Schedule A, have been met at a separate Higher School Certificate or University of Sydney Matriculation Examination.

5. Notwithstanding any of the provisions of Clauses 1 to 4, the Professorial Board may grant matriculation status to any candidate at the Higher School Certificate or University of Sydney Matriculation Examination who has reached an acceptable standard and may admit him to any Faculty, Course or Subject.

NOTE

1. For the purposes of Clause 2 (a), Mathematics and Science BOTH PASSED at First Level or Second Level Full Course shall together count as three subjects.
2. For the purposes of Clause 2 (b), Mathematics and Science TAKEN either singly or together at First Level or Second Level Full Course shall each count as one and one half subjects.

Schedule A

FACULTY OR COURSE	FACULTY OR COURSE PRE-REQUISITES
Applied Science (excl. Applied Geography and Wool and Pastoral Sciences courses) Biological Sciences Engineering Industrial Arts Course Medicine Military Studies (Engineering course and Applied Science course) Science Bachelor of Science (Education)	(a) Science at Level 2S or higher AND (b) either Mathematics at Level 2F or higher OR Mathematics at Level 2S, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board.
Architecture Applied Geography and Wool and Pastoral Sciences courses (Faculty of Applied Science) Sheep and Wool Technology (Education option) course	(a) Science at Level 2S or higher AND (b) Mathematics at Level 2S or higher
Arts Social Work Degree Course	English at Level 2 or higher
Commerce	(a) Mathematics at Level 2S or higher AND (b) either English at Level 2 or higher OR English at Level 3, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board.
Law Combined Arts/Law Combined Commerce/Law	Nil As for Arts As for Commerce
Military Studies (Arts Course)	English at Level 2 or higher; OR English at Level 3, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board, and provided that a candidate so qualified shall not enrol in a course in English literature.

SUBJECT	SUBJECT PREREQUISITES
1.011—Higher Physics I 1.001—Physics I 1.041—Physics IC	As for Faculty of Science
2.001—Chemistry I 17.001—General and Human Biology 25.001—Geology I	Science at Level 2S or higher
10.011—Higher Mathematics I	Mathematics at Level 2F or higher
10.001—Mathematics I	Either Mathematics at Level 2F or higher OR Mathematics at Level 2S, provided that the candidate's performance in the subject and his general level of attainment are at standards acceptable to the Professorial Board.
10.021—Mathematics IT	Mathematics at Level 2S or higher
15.102—Economics II	As for Faculty of Commerce
50.111—English 51.111—History I	English at Level 2 or Higher
56.111—French I	French at Level 2 or higher
59.111—Russian I	Russian at Level 2 or higher
64.111—German I	German at Level 2 or higher
65.111—Spanish I	Spanish at Level 2 or higher
59.001—Russian IZ 64.001—German IZ 65.001—Spanish IZ	A foreign language, other than that in which enrolment is sought, at Level 2 or higher

ENROLMENT PROCEDURE

Before enrolling in any of the courses supervised by the Board of Vocational Studies, intending students should contact the School or Department concerned.

UNDERGRADUATE COURSES

FIRST ENROLMENTS:

(a) New South Wales residents already qualified for admission and persons who are applying for enrolment on the basis of qualifications gained or about to be gained outside New South Wales must lodge an application for enrolment with the Metropolitan Universities Admissions Centre, 13-15 Wentworth Avenue, Sydney (P.O. Box 7049 G.P.O., Sydney) by 30th October, 1970.

(b) New South Wales residents qualifying for admission by the 1970 New South Wales Higher School Certificate Examination or the 1971 Sydney University Matriculation Examination and those who have attended a University in New South Wales in 1970 must apply for enrolment to the Metropolitan Universities Admissions Centre, 13-15 Wentworth Avenue, Sydney (P.O. Box 7049 G.P.O., Sydney) by 25th January, 1971.

Completion of Enrolment

Students whose applications for enrolment are accepted will be required to complete their enrolment at a specified appointment time before the start of Session 1. Fees must be paid on the day of the appointment. However, in special circumstances and provided class places are still available students may be allowed to complete their enrolment after the prescribed week subject to the payment of a late fee.

Failure in First Year

First year students who failed all subjects at the 1970 Annual Examinations and who were not granted any deferred examinations will NOT follow the above procedure. They are required to 'show cause' why they should be allowed to continue in the course, and should await instructions in writing from the Registrar as to the procedure.

LATER YEAR ENROLMENTS

Bachelor of Science (Education)

Students will be re-enrolled in *Unisearch House* as follows:

Year II	Wednesday, 24th February, 10.00 a.m. to 2.30 p.m.
Year III	Tuesday, 23rd February, 10.00 a.m. to 12.30 p.m.

Industrial Arts Course

Students in the B.Sc. or B.Sc.(Tech.) degree course in Industrial Arts should attend *Hut 1, Western Grounds Area* for re-enrolment as follows:

All re-enrolling students	Tuesday, 23rd February, 10.00 a.m. to 12 noon 2.00 p.m. to 7.00 p.m.

Social Work Course (B.S.W.)

Before the end of Session 2, each student must obtain his or her personal enrolment form UE3 or UE4 and form Social Work/71 and attached instruction sheet from Mrs. Moore, Hut 34. After notification of the annual examination results, the student should set out a proposed programme for 1971 on the form Social Work/71 and forward or deliver this, together with form UE3 or UE4 completed as far as possible to reach the Head of the School of Social Work not later than Monday, 25th January, 1971. Students who fail to lodge their enrolment forms and Social Work/71 before Monday, 25th January, 1971, will be required to attend one of the late enrolment sessions, and pay the prescribed late fee.

All students, except those classified as First Enrolments (as noted above), must collect their enrolment form, which will contain the authorized programme for 1971 from Hut 34, Seminar Room, Western Campus, opposite High Street, in accordance with the following timetable.

Year II

Students with surnames "A"-"K"	Tuesday, 23rd February, 9.30 a.m. to 12.30 p.m.
Students with surnames "L"-"Z"	Tuesday, 23rd February, 2.00 p.m. to 5.00 p.m.

Year III

Students with surnames "A"-"K"	Wednesday, 24th February, 9.30 a.m. to 12.30 p.m.
Students with surnames "L"-"Z"	Wednesday, 24th February, 2.00 p.m. to 5.00 p.m.

Year IV

Students with surnames "A"-"J"	Thursday, 25th February, 9.30 a.m. to 12.30 p.m.
Students with surnames "K"-"Z"	Thursday 25th February, 2.00 p.m. to 5.00 p.m.
New or transfer students with advanced standing and miscellaneous students	Friday, 26th February, 9.30 a.m. to 12.30 p.m. 2.00 p.m. to 5.00 p.m.

Students who are unable to attend personally at the specified time should send a representative with a letter of authority to collect their form.

Students who fail to do this or fail to attend personally, will be required to attend one of the late enrolment sessions.

In exceptional cases, due to illness or absence interstate or overseas, students may seek written permission from the enrolling officer of the School of Social Work to attend a late enrolment session without penalty, provided such permission is granted before the specified re-enrolment session.

LATE ENROLMENTS

In the case of students enrolling late in the Bachelor of Social Work Course, the enrolment session will be from 5.00 p.m. to 6.00 p.m. on Wednesdays, 3rd and 10th March, 1971 in the Waiting Room of Hut 34, School of Social Work, Western Grounds Area.

POSTGRADUATE COURSES

Master of Education and Diploma in Education

The School will advise students of the re-enrolment arrangements.

Master of Health Administration and Graduate Diploma in Health Administration

Room G36, The Chancellery	Friday, 26th February, 2.00 p.m. to 5.00 p.m.

Graduate Diploma in Industrial Design

Students wishing to enrol in the Graduate Diploma Course in Industrial Design are required to apply for admission on the appropriate form to the Registrar at least two full calendar months before the commencement of the course.

They will then be notified by letter whether they are eligible to enrol and will be required to complete their enrolment at Hut 1, Western Grounds Area on Friday, 26th February, 2.00 p.m. to 5.00 p.m. and 6.00 p.m. to 8.00 p.m.

Graduate Diploma Course in Librarianship

Students continuing the Graduate Diploma course in Librarianship are required to attend the **Office, School of Librarianship (Hut J),** for re-enrolment on one of the following sessions:

Wednesday, 24th February	9.30 a.m. to 12 noon
	2.00 p.m. to 7.00 p.m.
Thursday, 25th February	9.30 a.m. to 12 noon
	2.00 p.m. to 4.00 p.m.

Master of Social Work

Students wishing to register as a candidate for the degree of Master of Social Work should lodge the prescribed application form with the Registrar at least one full calendar month before commencement of the course.

Preliminary enquiries regarding registration should be made before 1st December of the year prior to registration.

ENROLMENT IN MISCELLANEOUS SUBJECTS

Students may be accepted for enrolment in miscellaneous subjects provided the University considers that the subject/s will be of benefit to the student and there is accommodation available. Only in exceptional circumstances will subjects taken in this way count towards a degree or diploma.

Students seeking to enrol in miscellaneous subjects should obtain a letter of approval from the Head of the appropriate School or his representative permitting them to enrol in the subject concerned. The letter should be given to the enrolling officer at the time of enrolment. *Where a student is under exclusion he may not be enrolled in miscellaneous subjects unless given approval by the Professorial Board.*

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 righthand 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 term 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

UNDERGRADUATE FEES

(a) Degree Courses in Industrial Arts, Sheep and Wool Technology (Education Option), and Bachelor of Science (Education) course.

For the purpose of fee determination assessment is on a session basis.

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

(i) Full-time Course Fee (more than 15 hours' attendance per week)—$198 per session.

(ii) Part-time Course Fee—over 6 hours' and up to 15 hours' attendance per week—$99 per session.

(iii) Part-time Course Fee—6 hours' or less attendance per week—$49.50 per session.

(iv) Course Continuation Fee—A fee per annum of $28 (no session payment) is payable by:

Category (a) students who have once been enrolled for a thesis and have only that requirement outstanding, or

Category (b) students given special permission to take annual examinations without attendance at the University. (Students in this category are not required to pay the subscriptions to the University Union, the Students' Union, the Sports Association and the Library fee.)

(b) Social Work Degree — Old Course

(i) Pass—$99 per annum per subject or $49.50 per session per subject.

(ii) Honours—an additional $33 per annum per subject in which honours is taken in student's second and third years and $132 per subject per annum in the fourth year.

Social Work Degree — New Course

(i) Full-time Course Fee—$396 per annum or $198 per session for Years I, II and III; $297 per annum or $148.50 per session for Year IV; $33 for honours.

(ii) Part-time Course Fee—$248 per annum or $124 per session for Stages I, II, III and IV; $198 per annum or $99 per session for Stage V; $298 per annum or $149 per session for Stage VI; $33 for honours.

(c) Degree or Diploma in Health Administration

The fees for this course are assessed under the following schedule according to the hours shown for the subject irrespective of whether the course is taken as an internal or external student. An external student in this course is exempt from the Student Activities Fees.

For the purpose of fee determination assessment is on a session basis.

A full-time course fee will be charged for any session where more than 11 hours' per week instruction, etc., are involved.

(i) Full-time Course Fee (more than 11 hours' attendance per week)—$165 per session.

(ii) Part-time Course Fee—over 4 hours' and up to 11 hours' attendance per week—$99 per session.

(iii) Part-time Course Fee—4 hours' or less attendance per week—$49.50 per session.

(iv) Course Continuation Fee—A fee per annum of $28 (no session payment) is payable by:

Category (a) students who have once been enrolled for a thesis and have only that requirement outstanding, or

Category (b) students given special permission to take annual examinations without attendance at the University. (Students in this category are not required to pay the subscriptions to the University Union, the Students' Union, the Sports Association and the Library fee.)

(d) Miscellaneous Subjects

(i) Undergraduate subjects taken as "miscellaneous subjects" (i.e. not for a degree) or to qualify for registration as a candidate for a higher degree are assessed according to paragraph (a) above.

(ii) Students given approval to enrol in a miscellaneous subject or subjects in addition to being enrolled in a course are assessed according to the total hours of attendance as if the additional subject formed part of the course.

POSTGRADUATE FEES

Basis of Fee Assessment

Where course fees are assessed on the basis of session hours of attendance, the hours for each subject for purposes of fee assessment shall be those prescribed in the Calendar. The granting of an exemption from portion of the requirements of a subject in which a student is enrolled does not carry with it any exemption from the payment of fees.

Master of Health Administration

(i) Registration Fee $6
(ii) Graduation Fee $8
(iii) Course Fee—calculated on the basis of a session's attendance at the rate of $10.50 per hour per week. Thus the fee for a programme requiring an attendance of 24 hours per week for the session is 24 × $10.50 = $252 per session.
(iv) Thesis or Project Fee—$42 (and additional fee of $28* is payable by students who have completed their final examinations for the degree but have not completed the thesis or project for which they have been previously enrolled).

Master of Education

Fees are payable from the commencement date of a candidate's registration and remain payable until the candidate's thesis is presented to the Examinations Branch.

Thesis plus Formal Courses in Two Subjects.

(i) Registration Fee $6
(ii) Course Fee—per subject $42
(iii) Internal Full-time Student Annual Thesis Fee† $84
(iv) Internal Part-time Student Annual Thesis Fee† $42
(v) External Student Annual Thesis Fee*† $28
(vi) Final Examination (including Graduation Fee) $42

Project plus Formal Courses in Four Subjects.

(i) Registration Fee $6
(ii) Course Fee—per subject $42
(iii) Project Fee—Internal Student (at the time of first enrolment in the project) $28
(iv) Project Fee—Internal Student (for each† subsequent enrolment in the project) $28
(v) Project Fee—External Student—per annum $28
(vi) Graduation Fee $8

* Students paying this fee who are not in attendance at the University are not required to pay the Student Activities Fees or the Library Fee.
† The Annual Thesis Fee is payable in any year in which a candidate is formally enrolled in the thesis.

RESEARCH DEGREES

Master of Health Administration, Librarianship, Science*, Social Work

Fees are payable from the commencement date of a candidate's registration and remain payable until the candidate's thesis is presented to the Examinations Branch.

(i)	Qualifying Examination	$14
(ii)	Registration Fee	$6
(iii)	Internal full-time student annual fee	$84
	Internal full-time student session fee	$42
(iv)	Internal part-time student annual fee	$42
	Internal part-time student session fee	$21
(v)	External student annual fee†	$28
(vi)	Final Examination (including Graduation fee)	$42

Graduate Diploma Course (Health Administration, Industrial Design and Librarianship)

(i)	Registration Fee	$6
(ii)	Award of Diploma Fee	$8
(iii)	Course Fee—calculated on the basis of a session's attendance at the rate of $10.50 per hour per week. Thus the fee for a programme requiring an attendance of 24 hours per week for the session is 24 × $10.50 = $252 per session.	

Diploma in Education

(i)	Registration Fee	$6
(ii)	Award of Diploma Fee	$8
(iii)	Full-time Course Fee—$396 per annum or $198 per session.	

OTHER FEES

In addition to the course fees set out above, all registered students will be required to pay:—

Matriculation Fee—payable at the beginning of first year	$8
Library Fee—annual fee	$14
University Union‡—entrance fee	$20
Student Activities Fees	

* Candidates registered under the conditions governing the award of this degree without supervision will pay the following fees. Registration fee $6, Examination of thesis $84. They are not required to pay the Student Activities Fees or the Library Fee.

† Students in this category are not required to pay the Student Activities Fees or the Library Fee.

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

University Union*—annual subscription	$20
Sports Association*—annual subscription	$4
Students' Union*—annual subscription	$5
Miscellaneous—annual fee	$17
Total	$46

Graduation or Diploma Fee—$8 payable at the completion of the course.

Depending on the course being taken, students may also be required to pay:—

Applied Psychology Kit Hiring Charge—$2 per kit. Additional payment for breakages and losses in excess of $1 may be required.

Biochemistry Kit Hiring Charge—$4 per kit. Additional payment for breakages and losses in excess of $1 may be required.

Chemistry Kit Hiring Charge—$4 per kit. Additional payment for breakages and losses in excess of $1 may be required.

Excursion Fee—$2 per subject (Botany, Zoology, Entomology).

SPECIAL EXAMINATION FEES

Deferred examination—$6 for each subject.

Examinations conducted under special circumstances—$8 for each subject.

Review of examination result—$8 for each subject.

LATE FEES

Session 1—First Enrolments

Fees paid in the late enrolment period and before commencement of Session 1	$7
Fees paid during the 1st and 2nd weeks of Session 1	$14
Fees paid after the commencement of the 3rd week of Session 1 with the express approval of the Registrar and Head of the School concerned	$28

Session 1—Re-Enrolments

Failure to attend enrolment centre during enrolment week	$7
Fees paid after the commencement of the 3rd week of session to 31st March	$14
Fees paid after 31st March where accepted with the express approval of the Registrar	$28

* Life members of these bodies are exempt from the appropriate fee/s.

Session 2—All Enrolments

Fees paid in 3rd and 4th weeks of Session 2	$14
Fees paid thereafter	$28
Late lodgment of corrected enrolment details forms (late applications will be accepted for three weeks only after the prescribed dates)	$6

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.

Where notice of withdrawal from a course is received by the Registrar before the first day of Session 1, a refund of all fees paid other than the matriculation fee will be made.

Where a student terminates for acceptable reasons a course of study before half a session has elapsed, one half of the session's course fees may be refunded. Where a student terminates a course of study after half a session has elapsed, no refund may be made in respect of that session's fees.

The Library fee is an annual fee and is not refundable where notice of withdrawal is given after the commencement of Session 1.

On notice of withdrawal a partial refund of the University Union Entrance Fee is made on the following basis: any person who has paid the entrance fee in any year and who withdraws from membership of the University Union after the commencement of Session 1 in the same year, or who does not renew his membership in the immediately succeeding year may on written application to the Warden receive a refund of half the entrance fee paid.

On notice of withdrawal, a partial refund of the Student Activities Fees is made on the following basis:—

University Union—$5 in respect of each half session.

University of New South Wales Students' Union—where notice is given prior to the end of the fifth week of Session 1, $2; thereafter no refund.

University of New South Wales Sports Association—where notice is given prior to 30th April, a full refund is made; thereafter no refund.

Miscellaneous—where notice is given prior to 30th April, $5; thereafter no refund.

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 $7.

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 during the first two weeks of Session 1. (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 new students after the end of the second week of Session 1 (i.e. 12th March, 1971), 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 Session

Students who are unable to pay their fees by the year may pay by the Session, in which case they are required to pay the first session's course fees and other fees for the year, within the first two weeks of Session 1. Students paying under this arrangement will receive accounts from the University for Session 2 fees. These fees must be paid within the first two weeks of Session 2.

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

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

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 Session 1 and for one month from the date on which a late fee becomes payable in Session 2.

Where an extension of time is granted to a First Year student in Session 1, such student is not permitted to attend classes until fees are paid, and if seeking to enrol in a restricted Faculty may risk losing the place allocated.

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 Session 2 (13th August, 1971).

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.

RULES RELATING TO STUDENTS

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 session 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.

CHANGES IN COURSE PROGRAMMES

Students seeking approval to substitute one subject for another or add one or more subjects to their programme must make application to the Head of the School responsible for the course on a form available from School offices. In the case of students wishing to withdraw from subjects or terminate their enrolment the application must be lodged at the Examinations and Student Records Section. The Registrar will inform students of the decision. Approval of withdrawal from subjects is not automatic, each application being determined after considering the circumstances advanced as justifying withdrawal. It is emphasised that withdrawal from a subject which extends over the academic year, at any time after the May recess, or from a subject which extends over only one session, at any time after one month's tuition in the subject has been given, or failure to sit for the examinations in any subject for which the student has enrolled is regarded as failure to pass the subject unless written approval to withdraw has been obtained from the Registrar.

RESTRICTION UPON STUDENTS RE-ENROLLING IN UNIVERSITY COURSES

The University Council has adopted the following rules governing re-enrolment with the object of requiring students with a record of failure to show cause why they should be allowed to re-enrol and retain valuable class places. These rules will be applied retrospectively from January, 1971, and the attention of students is drawn to them.

(1) (i) A student shall show cause why he should be allowed to repeat a subject in which he has failed more than once. (Failure in a deferred examination as well as in the annual examination counts, for the purpose of this regulation, as one failure.) Where such subject is prescribed as a part of the student's course he shall be required to show cause why he should be allowed to continue the course.

Notwithstanding the provisions of Clause 1 (i)—

(ii) A student enrolled in the first year or first stage of any course, other than the medical course, who has failed in more than half the programme in which he is enrolled for that year or stage shall be required to show cause why he should be allowed to continue in the course.

(iii) A student enrolled in the first year of the Medical course who has failed in more than one subject of that year shall be required to show cause why he should be allowed to continue in the Medical course.

(iv) The provisions of sections (ii) and (iii) of this rule shall be deemed to apply to any student on transfer from another course or institution whose programme of studies in the first year of enrolment immediately following transfer is comprised of subjects so chosen that half or more of such subjects are listed in the University Calendar as first year subjects.

(2) Notwithstanding the provisions of Clause (1), a student shall be required to show cause why he should be allowed to continue a course which he will not be able to complete in the time set down in the following schedule.

Number of years in course	*Total time allowed from first enrolment to completion (Years)*
3	5
4	6
5	8
6	9
7	11
8	12

(3) No full-time student shall, without showing cause, be permitted to continue a course unless all subjects of the first year of his course are completed by the end of his second year of attendance. No student in the Faculty of Arts shall (without showing cause, be permitted to continue a course) unless he completes four subjects by the end of his second year of attendance. No part-time student shall, without showing cause, be permitted to continue a course unless all subjects of

the first two stages of his course are completed by the end of his fourth year of attendance and all subjects of the third and fourth stages of his course by the end of his seventh year of attendance.

No student in the Faculty of Medicine shall, without showing cause, be permitted to continue with the medical course unless he completes the second year of the course by the end of his third year of attendance, and the third year of the course by the end of his fourth year of attendance.

(4) A student who has a record of failure in a course at another University shall be required to show cause why he should be admitted to this University. A student admitted to a course at this University following a record of failure at another University shall be required to show cause, notwithstanding any other provisions in these rules, why he should be permitted to continue in that course if he is unsuccessful in the annual examinations in his first year of attendance at this University.

(5) Any student excluded under any of the Clauses (1)-(3) may apply for readmission after two academic years and such application shall be considered in the light of any evidence submitted by him.

(6) A student wishing "to show cause" under these provisions shall do so in writing to the Registrar. Any such application shall be considered by a committee, hereinafter referred to as the Re-enrolment Committee, appointed by the Professorial Board, which shall determine whether the cause shown is adequate to justify his being permitted to continue his course or re-enrol, as the case may be.

(7) The Vice-Chancellor may on the recommendation of the Re-enrolment Committee exclude from attendance in a course or courses any student who has been excluded from attendance in any other course under the rules governing re-enrolment and whose record at the University demonstrates, in the opinion of the Re-enrolment Committee and the Vice-Chancellor, the student's lack of fitness to pursue the course nominated.

(8) A student who has failed, under the provisions of Clause (6) of these rules, to show cause acceptable to the Re-enrolment Committee why he should be permitted to continue in his course, and who has subse-

quently been permitted to re-enrol in that course or to transfer to another course, shall also be required to show cause, notwithstanding any other provision in these rules, why he should be permitted to continue in that course if he is unsuccessful in the annual examinations immediately following the first year of resumption or transfer of enrolment as the case may be.

(9) Any student who is excluded from attendance in any course or subject by decision of the Professorial Board under the provisions of these rules may appeal to an Appeal Committee constituted by Council for this purpose.

(10) The notification to any student of a decision by the Re-enrolment Committee to exclude the student from attendance in any course or subject shall indicate that the student may appeal against the decision to an Appeal Committee of Council. In lodging such appeal the student shall ensure that a complete statement is furnished of all grounds on which the appeal is based and shall indicate whether or not the student wishes to appear in person before the Appeal Committee.
In considering an appeal the Appeal Committee, on the basis of the student's academic record and the stated grounds of appeal, shall decide:
(i) whether there are grounds which justify the Committee seeing the student in person, or
(ii) whether there is sufficient information available to the Committee to allow decision without seeing the student in person and so proceed to determine the application accordingly.

RE-ADMISSION AFTER EXCLUSION

Applications for re-admission must be made on the standard form and lodged with the Registrar not later than 30th June of the year prior to that for which re-admission is sought. An application should include evidence of appropriate study in the subjects (or equivalents) on account of which the applicant was excluded. In addition, evidence that circumstances which were deemed to operate against satisfactory performance at the time of exclusion are no longer operative or are reduced in intensity should be furnished. An applicant may be required to take the annual examinations in the relevant subjects as qualifying examinations in which case re-admission does not imply exemption from the subject.

Late applications cannot be considered where, in the opinion of the University, insufficient time will be available for the student

to prepare himself for any qualifying examinations which may be required.

It should be noted that a person under exclusion may not be enrolled in miscellaneous subjects unless he has received the approval of the Re-enrolment Committee.

Persons who intend applying for re-admission to the University at a future date may seek advice as to ways in which they may enhance their prospects of qualifying for re-admission. Enquiries should be made on a form obtainable from the Examinations Branch, and lodged with the Registrar.

ANNUAL EXAMINATIONS

Most annual examinations take place in November-December although some are held in the mid-year recess. Timetables showing time and place at which individual examinations will be held are posted on the central notice boards in the Bio-Medical Building, Central Lecture Theatre Block, Chancellery, Dalton Building, Main Building and Western Grounds Area. Misreading of the timetable is not an acceptable excuse for failure to attend an examination. Examination results are posted to the term addresses of students. No results will be given by telephone.

All students will receive an enrolment details form by 30th August. It is not necessary to return this form, unless any information recorded there is incorrect. Amended forms must be returned to the Examinations Branch by 15th September. Amendments notified after the closing date will not be accepted unless exceptional circumstances exist and approval is obtained from the Registrar. Where a late amendment is accepted, a late fee of $6.00 will be payable. Amended forms returned to the Registrar will be acknowledged in writing within fourteen days.

STUDENT SERVICES

THE LIBRARY

The University Library is located on the Upper Campus adjacent to the Chancellery, the Commerce Building and the Arts Building.

The Library's undergraduate collection covers the teaching and research interests of the faculty, and students are expected to read widely and critically from this collection.

It is recommended that students attend the **Introduction to the Library** which is held at advertised times during Orientation Week and the first week of term.

The **Introduction** uses audio-visual aids to describe the physical layout of the undergraduate library and the services available to readers.

Copies of the booklet *Guide to the Library* are available on request.

Students who are interested in a subject approach to information may attend a course which outlines methods of searching for information in libraries. This course runs for eight hours over a period of one week.

Individual assistance for readers with specific library problems is provided by the **Reader Assistance Unit** which is located in the foyer. Students are welcome to ask for help.

THE UNIVERSITY UNION

The University Union is a common meeting ground for all students. Eating and general recreational facilities are available, as well as a shop for stationery and other student requisites, branches of several banks, a pharmacy, a branch of David Jones, and hairdressing facilities. Membership is compulsory for all registered students.

STUDENT ACCOMMODATION

RESIDENTIAL COLLEGES

The Kensington Colleges

Accommodation for students is provided within the group of The Kensington Colleges which comprise Basser College, Goldstein College and Philip Baxter College. The group houses 450 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 session basis, amount to $280 per session. Intending students should apply in writing to the Master, Box 24, Post Office, Kensington, N.S.W., 2033, from whom further information is available.

International House

International House accommodates over 100 students of whom half are Australian; the remaining half is made up of students from some 18 different countries. First-year students who have come to the University straight from school are not eligible for residence because preference is given to mature undergraduates and post-graduate students.

Students should apply as soon as possible if they wish to reside at International House at a later date. They should write to the Warden, International House, P.O. Box 1, Kensington, N.S.W., 2033, for information.

New College

This Church of England College is the first of the independent Colleges on the Campus of the University. There are no religious tests, and accommodation is available for 210 men in single study-bedrooms. Fees are $21 per week.

Enquiries should be addressed to the Master, New College, Anzac Parade, Kensington, N.S.W., 2033.

Warrane College

This College, an affiliated Roman Catholic residential college, was completed in 1970, and provides accommodation for 200 students and fourteen resident tutors.

Basic fees are $21 per week for board and residence, payable on a session basis, and a registration fee of $20. Intending students should write to The Master, Warrane College, Box 123, P.O. Kensington, N.S.W. 2033.

OTHER ACCOMMODATION

Students requiring other than Residential College accommodation may make application to the Student Amenities Service where current lists are kept of accommodation available at recognised boarding houses, private homes, and in serviced and unserviced apartments.

STUDENT COUNSELLING AND RESEARCH UNIT

Prospective students seeking advice or guidance regarding the selection and planning of courses (particularly in relation to a career), or advice regarding their suitability for a particular course,

are invited to consult the University Student Counselling and Research Unit. Appointments may be made by telephone (663-0351, extensions 2600 to 2605).

In addition to its counselling service, the Unit provides a variety of study skills programmes throughout the year, on a group or individual basis. Programmes offered in the past have included Reading Improvement, Study Methods, Written Expression, Note Taking, Studying Mathematics, Improving Listening, Preparing for Statistics.

STUDENT AMENITIES UNIT

This Service is closely associated with the Sports Association and also handles applications for student concession fares and provides a service for students requiring other than College accommodation.

STUDENT EMPLOYMENT UNIT

Assistance is offered in finding full-time employment for evening students, and permanent employment after graduation. The Service is located in the Chancellery, just near the main entrance.

STUDENT HEALTH UNIT

A student health and first aid centre, staffed by a qualified medical practitioner and a nursing sister, is provided by the University. Students are encouraged to attend the centre for advice on all matters pertaining to their health.

CHAPLAINCY SERVICE

This Service is provided for the benefit of students and staff by six Christian Churches (Anglican, Roman Catholic, Methodist, Baptist, Churches of Christ and Seventh Day Adventist) and by the Jewish congregation. Chaplains are in attendance at the University at regular times. A Chapel is also available for use by all denominations.

FINANCIAL ASSISTANCE TO STUDENTS

The Students' Union and the University have co-operated to provide assistance to students who are in financial difficulties which are considered likely to prejudice their progress with their studies.

Three forms of assistance are available. In the first, the University considers, in certain circumstances, deferment of the payment of fees; this scheme is not intended to replace the established procedure for granting deferment for short periods but rather to supplement it by making deferment over longer periods possible.

Secondly, students in need may receive a cash loan not exceeding $200 from the Student Loan Fund established from contributions made by the Students' Union and the University.

Thirdly, a Students' Union donation of $1,000 has made possible urgent cash loans not exceeding $50 for a period of one month.

In all cases assistance is limited to students with reasonable academic records and whose financial circumstances warrant loans. Students granted assistance of either kind are required to give an undertaking to repay the loan under the conditions agreed upon.

Applications are made personally to the Deputy Registrar (Student Services).

UNIVERSITY CO-OPERATIVE BOOKSHOP LTD.

Membership is open to all students, on payment of a fee of $5, refundable when membership is terminated. Members receive an annual rebate on purchases of books.

STUDENT ACTIVITIES

Appropriate Faculty Associations are open to students in the various courses. Full details are available in other Faculty handbooks, the following list merely indicating the range.

The Commerce Society; The Arts Faculty Society; Dramsoc; The Historical Society; The Politics Club; The French Society; Socratic Society; The Julian Society; The Wool and Pastoral Science Association.

Social Work Students' Association

The Association's primary function is that of a communication channel operating not only among the students themselves but also between students and staff of the School. Opportunities for students to meet informally abound in the many functions held during the year. These include parties, lectures by professional social workers to give the student an insight into social work practice in many areas, and meetings where specific grievances may be aired or certain aspects of the course discussed.

Students become members of the Association automatically on admission to the School of Social Work, and elect an executive committee at an Annual General Meeting held during the first term of each year. It is through this executive committee that formal liaison with the School's staff can be maintained.

A regular newsletter, "Catalyst", is produced to inform students of current events or planned activities, and to provide a forum for discussion among students.

Representatives of the Association attend meetings of the Australian Association of Social Workers (N.S.W. Branch) and the Council of Social Services of N.S.W., while contact with student bodies in other universities is maintained through the Federation of Australian Social Work Students Association. Further details may be obtained from the Social Work students notice board and the Enquiries Office of the School of Social Work.

Industrial Arts Society

The Industrial Arts Society aims at providing opportunities for students to meet staff and fellow students through both social functions and educational activities such as films, lectures, seminars and visits. It is hoped that through these activities students will arrive at a better understanding of the purpose of their studies and become aware of the opportunities available in the field of Industrial Arts.

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

SCHOLARSHIPS

Commonwealth University Scholarships

There are three types: OPEN ENTRANCE SCHOLARSHIPS, which are awarded on the results of the Higher School Certificate Examination to students who are under thirty years of age on 1st January of the year in which they begin their course and who, with their parents, are permanent residents of Australia; LATER YEAR SCHOLARSHIPS, which are available to students who have completed at least one year of full-time or two years of a part-time course without failure (age and residential qualifications are the same as for Open Entrance); and MATURE AGE SCHOLARSHIPS, which are available to students who are over thirty on 1st January of the year for which the scholarship is desired, and who have been residents of Australia for at least two years immediately preceding the award of the scholarship. 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, Sydney Branch Office, Department of Education and Science, La Salle Building, 70 Castlereagh Street, Sydney, N.S.W., 2000 (Telephone 2-0323).

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 the Higher School Certificate Examination results. Continued tenure of the scholarships requires satisfactory progress. They may be held only by persons who do not hold another award, who are eligible to enrol in the course selected, and whose parents are permanent

residents of Australia. Applications must be lodged with the Registrar within seven days of publication of the Higher School Certificate Examination results.

Cadetships and Traineeships

The Commonwealth Public Service offers cadetships each year in a wide variety of fields. British subjects, with Australian citizenship, under the age of 28 years, or 33 years in the case of a cadet social worker, are eligible to apply. 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 (Cnr. Phillip and Hunter Streets). (Telephone 28-5701).

The New South Wales Public Service offers cadetships and traineeships from time to time for various departments. Enquiries should be made to the New South Wales Public Service Board, 19 O'Connell Street, Sydney. Applications will close in October, and early application to the Board is advisable.

The Hospitals Commission of New South Wales, Red Cross and other bodies also from time to time offer scholarships for social work students in later years.

Scholarships in Industrial Arts (B.Sc. Degree)

Two scholarships, valued at $100 per annum, are offered each year by the Institute of Industrial Engineers to students entering the full-time course in Industrial Arts leading to the B.Sc. degree. The scholarships are tenable for four years, and may not be held concurrently with any award except one providing solely for the payment of compulsory University fees.

Teachers' College Scholarships

Scholarships are awarded in open competition in respect of the aggregate of the five best subjects presented at the Higher School Certificate Examination provided that the candidate has a pass in English at any level.

Applicants must have reached the age of sixteen years, and, in general, should not have passed the age of thirty-five years on the date at which training is commenced.

Applications must be made on the form provided. Full-time school pupils may obtain these forms from the principal of the school or college at the end of second term. Other applications may be made by contacting: Officer-in-Charge, Teacher Training Division, N.S.W. Department of Education, Blackfriars Street, Chippendale, N.S.W., 2008 (Telephone: 211 4566).

Applications for scholarships should be made by *September 30.* Late applications will be considered although no attempt is made to reserve places for late applicants.

Graduates and undergraduates are reminded that later year scholarships are made available from time to time.

Further advice regarding applications for Teachers College Scholarships may be had by contacting the School of Education.

Graduate Diploma in Industrial Design Scholarships

Several Scholarships are available for students who wish to enrol in the postgraduate course in Industrial Design leading to the award of a Graduate Diploma. Applicants should have a University degree or a professional level qualification from a Technical College, or such other qualification as may be approved by the University. Past and present employment experience in industrial design is desirable. The value of each scholarship is $2,400 per annum for full-time study or $1,200 per annum for part-time study, from which fees will be deducted.

Scholarships in Health Administration

A number of scholarships and cadetships up to the value of $2,800 plus fees and allowances are available to students enrolling in courses offered by the School of Health Administration. Details are available from the Head of the School.

SCHOOL OF EDUCATION

The School of Education offers a four-year Bachelor of Science (Education) degree course, which is designed primarily for the preparation of teachers of science in secondary schools. In addition, the School offers a one year full-time course for graduates leading to the Diploma in Education, and also a course leading to the degree of Master of Education.

THE BACHELOR OF SCIENCE (EDUCATION) DEGREE COURSE

The first year of a four-year Bachelor of Science (Education) degree course, B.Sc.(Ed.), commenced in 1969. The course is designed primarily for the preparation of teachers of science in secondary schools.

One feature of the course is the breadth of study over a range of science subjects. The course also provides depth by requiring that at least one of the science subjects be taken to a minimum of three stages. Another feature is the study of education subjects along with science subjects in the third and fourth years. Two stages of History and Philosophy of Science are included in the course structure to give an understanding of science as a method of inquiry and of its relationship to society.

Students must complete at least one stage of physics, chemistry, mathematics, biological sciences and geology, and in the first year must undertake a programme in chemistry, physics and mathematics and either biology or geology. Stage I subjects have the same content as for the first year science course. Stage II, III and IV science subjects consist of units of science subjects or units designed to meet the special needs of teachers or a combination of these.

SCIENCE (EDUCATION)—FULL-TIME COURSE

Bachelor of Science (Education)

YEAR 1

		Hours per week for 2 sessions Lec. Lab./Tut.
*1.011 1.001 1.041	Higher Physics I *or* Physics I *or* Physics IC	3 — 3
2.001	Chemistry I	2 — 4
10.001 10.011 10.021	Mathematics I *or* Higher Mathematics I *or* Mathematics IT†	4 — 2
17.001 25.001	General and Human Biology *or* Geology I	2 — 4
		11 — 13

*Higher Physics I covers the same syllabus as Physics I but at a higher level. Students intending to proceed to further studies of Physics in later years of the course should take 1.011 or 1.001. Students taking Physics IC, which is a terminating course, would only be able to proceed to further studies of Physics if their performance in 1.041 was above average.
†Students taking 10.021 Mathematics IT will not be allowed to proceed beyond First Year Physics.

YEAR 2

Stage II of major subject	6
Two Science subjects selected from 17.001, 25.001 or Stage II subjects	12
62.001 History and Philosophy of Science I	3
	21

YEAR 3

Stage III of major subject	9
58.501 Education A	8
62.002 History and Philosophy of Science II	3
	20

YEAR 4	Hours per week
Stage IV of major subject or one Science subject selected from 17.001, 25.001 or Stage II subjects	6
58.502 Education B	16
	22

The stages of Science subjects offered are:

STAGE II		
	Physics	1.102
	Chemistry	2.102
	Mathematics	10.911
	Geology	25.502
	Biology	two 90 hour units
STAGE III		
	Physics	1.103
	Chemistry	2.103
	Geology	25.503
	Biology	three 90 hour units*
STAGE IV		
	Physics	1.104
	Chemistry	2.104
	Geology	25.504
	Biology	two 90 hour units*

*BIOLOGY:

Stages two and three may be selected from the units:

41.101A Chemistry of Biologically Important Molecules
43.101A Genetics and Biometry
43.101B Plant Morphology A *or*
43.101C Plant Physiology
45.101B Invertebrate Zoology *or*
45.101C Vertebrate Zoology
One selected from units listed under Stage IV.

Stage IV may be selected from the units:

41.101B Metabolism
43.101B Plant Morphology A *or*
43.101C Plant Physiology
43.102E Environmental Botany
44.101A Introduction to Microbiology
45.101B Invertebrate Zoology *or*
45.101C Vertebrate Zoology
45.201B Insect Physiology
73.011A Principles of Physiology

Selection of units is subject to agreement with the Heads of Schools concerned and in making the selection candidates must observe pre-requisites and co-requisites.

DIPLOMA IN EDUCATION

Since 1966 a course leading to the award of the Diploma in Education (Dip.Ed.), has been available to graduates from this University or other approved universities. The Diploma is designed to give professional training in education to postgraduate students. It is a one year full-time course, but it is also possible for this course to be taken over two years on a part-time basis. The course is directed, but not exclusively, towards the preparation of teachers for secondary schools. It includes lectures, seminars, tutorials, individual assignments and group exercises, demonstrations of teaching methods and practice teaching.

Course Outline

		Hours per week
	Education	
58.011	Australian Education	1
58.012	Educational Practice	1
58.013	Educational Psychology	1
58.015	Philosophy and Theory of Education	1
58.016	Seminars	2
	Methods of Teaching*	
	*Two method subjects, with demonstration lessons	8
58.021	Commerce Method	
58.022	English Method	
58.023	French Method	
58.024	Geography/Social Studies Method	
58.025	German Method	
58.026	Guidance Method	
58.027	History Method	
58.028	Library Method	
58.029/1	Mathematics Method (Double Teaching Subject)	
58.029/2	Mathematics Method (Single Teaching Subject)	
58.030/1	Science Method (Double Teaching Subject)	
58.030/2	Science Method (Single Teaching Subject)	
58.031	Spanish Method	
58.040	Selected Activities	2

Classes will also be arranged in some other areas relevant to teacher preparation as for example, Health Education and Physical Education and in subjects in which students have a particular interest such as Comparative Education, Philosophy in Education, Experimental Education, Educational Statistics, Society and Education. The subjects offered will be determined by the interest of students and the availability of staff and facilities.

58.050 Supervised Teaching Practice

Seven weeks' supervised teaching practice in schools. Where possible, an additional two weeks unsupervised teaching practice will be arranged before the commencement of the academic year.

MASTER OF EDUCATION

The Master of Education course is designed for educationists who wish to study Education at an advanced level. The conditions for the award of the Master of Education degree are set out below. Educational fields from which students will be required to select subjects for study include the following:

		Hours per week
58.201G	Comparative Education	2
58.202G	Educational Planning and Administration	2
58.203G	Educational Psychology	2
58.204G	Educational Theory in the Twentieth Century	2
58.205G	Experimental Education	2
58.206G	History of Education	2
58.207G	Philosophy in Education	2
58.208G	Child Growth and Development	2
58.209G	Advanced Statistical Method in Education	2
58.210G	Science Education	2

Conditions for the Award of Degree of Master of Education

1. An application to register as a candidate for the degree of Master of Education shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the first session of the year for which the candidate desires to be registered.
2. An applicant for registration shall—
   (i) hold a degree of the University of New South Wales or other approved university,
   (ii) hold the Diploma in Education of the University of New South Wales or other approved university, or possess qualifications accepted by the Board of Vocational Studies (hereinafter referred to as "the Board") as equivalent, and
   (iii) have had at least one year's practical experience in some branch of education acceptable to the Faculty.
3. In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Board of Vocational Studies on the recommendation of its Higher Degree Committee.
4. Notwithstanding any other provisions of these conditions the Board may require an applicant to demonstrate his fitness for registration by carrying out such work and passing such examinations as the Board may determine.
5. In every case, before permitting an applicant to register as a candidate, the Board shall be satisfied that adequate supervision and facilities are available.

6. An approved applicant shall register in one of the following categories:
   (i) student in full-time attendance at the University;
   (ii) student in part-time attendance at the University;
   (iii) student working externally to the University;
   and shall pay such fees as may be determined from time to time by the Council.
7. 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 Board.
8. The programme of advanced study shall include either:
   (i) the submission of a thesis embodying the results of an original investigation and the study of, and examination in, two fields of education, or
   (ii) the study of, and examination in, four fields of education and the submission of a report on a topic approved by the Board.
9. Students taking the course on a full-time basis will normally be required to complete it within two years and those taking it part-time or working externally within four years. Extensions beyond these periods must be approved by the Board.
10. (i) The investigation provided in paragraph 8 (i) shall be conducted under a supervisor appointed by the Board or under such conditions as the Board may determine.
    (ii) For each candidate who submits a thesis as provided in paragraph 8 (i) there shall be at least two examiners appointed by the Professorial Board on the recommendation of the Board of Vocational Studies, one of whom shall, if possible, be an external examiner.
    (iii) The report on the project provided in paragraph 8 (ii) shall be examined by two examiners.
11. Every candidate who submits a thesis as provided in paragraph 8 (i) shall submit three copies of the thesis in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may submit also for examination any work he has published, whether or not such work is related to the thesis.
12. It shall be understood that the University retains the three copies of the thesis submitted for examination and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part in photostat or microfilm or other copying medium.

SCHOOL OF HEALTH ADMINISTRATION

The School of Health Administration, which was founded in 1956 with a grant from the W. K Kellogg Foundation, offers both undergraduate and graduate programmes. The undergraduate course may be taken on a part-time basis and leads to the award of Bachelor of Health Administration. The School also offers one formal course in Health Administration leading to the award of a Graduate Diploma and another to the degree of Master of Health Administration. In addition, the Master's degree and the degree of Doctor of Philosophy may be taken following periods of full-time or part-time research in hospital and health service administration for which the School offers excellent facilities.

BACHELOR OF HEALTH ADMINISTRATION

Conditions for the Award of the Degree of Bachelor of Health Administration

1. A candidate for the degree of Bachelor of Health Administration shall:—
   (a) comply with the requirements for admission;
   (b) follow the prescribed course of study in the School of Health Administration and satisfy the examiners in the necessary subjects.
2. A student who is following the prescribed course of study as a part-time (external) student shall in each year attend the residential school conducted by the School of Health Administration.
3. A full-time student shall be required to complete the first year of the course in not more than two years. A part-time student shall be required to complete the first two stages of his course in not more than four years. Re-enrolment thereafter will be governed by the general regulations of the Professorial Board.
4. A student may be granted advanced standing by the Professorial Board on the recommendation of the Board of Vocational Studies. A student coming from another institution must follow an approved course of study in this University for at least two years if a full-time student or at least four years if a part-time student.

HEALTH ADMINISTRATION—FULL-TIME COURSE

Bachelor of Health Administration

YEAR 1

		Hours per week for 2 sessions	
		Lec.	Tut.
14.001	Introduction to Accounting	2	1
15.901	Economics (Health Administration)	2	1
16.001	Management 1	2	1
16.201	Law I	2	1
16.501	Community Health Planning	3½	1
16.701	Statistics	2	2½
		13½	7½

YEAR 2

14.023	Accounting for Health Administration	2	1
16.002	Management II*	2	1
16.003	Management III†	2	1
16.202	Law II	2	1
16.401	Hospital Planning IA*	2	1
16.402	Hospital Planning IB†	2½	1½
		12½	6½

YEAR 3

16.681	Human Relations in Administration	2	1
16.101	Comparative Health Administration	1½	1½
16.301	Public Administration IA	2	1
16.302	Public Administration IB	2	1
16.601	The Hospital as a Social System	2	1
		9½	5½

* To be taken during Session 1.
† To be taken during Session 2.

HEALTH ADMINISTRATION—PART-TIME COURSE (EXTERNAL STUDIES)

Bachelor of Health Administration

		Hours per week for 2 sessions	
STAGE 1		Lec.	Tut.
14.001	Introduction to Accounting	2	1
15.901	Economics (Health Administration)	2	1
16.201	Law I	2	1
		6	3
STAGE 2			
14.023	Accounting for Health Administration	2	1
16.001	Management I	2	1
16.701	Statistics	2	2½
		6	4½
STAGE 3			
16.002	Management II	2	1
16.401	Hospital Planning IA	2	1
16.501	Community Health Planning	3½	1
		7½	3
STAGE 4			
16.003	Management III	2	1
16.202	Law II	2	1
16.402	Hospital Planning 1B	2½	1½
		6½	3½
STAGE 5			
16.301	Public Administration IA	2	1
16.601	The Hospital as a Social System	2	1
16.681	Human Relations in Administration	2	1
		6	3
STAGE 6			
16.101	Comparative Health Administration	1½	1½
16.302	Public Administration IB	2	1
		3½	2½

GRADUATE DIPLOMA IN HEALTH ADMINISTRATION

The School of Health Administration offers a course in Health Administration leading to the award of a Graduate Diploma.

The course provides an educational programme for persons employed in the health services who hold a degree, or equivalent qualification, and who wish to qualify for or extend their knowledge of administrative practice.

The Diploma is awarded on the successful completion of the following programme. The course may be taken by one year of full-time study or over two years on a part-time basis.

FULL-TIME COURSE

YEAR 1—SESSION 1		**Hours per week**
16.901G	Health Services Statistics I	2
16.911G	Health Services Administration I	3
16.913G	Health Care Facilities A	2
16.914G	Health Care Facilities B	3
16.915G	Health Care Facilities C	3
16.916G	Health Care Facilities D	2
		15

YEAR 1—SESSION 2		
16.902G	Health Services Statistics II	2
16.905G	Health Services Accounting	3
16.908G	Behavioural Science (Health Administration)	2
16.912G	Health Services Administration II	3
16.917G	Personnel Practice (Health Administration)	2
16.918G	Health Services Law	3
		15

MASTER OF HEALTH ADMINISTRATION

The conditions for the award of the degree of Master of Health Administration, together with an outline of the formal course are set out below.

In the formal course the students' theoretical instruction is integrated with in-service experience and practical work-training in accordance with the view that administration is a practical art in which theory and practice are complementary and equally essential to the administrator's development.

		Hours per week
YEAR 1—SESSION 1		
16.901G	Health Services Statistics I	2
16.903G	Health Services Organization	3
16.904G	Australian Health Care System	2
33.302G	Behavioural Science I*	3
33.303G	Management Accounting and Information Systems I*	2
33.305G	Organization Theory I*	3
		15
YEAR 1—SESSION 2		
16.902G	Health Services Statistics II	2
16.905G	Health Services Accounting	3
16.908G	Behavioural Science (Health Administration)	2
33.308G	Behavioural Science II*	3
33.310G	Management Accounting and Information Systems II*	2
33.311G	Organization Theory II*	3
		15
YEAR 2—SESSION 1		
16.906G	Hospital Organization and Management I	3
16.909G	Community Health Planning	3
16.910G	Comparative Hospital and Health Services Administration	3
16.919G	Research Project	2
33.304G	Micro-economics and Business Decisions*	2
33.306G	Quantitative Analysis in Business I*	3
		16
YEAR 2—SESSION 2		
16.907G	Hospital Organization and Management II	3
16.919G	Research Project	2
16.918G	Health Services Law	3
33.309G	Macro-economics and Policy*	2
33.313G	Quantitative Analysis in Business II*	3
33.326G	Business Law and Taxation*	4
		17

* This subject is offered by the Graduate School of Business as part of the requirements for the Master of Business Administration degree.

Conditions for the Award of the Degree of Master of Health Administration

1. An application to register as a candidate for the degree of Master of Health Administration shall be made on the prescribed form which shall be lodged with the Registrar by the thirty-first of August of the year preceding that year in which the candidate desires to commence the course.
2. (i) An applicant for registration for the degree shall have been admitted to an appropriate degree in the University of New South Wales or other approved university.
   (ii) In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Board of Vocational Studies (hereinafter referred to as "the Board") on the recommendation of its Higher Degree Committee.
3. Notwithstanding any other provisions of these conditions, the Board may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Board may determine.
4. In every case, before permitting an applicant to register as a candidate, the Board shall be satisfied that adequate supervision and facilities are available.
5. An approved applicant shall pay such fees as may be determined from time to time by the Council.†
6. Every candidate for the degree shall be required:
   (a) To carry out a programme of advanced study; to take such examinations and to perform such other work as may be prescribed by the Board.

   The programme of advanced study shall include:—
   (i) attendance at the University in a prescribed course of formal work;
   (ii) attachments to hospitals and other organisations for in-service experience;
   (iii) the preparation and submission of a report on a project demonstrating originality.

The attachments referred to in paragraph 6 (a) (ii) and the investigation referred to in paragraph 6 (a) (iii) shall be under the direction of supervisors appointed by the Board or under such conditions as the Board may determine.

† For details of fees, see earlier under "Fees".

A candidate who has already had adequate and satisfactory in-service experience may, with the approval of the Board, be exempt from the attachments referred to in paragraph 6 (a)(ii);

OR

(b) To carry out a programme of advanced study and take such examinations and perform such other work as may be prescribed by the Board. The programme shall include the preparation and submission of a thesis embodying the results of an original investigation or design. The candidate may submit also for examination any work he has published, whether or not such work is related to this thesis.

7. An approved applicant shall register in one of the following categories:—
   (i) Student in full-time attendance at the University.
   (ii) Student in part-time attendance at the University.
   (iii) Student working externally to the University.
8. The report referred to in paragraph 6 (a)(iii) shall be on a topic approved by the Board on the recommendation of the Head of the School before the end of the third term of Year I. Unless permission to the contrary has been granted, a candidate shall be required to submit his report not earlier than four sessions, and not later than six sessions, from the date of registration.
9. Candidates for the award under the conditions contained in paragraph 6 (b) shall not be considered for the award of the degree until the lapse of four complete sessions from the date from which the registration becomes effective, save that in the case of 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 Board be reduced by not more than two sessions.
10. Every candidate for the degree shall be required to submit three copies of the report or thesis as the case may be. The thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.*
11. It shall be understood that the University retains the three copies of the report or thesis submitted for examination, and is free to allow the report or thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the report or thesis in whole or in part, in photostat or microfilm or other copying medium.

* See Section "C" of the University Calendar.

12. For each candidate's report or thesis there shall be at least two examiners, appointed by the Professorial Board on the recommendation of the Board of Vocational Studies, one of whom shall if possible be an external examiner.
13. The award of the degree taken in accordance with paragraph 6 (a) shall depend upon:—
    (i) the candidate's performance in his in-service attachments;
    (ii) the candidate's performance in the examinations;
    (iii) the quality of the candidate's report.

DEPARTMENT OF INDUSTRIAL ARTS

The Department of Industrial Arts offers a B.Sc. degree available through full-time study and a B.Sc. (Tech.) degree through part-time study in the general field of Industrial Arts. The subjects required to qualify for the degree are set out elsewhere in this Handbook. At the postgraduate level, the Department offers a course in Industrial Design leading to the award of a Graduate Diploma.

The Subject Matter of Industrial Arts

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

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

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

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

The Industrial Arts Courses

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

Also included are Engineering I and elective studies in the sciences and general studies.

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

The undergraduate degree also provides a sound basic education for people intending to seek employment in the design field. A Graduate Diploma course in Industrial Design is available for those wishing to become professional Industrial Designers in either the product design or graphic (communication) design field.

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

As part of the requirements for the degree of B.Sc. (Tech.) which is taken part-time, students will normally be asked to complete an approved programme of experience over a period of not less than three years, concurrently with attendance in the course. These conditions apply to all B.Sc. (Tech.) degree courses offered by the University of New South Wales.

INDUSTRIAL ARTS—FULL-TIME COURSE

Bachelor of Science

A four year course of full-time study leading to the degree of Bachelor of Science (pass or honours).

		Hours per week for 2 sessions Lec.	Lab./Tut.
YEAR 1			
1.011	Higher Physics I *or*	3	3
1.001	Physics I *or*		
1.041	Physics IC		
2.001	Chemistry I	2	4
5.001	Engineering I	3	3
12.001	Psychology I	3	2
21.901	Tutorial	0	1
		11	13
YEAR 2			
4.911	Materials Science	1	½
12.012	Psychology II	3	5
21.011	Industrial Arts I	1	2
21.201	Freehand Drawing	0	3
21.801	Educational Practice†	0	2
	General Studies Elective	1	½
	Science Elective*	3	3
		9	16
YEAR 3			
4.951	Materials Technology	2	2
21.012	Industrial Arts II	1	3
21.111	Education I	3	0
21.211	Drawing and Design	0	2
21.802	Educational Practice†	0	3
21.902	Seminar	0	1
	Science Elective II*	4	5
		10	16

*† See overleaf.

YEAR 4		Hours per week for 2 sessions Lec.		Lab./Tut.
12.013	Psychology III*	4	—	5
	or			
	Science Elective III‡	4 (max)		10 (max)
21.013	Industrial Arts III	2	—	3
21.112	Education II	3	—	0
21.803	Educational Practice†	0	—	3
21.903	Project	0	—	3
		9 (max)		19 (max)

* Students are required to undertake such additional field work and clinical studies, averaging 2 hours per week, as may be prescribed by the Head of the School of Applied Psychology.

† Students will undertake their Educational Practice during term in an institution approved by the Board of Vocational Studies. In addition, a further period of four weeks' Educational Practice will be arranged during vacation.

‡ Following are typical sequences which may be followed (**subject to time-tabling**) for the elected science subjects mentioned in Year 2, Year 3, and Year 4.

	Second Year	Third Year	Fourth Year
10.001	Mathematics I	An approved level II subject in Mathematics	
17.001	General and Human Biology	An approved level II subject in Biological Sciences	Psychology III or An approved level III subject in Mathematics or Geology
25.001	Geology I	An approved level II subject in Geology	

INDUSTRIAL ARTS—PART-TIME COURSE

Bachelor of Science (Technology)

A course of six years part-time study leading to the degree of Bachelor of Science (Technology).

		Hours per week for 2 sessions Lec.	Lab./Tut.
STAGE 1			
2.001	Chemistry I	2	4
5.001	Engineering I	3	3
		5	7
STAGE 2			
1.011 / 1.001 / 1.041	Higher Physics I *or* Physics I *or* Physics IC	3	3
12.001	Psychology I	3	2
21.901	Tutorial	0	1
		6	6
STAGE 3			
4.911	Materials Science	1	½
21.201	Freehand Drawing	0	3
12.012	Psychology II *or*	3	5
	Science Elective I†	4	2
		4	8½
		or	
		5	5½

† Following are typical sequences which may be followed **(subject to time-tabling)** for the elected science subject mentioned in Stage 3 and Stage 5 of the course.

	Third Stage	*Fifth Stage*
10.001	Mathematics I	An approvel level II subject in Mathematics
17.001	General & Human Biology	An approvel level II subject in Biological Sciences
25.001	Geology I	An approvel level II subject in Geology

		Hours per week for 2 sessions Lec. — Lab./Tut.
STAGE 4		
4.951	Materials Technology	2 — 2
21.011	Industrial Arts I	1 — 2
21.111	Education I	3 — 0
21.211	Drawing and Design	0 — 2
		6 — 6
STAGE 5		
21.012	Industrial Arts II	1 — 3
12.013	Psychology III* *or*	4 — 5
	Science Elective II†	4 — 5
		5 — 8
STAGE 6		
21.013	Industrial Arts III	2 — 3
21.112	Education II	3 — 0
	General Studies Elective	1 — ½
		6 — 3½

* Students are required to undertake such additional field work and clinical studies, averaging 2 hours per week, as may be prescribed by the Head of the School of Applied Psychology.
† See footnote on previous page.

INDUSTRIAL DESIGN GRADUATE COURSE

(Graduate Diploma)

The Department of Industrial Arts offers a postgraduate course in Industrial Design leading to the award of a Graduate Diploma. The course provides a broad education in industrial design for those students who hold first degrees, although it is expected that students will, in general, come from the professions of engineering and architecture. The course has been so structured that graduates with the necessary talents and interests from other disciplines are provided for. Opportunities to specialise in either product design or communication design will be provided.

The course is offered on a part-time basis over two years.

PART-TIME COURSE

		Hours per week for 2 sessions
YEAR 1		
21.501/1G	Industrial Design	4
21.511/1G	Design Projects	3
21.521/1G	Seminar	1
21.531/1G	Creative Art Elective	3
		11
YEAR 2		
21.501/2G	Industrial Design	4
21.511/2G	Design Projects	3
21.521/2G	Seminar	1
21.531/2G	Creative Art Elective	3
		11

SCHOOL OF LIBRARIANSHIP

The School of Librarianship offers postgraduate training leading to the Diploma in Librarianship (Dip.Lib.), and the degree of Master of Librarianship (M.Lib.).

DIPLOMA IN LIBRARIANSHIP

The course for the Diploma in Librarianship is designed to provide university graduates with a basic education in librarianship and some opportunity to specialize. Candidates must hold a degree, other than in Librarianship, from this University or other approved university. The University is unable, at this stage, to provide facilities for all eligible applicants, and admission is, therefore, competitive.

The course is a one-year full-time programme, but at present may also be completed in more than one year of part-time attendance. This year a revised programme is being introduced which will be known as the 1971 Course.

The 1970 Course

Details of the 1970 Course, which is being progressively discontinued, are given in the 1970 Calendar. Students registered for the diploma prior to 1971 will be able to satisfy requirements by completing 1970 Course subjects still being offered, or appropriate 1971 Course subjects approved by the Board of Vocational Studies. 1970 Course students must undertake the maximum number of compulsory subjects possible within their programme.

The 1971 Course

Students registering from 1971 onwards will undertake this course. It is made up of five compulsory subjects, four optional subjects and an assignment on an approved topic. The selection of optional subjects must be approved by the Head of the School of Librarianship, and must include two from Group I and two from Group II (55.369 Archives counts as two subjects).

FULL-TIME PROGRAMME*

YEAR 1		Hours per week	
Compulsory		SESSION 1	SESSION 2
55.112	Libraries and Information	3	0
55.114	Communication and Record	3	0
55.122	Library Materials Selection and Organization	4	5
55.123	Reference Service and Materials	4	0
55.124	Library Administration	1	2
55.991	General Assignment	0	0
Optional†			
	Group I		
55.231	Subject Bibliography: The Humanities	0	2
55.232	Subject Bibliography: The Social Sciences	0	2
55.233	Subject Bibliography: Pure and Applied Sciences	0	2
55.238	Subject Bibliography: Government Publications	0	2
55.239	School Curricular Materials	0	2
	Group II		
55.362	Mechanized Systems for Libraries	0	2
55.369	Archives	0	4
55.371	Children's Literature	0	2
55.373	Public Libraries	0	2
55.378	University and College Libraries	0	2
55.381	Special Libraries	0	2
55.387	School Libraries	0	2

* In addition to formal course work there will be occasional field excursions.

† Not all the optional subjects will necessarily be available each year.

MASTER OF LIBRARIANSHIP

Conditions

1. An application to register as a candidate for the degree of Master of Librarianship shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the first term of the year in which the candidate desires to register.
2. An applicant for registration—
   (i) shall have been admitted to a degree of the University of New South Wales or an approved degree of any other university; and
   (ii) shall have approved qualifications in librarianship.
3. Notwithstanding any other provisions in these conditions the Board of Vocational Studies (hereinafter referred to as "the Board") may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Board may determine.
4. In every case before permitting an applicant to register as a candidate the Board shall be satisfied that adequate supervision and facilities are available.
5. An approved applicant shall pay such fees as may be determined from time to time by the Council.
6. To qualify for the degree a candidate shall—
   (i) undertake the appropriate course of formal study;
   (ii) pass any prescribed examinations; and
   (iii) submit a thesis on a subject approved by the Board which shall contain the results of an original investigation and shall not have been submitted in the same or any other form for any degree or diploma nor have been published, but the candidate may submit for consideration with the thesis any of his work in librarianship which has been published.

   A candidate may also be required to take such examinations and perform such other work as may be prescribed by the Board or which may from time to time be required by the Head of the School.
7. A candidate shall be required to submit three copies of the thesis referred to in paragraph 6 (iii), the thesis to be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.

8. It shall be understood that the University retains the three copies of the thesis submitted for examination and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.
9. The investigation and other work as provided in paragraph 6 shall be carried out under the direction of a supervisor appointed by the Board or under such conditions as the Board may determine.
10. No candidate shall be considered for the award of the degree until the lapse of three complete sessions from the date from which registration becomes effective save that in the case of the candidate who has demonstrated exceptional merit, this period may, with the approval of the Board, be reduced by one session.
11. For each candidate's thesis there shall be two examiners appointed by the Professorial Board on the recommendation of the Board of Vocational Studies, one of whom shall, if possible, be an external examiner.
12. A candidate may be required to attend for an oral examination at a time and place nominated by the University. The examiners may also arrange at their discretion for the examination of the candidate by written papers on the subject of the thesis.

SCHOOL OF SOCIAL WORK

The School of Social Work offers a course leading to the degree of Bachelor of Social Work. A primarily research postgraduate degree of Master of Social Work is also available.

BACHELOR OF SOCIAL WORK (B.S.W.)

This undergraduate course may be taken full-time over four years or part-time over six years. It is designed to prepare students for the professional practice of social work.

The social work profession is primarily focused on problems in man's social relationships — in his interaction with other human beings and with man-made structures. The profession is concerned with the patterns, directions, quality, and outcomes of man's social relationships. It seeks to enhance social functioning by directing its attention both to the capacity of individuals, groups, organizations and communities for effective interaction, and to the contribution of socially-provided resources to social functioning.

Through their professional education, social work practitioners share common knowledge, values and skills. To become a professional person, the social work student needs to be as well informed about broad social welfare problems, policies and provision, and individual, group and sociocultural determinants of behaviour, as he is skilful in the use of social work methods. Members of the profession are particularly concerned that all people are treated with understanding and respect, especially those who are experiencing difficulties in their social living.

The objective of the course is to lay the ground-work for a variety of professional social work tasks. It is concerned with general approaches to problem-solving on a basis of scientific knowledge, professionally accepted values, and skills in interpersonal relations. While each student learns about all the main social work methods—social casework, social group work, community work, administration, and research—special care is taken to ensure that he acquires initial professional competence in at least one. In the later stages of the course the student concentrates upon the professional method of his choice.

The School provides opportunities, both in its regular subjects and in occasional special courses, for experienced social workers to keep abreast of educational developments in their specialized field, or method of work, or in some other field or method in which they have new responsibilities.

Field Work

A fundamental aspect of the course is supervised learning in the field, and this is in fact a basic requirement for the professional recognition of the degree. In the field instruction subjects—Social Work Practice IB, Social Work Practice IIB, and Social Work Practice IIIB—a student is under the supervision of a field instructor of the School, usually in a social work agency, while he learns to apply the principles of professional practice in an actual practice setting. From half-way through second year or the third stage of the part-time course, a total of 178 seven-hour days are taken up in this way. About half of these days are scheduled during academic recess periods. A student's four field work placements will be in more than one type of social work setting. Some of the settings used are: medical, psychiatric, family and child welfare, services to the aged, and corrective services. Non-government agencies and agencies at all levels of government are included in the programme.

Admission to the Course

Students should note that lack of facilities has caused restriction on entry to the course. Part-time students admitted are expected to have time available beyond that required by formal class attendance. **Both the full-time and part-time courses are day courses.**

Progression

Except with the permission of the Head of School, a student may not proceed to the next year of the full-time course, or the next stage of the part-time course, until he has fulfilled all the requirements of the previous year or stage.

Honours

Students wishing to graduate with honours must apply to the Head of the School at the end of the third year of the full-time course, or at the end of the fifth stage of the part-time course, for permission to enrol in the subject Social Work (Honours). The class of Honours—First, Second (Division 1), Second (Division 2), is awarded on the quality of work performed throughout the course, as well as in this subject.

SOCIAL WORK—FULL-TIME COURSE

Bachelor of Social Work

YEAR 1

		Hours per week for 2 sessions Lec.	Other
12.001	Psychology I	3	2
26.541	Political Science	1	½
53.121	Sociology IT	3	1
63.411	Introduction to Social Welfare	1	0

and one other subject approved as counting towards the B.A. degree.

YEAR 2

63.412	Social Philosophy and Policy	2	1
63.421	Social Welfare Systems I	2	1†
63.511	Human Behaviour I	3	1
63.611A	Social Work Practice IA	2	2
63.611B	Social Work Practice IB	–	–*
	General Studies Elective	1	½

† First session only.

* 2-week block in mid-year recess + 2 days a week (no recess) for second half of the academic year—42 days (294 hours).

YEAR 3

63.422	Social Welfare Systems II	3	1
63.512	Human Behaviour II	3	1
63.612A	Social Work Practice IIA	2	1
63.612B	Social Work Practice IIB	–	–*
	General Studies Elective	1	½

* Part 1: 3-week block in February + 2 days a week (no recess) for Session 1—45 days (315 hours).

Part 2: 8-week block in January and February of the next year—40 days (280 hours).

YEAR 4—PASS COURSE

63.423	Social Welfare Systems III	3	1
63.613A	Social Work Practice IIIA	3	0
63.613B	Social Work Practice IIIB	–	–*

* 3-week block in mid-year recess + 2 days a week (no recess) until the end of November (1 week break for examinations)—51 days (357 hours).

YEAR 4—HONOURS COURSE

		Hours per week for 2 sessions Lec.	Other
63.423	Social Welfare Systems III	3	1
63.613A	Social Work Practice IIIA	3	0
63.613B	Social Work Practice IIIB	–	–*
63.614	Social Work (Honours)	0	3

* 3-week block in mid-year recess + 2 days a week (no recess) until the end of November (1 week break for examinations)—51 days (357 hours).

SOCIAL WORK — PART-TIME COURSE

Bachelor of Social Work

STAGE 1

12.001	Psychology I	3	2
53.121	Sociology IT	3	1
63.411	Introduction to Social Welfare	1	0

STAGE 2

26.541	Political Science	1	½
63.412	Social Philosophy and Policy	2	1

and one other subject approved as counting towards the B.A. degree.

STAGE 3

63.421	Social Welfare Systems I	2	1*
63.511	Human Behaviour I	3	1
63.611A	Social Work Practice IA	2	2
63.611B	Social Work Practice IB	–	–†

* Session 1 only.
† 2-week block in mid-year recess + 2 days a week (no recess) for Session 2 of the academic year—42 days (294 hours).

STAGE 4

63.422	Social Welfare Systems II	3	1
63.512	Human Behaviour II	3	1
	General Studies Elective	1	½

STAGE 5

63.612A	Social Work Practice IIA	2	1
63.612B	Social Work Practice IIB	–	–*
	General Studies Elective	1	½

* Part 1: 3-week block in February + 2 days a week (no recess) for Session 1—45 days (315 hours).
Part 2: 8-week block in January and February of the next year—40 days (280 hours).

Hours per week for 2 sessions

STAGE 6—PASS COURSE	Lec.		Other
63.423 Social Welfare Systems III	3	—	1
63.613A Social Work Practice IIIA	3	—	0
63.613B Social Work Practice IIIB	–	—	–*

* 3-week block in mid-year recess + 2 days a week (no recess) until the end of November (1 week break for examinations)—51 days (357 hours).

STAGE 6—HONOURS COURSE			
63.423 Social Welfare Systems III	3	—	1
63.613A Social Work Practice IIIA	3	—	0
63.613B Social Work Practice IIIB	–	—	–*
63.614 Social Work (Honours)		—	3

* 3-week block in mid-year recess + 2 days a week (no recess) until the end of November (1 week break for examinations)—51 days (357 hours).

MASTER OF SOCIAL WORK

Conditions for the Award of the Degree of Master of Social Work:

1. An application to register as a candidate for the degree of Master of Social Work shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before commencement of the course.*
2. An applicant for registration shall—
   (i) hold the degree of Bachelor of Social Work at an honours standard in the University of New South Wales, or its equivalent from another approved University, or
   (ii) (a) hold a pass degree in social work of this, or other approved University, or equivalent qualifications accepted by the Board of Vocational Studies, and
   (b) have had at least one year's professional experience acceptable to the Board of Vocational Studies, and
   (c) have successfully completed qualifying work and an examination as approved by the Board of Vocational Studies.
3. In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Board of Vocational Studies on the recommendation of its Higher Degree Committee.
4. In every case, before permitting an applicant to register as a candidate, the Board shall be satisfied that adequate supervision and facilities are available.
5. An approved applicant shall pay such fees as may be determined from time to time by the Council.
6. Every candidate for the degree shall be required:—
   (a) To carry out a programme of advanced study extending over one academic year;
   (b) To prepare and submit a thesis embodying the results of an original investigation.
7. An approved applicant shall register in one of the following categories:—
   (i) Student in full-time attendance at the University.
   (ii) Student in part-time attendance at the University.
8. The thesis referred to in paragraph 6 (b) shall be on a topic approved by the Board of Vocational Studies on the recommendation of the Head of School.

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* Preliminary enquiries regarding registration should be made before December 1 of the year prior to registration.

9. Unless permission to the contrary has been granted a full-time candidate shall be required to submit his thesis not earlier than three sessions, and not later than four sessions, from the date of registration; a part-time candidate, not earlier than four sessions, and not later than six sessions, from the date of registration.
10. Every candidate for the degree shall be required to submit three copies of the thesis. This shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.
11. It shall be understood that the University retains the three copies of the thesis submitted for examination, and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.
12. For each candidate there shall be at least two examiners appointed by the Professorial Board on the recommendation of the Board of Vocational Studies, one of whom shall, if possible, be an external examiner.
13. The award of the degree shall depend upon:—
    (i) the candidate's performance in the prescribed programme of advanced study; and
    (ii) the quality of the candidate's thesis.

ADDITIONAL INFORMATION AND ENQUIRIES

Further information may be obtained from the Head of the School of Social Work at Western Grounds Area (Northern End opposite High Street). Telephone 663-0351, extensions 2105 or 2106.

SCHOOL OF WOOL AND PASTORAL SCIENCES

The School of Wool and Pastoral Sciences offers a special course, the purpose of which is to provide training at the tertiary level for teachers of sheep husbandry and wool science in the Department of Technical Education and in the Agricultural High Schools and Colleges. Students who complete the course successfully will be eligible to become certificated teachers.

It is also considered that the training offered in this course may suit students seeking careers in the sheep and wool extension services of State Departments of Agriculture. Outstanding graduates would be able to undertake certain types of research.

The course is a full-time one extending over four years, and leads to the degree of Bachelor of Science (pass or honours).

The Wool Use Promotion Act of 1945 and subsequent legislation has recognized the importance of wool in Australia's economy and the need to meet competition in the traditional wool markets of the world from artificial fibres. The strength of the wool industry is clearly limited by the knowledge and skill shown by its intake of young workers; and the need for high grade teachers has been underlined by recent criticisms of classing techniques as well as by the need for increased efficiency and lowered costs of production. The aim of the new Sheep and Wool Technology course (Education Option) is to provide a pool of teachers who will have a professional training in the philosophy and techniques of education, as well as a knowledge of science and of the technology of the sheep and wool industry.

This course represents a new combination of subjects already offered by the University in the existing courses in Wool and Pastoral Sciences and Industrial Arts. First year gives a basic training in general science, and with Psychology I, introduces the educational emphasis which is continued throughout the course. In second, third and fourth years vocational subjects essential to all branches of the wool industry are covered, and time is allotted for professional practice.

Since the new course contains only incidental Mathematics it is expected to be attractive to those students who are interested in a University approach to the pastoral industry, but who do not feel able to cope with the mathematical content of the Wool and Pastoral Sciences degree course.

SHEEP AND WOOL TECHNOLOGY
(EDUCATION OPTION)
Bachelor of Science

		Hours per week					
		SESSION 1			SESSION 2		
YEAR 1		Lec.	Lab. Tut.	Pvte. Study	Lec.	Lab. Tut.	Pvte. Study
2.001	Chemistry I	2	4	5	2	4	5
12.001	Psychology I	3	2	4	3	2	4
17.001	General and Human Biology	2	4	4	2	4	4
27.001	Geography I	2	4	4	2	4	4
		9	14	17	9	14	17
YEAR 2							
9.101	Livestock Production I	3	0	4½	3	0	4½
9.221	Agronomy	2	2	4	2	2	4
9.531	Wool Technology I	1	3	4	4	6	5
21.801	Educational Practice	0	2	1½	0	2	1½
41.101	Biochemistry (Units A, B & C)	4	8	6	2	4	5
	General Studies Elective	1	½	2	1	½	2
		11	15½	22	12	14½	22

YEAR 3*		Hours per week for 2 sessions		
9.122	Livestock Production II	4	0	6
9.311	Economics	2	0	3
9.411	Agricultural Chemistry	1	3	2
9.532	Wool Technology II	3	3	4
9.601	Animal Physiology I	2	3	3
21.111	Education I	3	0	0
21.802	Educational Practice	0	3	0
	Two General Studies Electives	2	1	4
		17	13	22

* This course is under review.

YEAR 4*

		Hours per week for 2 sessions		
9.001	Project	0	5	0
9.123	Livestock Production III	1	1	2
9.231	Pastoral Agronomy	2	1	2
9.321	Pastoral Management	2	0	2
9.421	Animal Nutrition	3	0	4
9.533	Wool Technology III	2	4	0
9.821	Genetics	2	0	4
21.112	Education II	3	0	0
21.803	Educational Practice	0	3	0
	Seminar	0	1	0
	Advanced General Studies Elective	1	½	4
		16	15½	18

Plus one of the following subjects, the choice to be approved by the Head of the School.

9.534	Wool Technology IV	2	2	4
9.901	Rural Extension	2	2	4
9.602	Animal Physiology II	2	2	4
41.102	Biochemistry†	3	10	6

† Students electing the Biochemistry option must undertake an approved project in a related field.

* This course is under review.

DESCRIPTION OF SUBJECTS

This handbook lists only textbooks. Students should apply to the Head of School for lists of reference books. For General Studies booklists and descriptions of subjects please consult General Studies handbook which is available free of charge.

SCHOOL OF PHYSICS

1.001 Physics I

Kinematics—Non-uniformly accelerated systems. Centripetal and coriolis acceleration. Laws of motion. Momentum. Impulse. Potential and kinetic energy. Power. Conditions of equilibrium. Elasticity. Young's, bulk and shear moduli. Poisson's ratio. Strain energy. Hydrodynamics. Bernouilli's equation. Motion in resistive medium. Moments of insertia. Rotational dynamics. Simple harmonic motion. Pendulums. Motion about free axis. Progressive and stationary waves. Energy current. Superposition of waves. Doppler effect. Resonance. Huygens' principle. Reflection, refraction, interference and diffraction of waves. Electromagnetic spectrum. Polarization.

Electrostatics—Gauss' theorem. Electric intensity and induction. Capacitance. Electromagnetism. Biot-Savart and Ampere's circuital laws. Force on moving charge and on conductor. Torque on coil. D.C. instruments. Electromagnetic induction. Faraday's and Lenz's laws. Self and mutual inductance. Magnetic materials. D.C. circuits. Kirchhoff's rules and Thevenin's theorem. Growth and decay of current. A.C. circuits. Resonance. Diode. Triode. Amplifiers and oscillators. Electronic measuring instruments.

1.011 Higher Physics I

Subject matter same as 1.001, but in greater depth.

TEXTBOOKS

Dunlop, J. I. and Mann, K. *Introductory Electronics.* Clarendon Press.

Halliday, D. and Resnick, R. *Physics for Students of Science and Engineering.* Vols. I and II or combined volume. Wiley, 1960.

Russell, G. J. and Mann, K. *Alternating Current Circuit Theory.* N.S.W. Univ. Press.

1.041 Physics IC (For Students taking only one year of Physics)

Mechanics I—Kinematics. Centripetal acceleration. Newton's laws of motion. Momentum. Impulse. Work, energy and power. Friction. Conditions of equilibrium. Simple harmonic motion.

Mechanics II—Collisions. Coefficient of restitution. Moment of Inertia. Rotational dynamics. Conservation of angular momentum. Gravitation. Kepler's laws. Planetary motion.

Wave Motion—Equation of wave motion. Longitudinal and transverse waves. Sound waves. Superposition of waves. Energy current. Stationary waves. Resonance. Beats, Doppler effect.

Optics—Electromagnetic Spectrum. Huygens' wave principle. Reflection: plane and spherical mirrors. Refraction. Lenses. Dispersion. Aberrations. Optical instruments. Interference. Diffraction and resolution, grating. Plane polarised light.

Introduction to Modern Physics—Measurement of e and e/m. The neutron. Natural and artificial radioactivity. Quantum properties of radiation. The Bohr atom. Wave properties of matter. The uncertainty principle. Nuclear fission and fusion.

Properties of Matter—Hydrostatics. Pressure. Pascal's and Archimedes' principles. Hydrodynamics. Bernoulli's theorem. Viscosity. Surface tension. Elasticity. Young's, bulk and shear moduli. Poisson's ratio.

Electrostatics, Electromagnetism and D.C. circuits—Coulomb's law. Electric field and potential. Capacitance. Electric energy sources. Conductors. Resistivity. Atomic view of conduction. E.M.F. Kirchhoff's laws. Magnetic induction. Torque on a coil in magnetic field. Moving coil meter. Wheatstone's bridge. Potentiometer. Faraday's law. Transient currents.

A.C. Circuits—Series LRC circuits. Reactance and impedance. Power factor. Phase amplitude diagram and complex notation. Series and parallel resonance. Transformer. A.C. instruments.

TEXTBOOKS

Giutronich, J. E. *Electricity*. Clarendon.

Halliday, D. & Resnick, R. *Physics for Students of Science and Engineering. Vol. 1*. Wiley.

Russell, G. J. & Mann, K. *Alternating Current Circuit Theory*. N.S.W.U.P.

Russell, G. J., Dunn, I. & Higinbotham, J. *Laboratory Notes for Physics I*. N.S.W.U.P.

1.102 Physics

Consists of—

1.112A Electromagnetism and 1.112B Atomic and Nuclear Physics.

1.112A Electromagnetism

Electrostatics in vacuum and in dielectrics. Magnetostatics in vacuum and in dielectrics. Magnetostatics in vacuum and in magnetic materials. Maxwell's equations and simple applications.

TEXTBOOK

Whitmer, R. M. *Electromagnetics*. 2nd ed. Prentice-Hall.

PREREQUISITES

1.001 Physics I; 10.001 Mathematics I.

CO-REQUISITES

10.211A Mathematical Methods.

1.112B Atomic and Nuclear Physics

Special theory of relativity, Lorentz transformation, relativistic mass, momentum and energy; quantum theory, photoelectric effect, Compton effect; wave-particle duality, Schrodinger wave equation, infinitely deep square well, H atom; spectra, magnetic moment, exclusion principle; Rutherford scattering, nuclear properties, mass spectrograph, binding energy, radioactivity, alpha, beta and gamma radiation, nuclear reactions.

TEXTBOOK

Beiser, A. *Perspectives of Modern Physics.* McGraw-Hill, 1969.

CO-REQUISITES

10.211A Mathematical Methods.

1.103 Physics

Consists of—

1.112C Thermodynamics and Continuum Mechanics.

1.113A Wave Mechanics and Spectroscopy.

1.113B Electromagnetic Fields and Physical Optics.

1.113Z Techniques and Design of Experimental Physics.

(An alternative level III Physics unit may be substituted for 1.113A or 1.113B with the approval of the Head of the School. 1.112C, 1.113A and 1.113B are ordinary B.Sc. units; 1.113Z is a special unit.)

1.112C Thermodynamics and Continuum Mechanics

Thermodynamics—First and second laws of thermodynamics. Entropy and the entropy principle. Thermodynamic functions. Phase changes. Joule-Kelvin effect. Kinetic Theory of gases. Equipartition of energy. Maxwell-Boltzmann distribution law.

Continuum Mechanics—Free oscillations in simple systems: one degree of freedom, linearity, superposition, two degrees of freedom, beats, modulation. Oscillations with many degrees of freedom: continuous string, non-continuous systems, Fourier analysis. Forced oscillations: harmonic oscillator, filters, many degrees of freedom. Travelling waves: refraction, dispersion, impedance, energy flux. Reflections: termination matching, transmission. Modulation, pulses, wave packets.

1.113A Wave Mechanics and Spectroscopy

Concepts; harmonic oscillator; uncertainty principle; the free particle; barriers, the hydrogen atom, many electron atoms, removal of degeneracy; spectroscopy; molecules; periodic potentials; band structure; perturbations.

PREREQUISITES

1.112B Modern Physics; 1.112C Thermodynamics and Continuum Mechanics*; 10.211A Mathematical Methods.

1.113B Electromagnetic Fields and Physical Optics

Wave equation; propogation in dielectrics and ionized media; reflection and transmission; guided waves; coherence of radiation; interaction of radiation with matter; stimulated emission; laser oscillators; properties of laser light; interferometry; diffraction; convolution theorem; X-ray and neutron diffraction.

PREREQUISITES

1.112A Electromagnetism; 10.211A Mathematical Methods.

* Students enrolling in 1.103 Physics may take this unit as a corequisite for 1.113A Wave Mechanics and Spectroscopy.

1.113Z Techniques and Design for Experimental Physics

Individual investigation, to develop essential practical skills such as electronic assembly and glass-blowing. Individual or small group projects to solve associated practical and theoretical problems. This unit is a preparation for experimental research and is especially aimed to equip prospective physics teachers to devise experiments and design equipment.

TEXTBOOKS

1.112C Crawford, P. S. *Waves.* McGraw-Hill, 1968.
Sears, F. W. *Thermodynamics, the Kinetic Theory of Gases and Statistical Mechanics.* Addison-Wesley.

1.113A Beiser, A. *Perspectives of Modern Physics.* McGraw-Hill, 1969.

1.113B Lipson, H. and S. S. *Optical Physics.* C.U.P., 1969.

1.113Z No prescribed Textbooks.

SCHOOL OF CHEMISTRY

2.001 Chemistry I

Classification of matter and theories of the structure of matter. Atomic structure, the periodic table and chemical behaviour. Chemical bonds and molecular structure. Equilibrium and change in chemical systems. The structure, nomenclature and properties of organic compounds. Reactions of organic compounds.

TEXTBOOKS

Ander, P. and Sonnessa, A. J. *Principles of Chemistry*. Collier-Macmillan, 1966.

Aylward, G. A. and Findlay, T. J. V. *Chemical Data Book*. 2nd ed. John Wiley & Sons, Sydney, 1966.

Barrow, G. M., Kenney, M. E., Lassila, J. D., Litle, R. L. and Thompson, W. E. *Understanding Chemistry*. Benjamin, N.Y., 1969.

Chemistry I—Laboratory Manual. University of N.S.W., 1971.

Hart, H. and Schuetz, R. D. *Organic Chemistry*. Feffer & Simons, 1967.

O'Malley, R. F. *Problems in Chemistry*. McGraw-Hill, 1968.

Turk, A., Meislich, H., Brescia, F. and Arents, J. *Introduction to Chemistry*. Academic Press, 1968.

2.102 Chemistry II (B.Sc. (Ed.))

Comprises Units 2.002A (Physical Chemistry) and 2.002B (Organic Chemistry) from the Science Course.

2.002A (Physical Chemistry)

Quantum mechanics; molecular energy and thermodynamics; chemical application of thermodynamics; surface and colloid chemistry.

TEXTBOOKS

Aylward, G. H. and Findlay, T. J. V. *Chemical Data Book*. 2nd ed., Wiley, 1966.

Barrow, G. M. *Physical Chemistry*. 2nd ed., McGraw-Hill, 1966.

Daniels, F. et al. *Experimental Physical Chemistry*. 6th or 7th ed., McGraw-Hill, 1962 or 1970.

Shaw, D. J. *Introduction to Colloid and Surface Chemistry*. Butterworths, 1966.

PREREQUISITES

2.001 Chemistry I.
10.001 Mathematics I or 10.011 Higher Mathematics I or 10.021 Mathematics IT.
1.001 Physics I or 1.011 Higher Physics I or 1.041 Physics IC.

This unit consists of 6 hours per week for one session.

2.002B (Organic Chemistry)

Aromatic and introductory heterocyclic chemistry; organometallic compounds; substitution and elimination reactions at saturated carbon atoms; carbanions; dienes.

TEXTBOOKS

1. Roberts, J. D. and Caserio, M. C. *Modern Organic Chemistry.* Benjamin, 1967.
   Students intending to study Organic Chemistry in later years may consider either of the following which are suitable alternatives and are the recommended textbooks for third year:
   Morrison, R. T. and Boyd, R. N. *Organic Chemistry.* 2nd ed., Allyn and Bacon, 1966.
   Roberts, J. D. and Caserio, M. C. *Basic Principles of Organic Chemistry.* Benjamin, 1964.

2. One of the following:
   Cheronis, N. D. and Entrikin, J. B. *Identification of Organic Compounds.* Wiley International Edition.
   Shriner, R. L., Fuson, R. C. and Curtin, D. Y. *Systematic Identification of Organic Compounds.* 5th ed., Wiley, 1964.
   Vogel, A. I. *Elementary Practical Organic Chemistry, Pt. II. Qualitative Organic Analysis.* Longmans, 1957.

PREREQUISITES

2.001 Chemistry I or 2.011 Higher Chemistry I.
10.001 Mathematics I or 10.011 Higher Mathematics I or 10.021 Mathematics IT.

This unit consists of 6 hours per week for one session.

2.103 Chemistry III (B.Sc. (Ed.))

Comprises units 2.002C (Inorganic Chemistry) and 2.003A (Physical Chemistry) and 2.003D (Analytical Chemistry) from the Science Course.

2.002C (Inorganic Chemistry)

Chemistry of non-metals: chemistry of typical metals; transition metals, lanthanides and actinides; introduction to nuclear chemistry. Quantitative inorganic analysis.

TEXTBOOKS

Flaschka, H. H., Barnard, A. J. and Sturrock, P. E. *Quantitative Analytical Chemistry.* Vols. I & II. Barnes & Noble, 1969.
Hamilton, L. E. and Simpson, S. *Calculations of Analytical Chemistry.* 7th ed., McGraw-Hill, 1968.

Jolly, W. L. *The Chemistry of the Non-Metals.* Prentice-Hall, 1966.

Larsen, E. M. *Transitional Elements.* Benjamin, 1965.

Quagliano, J. V. and Vallarino, L. M. *Coordination Chemistry.* Heath & Co., Lexington, 1969.

PREREQUISITES

2.001 Chemistry I.
10.001 Mathematics I or 10.011 Higher Mathematics I or 10.021 Mathematics IT.
This unit consists of 6 hours per week for one session.

2.003A (Physical Chemistry)

Physico-chemical aspects of spectroscopy—quantum mechanical approach; electronic and vibrational spectra; nuclear magnetic resonance and electron spin resonance spectroscopy; mass spectrometry. Chemical kinetics—transition state theory; theories of unimolecular reactions; chemistry of excited species.

TEXTBOOKS

Barrow, G. M. *Physical Chemistry.* 2nd ed., McGraw-Hill, 1966.

Daniels, F. et al. *Experimental Physical Chemistry.* 6th or 7th ed., McGraw-Hill, 1962 or 1970.

Dixon, R. N. *Spectroscopy and Structure.* Methuen, 1965.

Laidler, K. J. *Chemical Kinetics.* 2nd ed., McGraw-Hill, 1965.

PREREQUISITES

2.002A Physical Chemistry.

This unit consists of 6 hours per week for one session.

2.003D (Analytical Chemistry)

Methods of separation, electrochemical analysis, absorption spectrophotometry, use of organic reagents, complex formation and the analytical chemistry of selected groups of the periodic systems.

TEXTBOOKS

Eckschlager, K. (Trans. Ed. R. C. Chalmers). *Errors and Measurement in Chemical Analysis.* Van Nostrand, 1969.

Ewing, G. W. *Instrumental Methods of Chemical Analysis.* McGraw-Hill, 1969.

Fischer, R. B. and Peters, D. G. *Quantitative Chemical Analysis.* Saunders, 1968.

Hamilton, L. F. and Simpson, S. *Calculations of Analytical Chemistry.* McGraw-Hill, 1968.

Stock, R. and Rice, C. B. F. *Chromatographic Methods.* 2nd ed., Chapman Hall, 1967.

PREREQUISITES

2.002A Physical Chemistry.

This unit consists of 6 hours per week for one session.

SCHOOL OF METALLURGY

4.911 Materials Science

The atomic structure of metals. The grain structure of metals; origin; modification. Structure of alloys—theory. Structure, properties and heat treatment of commercially important alloys based on aluminium, copper and iron in particular. Corrosion. Control of structure and properties, commercial alloys, materials selection.

4.951 Materials Technology

Materials selection, based on structure and properties. Equilibrium and kinetics in metallic systems. The structure of ceramics with particular reference to silicates. Structural changes. Electroplating processes considered from a theoretical and practical standpoint. Structure and testing of electro-deposits; electrochemical protection.

The structure, properties and technology of wood.

SCHOOL OF MECHANICAL AND INDUSTRIAL ENGINEERING

5.001 Engineering I

A. *Introduction to Engineering*

(i) *Engineering Technology: Materials.* Classification of materials in common use, occurrence of raw materials, processing of raw materials, refinements and properties of materials.

(ii) *Computers—Introduction and Concepts:* Introduction to computers to follow the computer work in Mathematics I. To develop: (*a*) familiarity with algorithms; (b) the use of procedure oriented languages; and (*c*) an introduction to computing equipment.
Systems—Introduction and Concepts: Concepts and introduction to systems. To give students an appreciation of some of the concepts used in engineering, to relate the concepts to phenomena within their experience, and to illustrate them by case histories and engineering examples. Quantities. Concepts. Components. Systems.

(iii) *Introduction to Engineering Design:* Engineering method, problem identification, creative thinking, mathematical modelling, materials and processes, communication of ideas, the place of engineering in society.

B.1. *Engineering Mechanics:* Two and three dimensional force systems, composition and resolution of forces, laws of equilibrium. Statics of rigid bars, pinjointed frames. Shear force, axial force, bending moment. Simple states of stress. Kinematics of the plane motion of a particle. Kinetics of the plane motion of a particle; equations of motion, dynamic equilibrium, work and energy.

C. *Engineering Drawing:* Fundamental concepts of descriptive geometry, including reference systems, representation of point, line and plane; fundamental problems of position and of measurement. Application of descriptive

geometry to certain problems arising in engineering practice. Special emphasis on ability to visualize problems and processes involved in their solution. Instruction in the correct use of drawing instruments and the application of drawing standards. Measurements and dimensioning. Orthographic and isometric projections.

TEXTBOOKS

Harrisberger, L. *Engineersmanship.* Wadsworth. *or*

Krick, E. V. *Introduction to Engineering and Engineering Design.* Wiley.

Karbowiak, A. and Huey, R.M. *Information, Computers, Machines and Humans.* N.S.W. University Press.

Meriam, J. L. *Statics.* Wiley.

Robertson, R. G. *Descriptive Geometry.* Pitman.

Thomson, R. *Reading Exercises in Engineering Drawing.* Nelson.

SCHOOL OF WOOL AND PASTORAL SCIENCES

9.101 Livestock Production I

Anatomy, histology and introduction to the physiology of the domestic animals. Mammalian evolution and embryology.

The livestock industry and its place in the economic life of Australia. Production of livestock products and trends. The inter-relationships of the various classes of stock and the natural, economic and artificial conditions determining the stratification of types. Breeds of livestock of importance to the pastoral industry and aids to judging. Breeds of sheep, their uses and economic relationships. Sheep management and calendar of operations. Flock composition; principal sources of loss and their control.

9.122 Livestock Production II

The more important breeds of beef cattle, dairy cattle, pigs, working dogs, and their management. Production of beef, veal, pigments, milk and milk products, and quality concepts. Handling hides and skins. Stud breeding—record keeping.

Livestock husbandry in relation to diseases. The Stock Diseases Act. Types of disease, immunity. Bacteriology and pathology, Parasitology—external and internal parasites. Diseases of the fleece, deficiency diseases. Poison plants. Specific diseases. Commoner diseases of cattle, horses, pigs and dogs. Veterinary first-aid. Common drugs.

9.123 Livestock Production III

Principles of livestock production and their application in animal industry; reproduction and fertility; milk secretion; growth and development; nutrition and breeding. Crossbreeding. Prime lamb production. Factors affecting livestock production, e.g. pasture improvement.

TEXTBOOKS (9.101, 9.122, 9.123)

Belschner, H. G. *Sheep Management and Diseases.* 8th ed. Angus & Robertson, 1965.

Cole, V. G. *Sheep Management for Wool Production.* Grazcos, 1963.

9.221 Agronomy

Agricultural climatology, soil science, and soil conservation. Pastures in land use and land development. Principles of tillage, crop rotation, irrigation, conservation of fodder and fertilizer usage. Weeds and weed control. Practical work in the systematics of plant families.

9.231 Pastoral Agronomy

Pasture ecology. Establishment, management and utilization of pastures and fodder crops. Vegetation management in arid and semi-arid areas. Pasture research techniques.

TEXTBOOKS (9.221, 9.231)

Barnard, C. *Grasses and Grassland.* Macmillan.
Black, J. W. *Flora of South Australia.* Pt. I. Govt. Printer.
Burbridge, Nancy T. *Australian Grasses.* Vols. I and II. A. & R.
C.S.I.R.O. *The Australian Environment.* A. & R.
Donahue, R. L. *Soils.* Prentice-Hall.
Leeper, C. W. *Introduction to Soil Science.* M.U.P.
Molnar, I. ed. *Manual of Australian Agriculture.* 2nd ed. Heinemann.
Whittet, J. N. *Weeds.* N.S.W. Dept. of Agriculture.
Wilson, B. *Pasture Improvement in Australia.* Murray.

9.311A Agricultural Economics I

The nature and history of agricultural economics and farm management; theory and practical applications of production economics principles and the analysis of production functions. Theory, construction and analysis of cost curves; economies of size and the problem of optimum farm size. Introduction to price theory; the nature and derivation of supply and demand relationships, and of factors which affect their relationships; illustration of the role of price theory in the analysis of agricultural policies; problems in the empirical estimation of supply and demand.

TEXTBOOKS

Bishop, C. E. and Toussaint, W. D. *Introduction to Agricultural Economic Analysis.* Wiley, N.Y. 1958.
Heady, E. O. *Economics of Agricultural Production and Resource Use.* Prentice-Hall, N.J., 1952.
Samuelson, P. A. *Economics: An Introductory Analysis.* 7th ed., McGraw-Hill, N.Y., 1967.

9.311B Agricultural Economics II

The structure and functions of agricultural marketing systems and institutions; use of price theory in the examination of problems and policies affecting marketing systems; effects on agricultural markets of subsidies, taxation, population growth and economic development. Introduction to the theory of international trade and international monetary mechanisms; interrelationships between trade policies and agricultural policies. Review of current issues in agricultural policy: the small farm problem and declining industries; rural credit policies.

TEXTBOOKS

As for 9.311A, plus:
Williams, D. B. ed. *Agriculture in the Australian Economy.* Sydney U.P., 1967.

9.312A Farm Management I

Farm management planning methods: gross margins analysis; simplified programming; partial budgeting; parametric budgeting; whole-farm budgeting; development budgeting and cash flow budgeting. Discounting methods, taxation provisions and rural credit facilities as these affect evaluation of rural investments. Principles and practice of methods of valuation of rural assets; land tenure and systems of title. Financial and production records and accounts; coordination of managerial accounts with taxation requirements; current developments in managerial accounting for rural industries; use of farm records as indicators of economic efficiency and as sources of information for formal farm planning methods.

TEXTBOOKS

Castle, E. N. & Becker, M. H. *Farm Business Management.* Macmillan, N.Y., 1962.

Meredith, G. G., Rickards, P. A. & Pearse, R. A. *Farm Management Accounting: A Commentary.* Professional Farm Management Guidebook No. 4, 2nd ed., U.N.E., Armidale, 1969.

Report of a Joint Committee on Standardisation of Farm Management Accounting. *Accounting and Planning for Farm Management.* Dept. Primary Industries, Brisbane, 1966.

Rickards, P. A. & McConnell, D. J. *Budgeting, Gross Margins & Programming for Farm Planning.* Professional Farm Management Guidebook No. 3, U.N.E., Armidale, 1967.

9.312B Farm Management II (a)

Critical appraisal of farm management planning techniques discussed in Farm Management I.

Mathematical programming applications in agricultural industries: linear programming in static and development situations; parametric linear programming; Monte Carlo programming approaches; dynamic programming. Game theory, inventory analysis and other approaches to planning in uncertain or risky situations.

TEXTBOOKS

Heady, E. O. & Candler, W. *Linear Programming Methods.* Iowa State U.P., 1958.

Throsby, C. D. *Elementary Linear Programming.* Random House, N.Y., 1970.

9.312C Farm Management II (b)

Economic aspects of technical agricultural research, with emphasis on the evaluation and interpretation of research results at the farm level. Design and analysis of research projects for estimation of response relationships amongst rural resources and products. Problems in interpretation and application of these estimates. Simulation of farm management systems and data requirements for simulation.

TEXTBOOKS

Dillon, J. L. *The Analysis of Response in Crop and Livestock Production.* Pergamon, 1968.

Heady, E. O. & Dillon, J. L. *Agricultural Production Functions.* Iowa State U.P., 1961.

9.312D Analysis of Rural Development Projects (to be offered from 1st session, 1972)

Justifications for public investment in rural development. Australian developments in Federal-State financial relationships affecting the planning and evaluation of public development projects. Historical development of cost-benefit analysis; theory of the approach and problems in its application, illustrated by case studies. Input-output models and measurement of the impact of development projects on regional and national economies.

9.411 Agricultural Chemistry

The chemistry of feeding stuffs. Proximate analysis. Growth changes. Isolation, examination and estimation of constituents. Vitamins and assessment of nutritional value. Chemistry of silage. Correlations of structure and properties. Animal milks, factors affecting composition.

Poisonous plants. Agricultural chemicals. Water supplies (stability, activities of enzymes, substrate requirements).

General principles of analytical methods. Trace metal analysis. Colorimetry and instrumental techniques.

Concurrent extensions in chemistry as necessary.

9.421 Animal Nutrition

Composition and classification of foodstuffs and pastures. Physiology of ruminant digestion. Digestion, absorption and metabolism of carbohydrates, proteins, fats, minerals and vitamins. Digestibility of foodstuffs. Nutrient and energy balances and requirements of livestock. Feeding standards and the quantitative application of nutritional data with particular reference to Australian conditions. Utilization of forage by grazing ruminants. Supplementary and drought feeding. Consideration of disorders due to nutrition.

While particular emphasis will be given to nutritional requirements of sheep, those of other farm livestock will be dealt with in this section.

TEXTBOOKS

Crampton, E. W. *Applied Animal Nutrition.* Freeman & Co.

Dougherty, R. W. et al. *Physiology of Digestion in the Ruminant.* Butterworth.

Maynard, L. A. *Animal Nutrition.* McGraw-Hill.

9.531 Wool Technology I

Biology of fleece—Structure and function of skin, fibril formation, follicle structure, hair growth cycle, development of fibre population, comparative fleece biology.

Wool Growth—Components of wool growth, efficiency of wool growth, effects of environment and selection on wool growth.

Raw Materials—Taught by the School of Textile Technology. A course on origin, chemical composition, structure and properties of natural and synthetic fibres, with particular emphasis on comparative properties.

Wool—Fleece characteristics—fibre fineness, crimp and quality number, staple length, soundness, colour and yield. Component parts of the fleece. The wool product of Merino, British and Australian breeds. Wool defects and discolorations. Vegetable fault in relation to district, price and processing. Theory of wool classing, shearing shed procedure, practical wool sorting, classing and typing.

9.532 Wool Technology II

Wool Science—Dimensional characteristics of wool fibres and wool bulks, their significance and measurement. Testing laboratory procedures.

Wool Textile Manufacture—Taught by the School of Textile Technology. Detailed instruction on function of machines involved in woollen and worsted processing from scouring to (and including) finishing. The function and general mechanism of each stage of processing are studied and comparisons are made with other types of manufacture where possible.

Wool—Carbonizing and fellmongering. Central classing and repacking. Preparation of the wool selling brokers' catalogue. Wool buying techniques, wool shipment and finance. Composition and functions of the Australian Wool Board and International Wool Secretariat, A.W.B. Table of Types and Descriptions, history and application. Carpet wool. Wool top appraisal. Wool production and marketing in overseas countries. Wool futures. Practical wool sorting, classing and typing.

The following trade visits will be undertaken during Wool Technology I and II at times coincident with relevant theory and practice: worsted manufacture, woollen manufacture, scouring and carbonizing, fellmongering, carpet manufacture, repacking houses, wool brokers' stores, wool saleroom.

9.533 Wool Technology III

Wool Science—Fine structure of the fibre, fibre physics, chemistry and mechanical properties. Chemical and physical testing. *Wool Study*—Wool types, appraisal of wool in terms of Australian Wool Board type, quality and yield. Application of measurement to wool commerce. Developments in wool marketing.

TEXTBOOKS (9.531, 9.532, 9.533, 9.534)

Henderson, A. E. *Growing Better Wool.* A. H. & A. W. Reed.
Onions, W. J. *Wool.* Benn & Co.

9.601 Animal Physiology I

Physiological system of mammalia are treated with special attention to homeostasis and to ruminants. Cell membranes; blood and body fluids, the immune reaction. Cardiac control, functions and hæmodynamics. Respiration. The endocrine system with particular emphasis upon growth reproduction, lactation and stress. The nerve impulse, its excitation and transmission. Physiology of digestion, the gastro-intestinal tract and of the kidney. Heat tolerance and climatic adaptation.

9.602 Animal Physiology II

Mammalian physiology directed towards domestic livestock production and homeostatic mechanics. Emphasis will be placed upon techniques.

Active transport and allied membrane phenomena. Co-ordinator systems (neural, humoral), reproduction and lactation. Development physiology.

General metabolism and its regulation—the physiology and metabolism of specific organs—heart, muscle, liver, kidney. The physiology of the mammalian digestive tract. Environmental physiology—adaptive mechanisms—especially in the newborn, and in heat tolerance; the immune reaction. Electrolyte physiology—acid-base equilibrium of the organism; use of clearance values in measuring renal and liver activity—respiration —techniques of gas analysis and respirometry. Circulation, cardiac output and distribution (experimental techniques), special vascular circuits (pulmonary, cerebral, hepatic, splenic, renal, testicular). Physiology of the skin.

TEXTBOOKS (9.601, 9.602)

Cole, H. H. and Cupps, P. T., eds. *Reproduction in Domestic Animals.* 2nd ed., Academic Press, 1969.

Wright, S. *Applied Physiology.* O.U.P.

9.821 Genetics

Applied genetics in relation to sheep improvement. Mendelian theory. Chromosomes and the physical basis of heredity. Crossing over, sex differentiation, multi-factor inheritance in selection. Inbreeding. Introduction to population genetics. Heritability and correlation. Heterosis.

SCHOOL OF MATHEMATICS

10.001 Mathematics I

Calculus, analysis, analytic geometry, linear algebra, an introduction to abstract algebra, elementary computing.

TEXTBOOKS

Kelly, G. M. *Algebra.* N.S.W.U.P.

Platt, J. M. *Introduction to Fortran IV Programming.* Prentice-Hall.

Purcell, E. J. *Calculus with Analytic Geometry.* Appleton-Century-Crofts.

10.011 Higher Mathematics I

Calculus, analytic geometry, linear algebra, an introduction to abstract algebra, elementary computing.

TEXTBOOKS

Blatt, J. M. *Introduction to Fortran IV Programming.* Prentice-Hall.

Fagg, S. V. *Differential Equations.* English Universities Press.

Kelly, G. M. *Algebra.* N.S.W.U.P.

Spivak, M. *Calculus.* Benjamin.

10.021 Mathematics IT

Calculus, analysis, analytic geometry, algebra, probability theory, elementary computing.

TEXTBOOKS

Blatt, J. M. *Introduction to Fortran IV Programming.* Prentice-Hall.
Purcell, E. J. *Calculus with Analytic Geometry.* Appleton-Century-Crofts.

10.911 Mathematics II

This subject is available only to Arts, B.Sc.(ed.), Commerce and Engineering students and consists of 10.111 Pure Mathematics II, Units A and B, and 10.211 Applied Mathematics II, Unit A.

10.111A Pure Mathematics II—Algebra

TEXTBOOKS

Gass, H. *Linear Programming.* I.S.E. McGraw-Hill.
Tropper, A. M. *Linear Algebra.* Nelson. Paperback.

10.111B Pure Mathematics II—Analysis

TEXTBOOKS

Betz, H., Burcham, P. B. and Ewing, G. M. *Differential Equations with Applications.* I.S.R. Harper.
Churchill, R. V. *Complex Variables and Applications.* I.S.E. McGraw-Hill.

10.211A Applied Mathematics II—Mathematical Methods

TEXTBOOKS

Bowman, F. *Introduction to Bessel Functions.* Dover.
Hilton, P. J. *Partial Derivatives.* Dover.
Sneddon, I. N. *Fourier Series.* Routledge and Keegan Paul.
Spiegel, M. R. *Theory and Problems of Vector Analysis.* Schaum.

SCHOOL OF APPLIED PSYCHOLOGY

12.001 Psychology I

An introduction to the nature, content and methods of psychology: the determinants of behaviour, with special emphasis on the study of motivation, the dynamics of adjustment, and individual differences; methods of psychological observation or data-gathering, and elementary statistical procedures appropriate to the organization and description of the data of observation.

TEXTBOOKS

Part A—Theory

Birney, R. C. and Teevan, R. C. eds. *Measuring Human Motivation.* Van Nostrand, 1962.
Hebb, D. O. *Textbook of Psychology.* 2nd ed., Saunders, London, 1966. (Recommended as an additional textbook for intending Psychology Honours students.)
Hilgard, E. R. and Atkinson, R. C. *Introduction to Psychology.* 4th ed. Harcourt, N.Y., 1967.
Savage, R. D. *Psychometric Assessment of the Individual Child.* Penguin, 1968.

Part B—Practical

Llewellyn, K. *Statistics for Psychology I.* Univ. N.S.W. Press. 1968.
Lumsden, J. *Elementary Statistical Method.* Uni. of W.A. Press, 1969.

12.012 Psychology II

The development and structure of personality and the evolution of behaviour through learning, together with associated practical work. In the theory lectures attention is given to the effects of interpersonal relationships at the successive stages of development; the influence of heredity and socio-economic factors upon personality variables; approaches to the description of personality structure; the changing emphasis upon learning rather than instinctive behaviour, and the developments within learning itself, from simple mechanisms such as habituation to complex processes such as insight and concept learning. The practical course on research methods will attempt to develop a critical approach; illustrate various areas covered in the theory course; provide information about fundamental research procedures and the statistical techniques appropriate to them.

TEXTBOOKS

Part A—Personality

Reference Books only.

Part B—Learning

Kimble, G. A. *Hilgard and Marquis' Conditioning and Learning.* Appleton, 1961.

Part C—Research Methods I

Agnew, N. & Pyke, S. W. *The Science Game: An Introduction to Research in Behavioural Sciences.* Prentice-Hall, 1969.

Armore, S. J. *Introduction to Statistical Analysis and Inference.* Wiley, Sydney, 1966.

Lumsden, J. *Elementary Statistical Method.* Uni. of W.A. Press, 1969.

12.013 Psychology III

Research methods and two selected areas are developed and studied intensively at an advanced level. Candidates should plan their reading requirements and their selection of areas for special study from the following groups in consultation with the Head of the School of Applied Psychology.

The areas of special study will include the following, although not all may be available in any one year: Abnormal Psychology, Differential Psychology, Psychometrics, Child Psychology, Social Psychology, Learning, Perception, Motivation.

Part A—Research Methods III

TEXTBOOKS

Hays, W. L. *Statistics for Psychologists.* Holt, Rinehart & Winston, N.Y., 1963.

Heerman, E. F. & Braskamp, L. A. eds. *Readings in Statistics for the Behavioural Sciences.* Prentice-Hall, 1970.

McNemar, O. *Psychological Statistics.* 4th ed. Wiley, N.Y., 1969.

Part B—Electives

TEXTBOOKS

Consult with School.

SCHOOL OF ACCOUNTANCY

14.001 Introduction to Accounting

An introduction for non-commerce students to the nature, purpose and conceptual foundation of accounting. Information systems including accounting applications. Analysis and use of accounting reports. Relevance of accounting to managerial and technological functions including planning, decision-making and control.

TEXTBOOKS

Anthony, R. N. *Essentials of Accounting.* Addison-Wesley, 1964.
Moore, C. L. & Jaedicke, R. K. *Managerial Accounting.* 2nd ed., South-Western, 1967.

14.023 Accounting for Health Administration

Introduction to the fund theory of accounting. The recording of hospital transactions in the various funds and the preparation, analysis and interpretation of historical accounting reports. Internal control, budgeting and cost analysis in the hospital context.

TEXTBOOKS

American Hospital Association. *Budgeting Procedures for Hospitals.* A.H.A., 1961.

Hay, L. E. *Budgeting and Cost Analysis for Hospital Management.* 2nd ed. Pressler Publications, 1963.

Seawell, L. V. *Hospital Accounting and Financial Management.* Physicians' Record Co., 1964.

SCHOOL OF ECONOMICS

15.901 Economics (Health Administration)

An introductory examination of the working of a modern economic system, with some reference to Australian economic institutions and conditions.

The main topics are: consumer demand, cost analysis, market equilibrium, money and banking, pricing of factors of production, investment decisions, international trade, social accounting, social welfare, population trends and policy; and Australian economic institutions, including trade unions, arbitration system, the Tariff Board, the Reserve Bank.

SCHOOL OF HEALTH ADMINISTRATION

16.001 Management I

Introduction to the theory of administration and management; concepts such as responsibility, authority, supervision, organization, delegation and control; decision-making, aids to decision-making; nature and place of communication in management.

TEXTBOOKS

Hutchinson, J. G. *Organization; Theory and Classical Concepts.* Holt, Rinehart and Winston, 1967.
Koontz, H. and O'Donnell, C. *Principles of Management.* 4th ed. McGraw-Hill, 1968.
Koontz, H. and O'Donnell, C. *Management: A Book of Readings.* 2nd ed. McGraw-Hill, 1968.

16.002 Management II

The management uses of operations research; an introduction to principles of computing and data processing; management considerations in data processing—systems analysis, feasibility studies, implementation; the use of O. and M. techniques by management. The management audit and clinical audit.

TEXTBOOKS

Ackoff, R. L. and Rivett, P. *A Manager's Guide to Operations Research.* Wiley, 1963.
Kast, F. E. and Rosenzweig, J. E. *Organization and Management. A Systems Approach.* McGraw-Hill, 1970.
Carzo, R. and Yanouzas, J. N. *Formal Organization. A Systems Approach.* Irwin, 1967.

16.003 Management III

Extends the principles introduced in Management I and Management II; the distinctions between management and administration, operations and policies; examines policy making, departmental organization and methods of integration; relates the hospital as an organization to administrative bodies exercising restraints on its functions.

TEXTBOOKS

Durbin, R. L. and Springall, W. H. *Organization and Administration of Health Care.* Mosby, 1969.
McGibony, J. R. *Principles of Hospital Administration.* 2nd ed. Putnam, 1969.

16.101 Comparative Health Administration

A comparative study of American, Australian and English health care and hospital systems in relation to: the roles of central, state and local governments and private enterprise, in the provision of care; sources and means of financing health care; hospital ownership, control and operation; personnel and staffing; current problems.

TEXTBOOKS

Deeble, J. S. and Scotton, R. B. *Health Care Under Voluntary Insurance.* Technical Paper No. 1, Institute of Applied Economic Research. M.U.P., 1968.

Forsyth, G. *Doctors and State Medicine.* Pitman Medical, 1966.

Lawson, J. S. *Australian Hospital Services—A Critical Review.* Gardner, 1968.

Lindsey, A. *Socialised Medicine in England and Wales.* Chapel Hill, 1963.

Somers, A. and Somers, H. *Medicare and the Hospitals; Issues and Prospects.* Brookings Institute, 1967.

16.201 Law I

Introduction to the Australian legal system; the formal sources of law, the judicial process; the nature of federalism, the division of legislative power between the Commonwealth and the States; the relationship between Commonwealth and State laws; principles of the law of contract, the sale of goods; agency, insurance, bailments and negotiable instruments; the disposition of property by will, the concept of the trust.

TEXTBOOKS

Derham, D. P., Maher, F. K. H. and Waller, P. L. *An Introduction to Law.* Law Book Co., 1966.

Sawer, G. *The Australian and the Law.* Pelican, 1968.

Yorston, R. K. and Fortescue, E. E. *Australian Mercantile Law.* 13th ed. Law Book Co., 1965.

16.202 Law II

General principles of the law of torts; for example, principles governing liability for negligence, including vicarious liability for the acts and defaults of servants, independent contractors and others; nuisance, trespass to the person, occupier's liability, liability for breach of statutory duty and employer's liability; available defences; a general survey of Commonwealth and State industrial law; other legislation of particular significance to hospital administration.

TEXTBOOKS

Baalman, J. *Outline of Law in Australia.* 3rd ed. Law Book Co., 1969.

Fleming, J. G. *The Law of Torts,* 3rd ed. Law Book Co., 1965.

Glass, H. H. and McHugh, M. M. *The Liability of Employers.* Law Book Co., 1966.

16.301 Public Administration IA

The development of the Commonwealth and States' systems of government; distribution of powers between the Commonwealth and States; functions of departments and ministers and statutory bodies such as commissions; responsibilities of the Public Service; staffing structure of the Public Service; its methods of recruitment and training; some reference to systems of public administration in other countries.

TEXTBOOKS

Caiden, G. F. *Commonwealth Bureaucracy.* M.U.P., 1967.

Schaffer, B. B. and Corbett, D. C. *Decisions: Case Studies in Australian Administration.* Cheshire, 1965.

16.302 Public Administration IB

A systematic review of the development and present status of selected social policy issues in Australia presented in their social, political and historic context; attitudes to government and personal responsibility in selected fields, e.g. financing health care, welfare provision, social services, provision of medical services; roles of central and local governments; the private sector in health care; comparative material from U.S.A. and Europe.

TEXTBOOKS

Greenwood, G. ed. *Australia: a Social and Political History.* A. & R., 1955.
Kewley, T. H. *Social Security in Australia: The Development of Social Security and Health Benefits from 1900 to the Present.* S.U.P., 1965.

16.401 Hospital Planning IA

Factors influencing the provision, nature and use of community health service institutional facilities; methods of determining demand, use and content; the planning process and the role of planning team members; building design and construction; environmental control systems; contract administration; commissioning and evaluation.

TEXTBOOKS

Jefford, R. ed. *Principles of Hospital Planning.* Pitman Medical, 1967.
Llewelyn-Davies, R. and Macauley, H.M.C. *Hospital Planning and Administion.* W.H.O., 1966.

16.402 Hospital Planning IB

Planning and design for particular functions; interrelationships between clinical departments; nursing units in general; obstetric, paediatric, geriatric and psychiatric care facilities; outpatients and casualty departments; diagnostic and treatment departments; administrative and training accommodation; supply and disposal facilities including laundry, catering and sterile supply.

TEXTBOOKS

American Hospital Association. *Manual of Hospital Planning Procedures.* The Association, 1959.
Baynes, K. ed. *Briefing and Planning for Hospitals.* King Edward's Hospital Fund, 1970.
Llewelyn-Davies, R. and Macauley, H.M.C. *Hospital Planning and Administion.* W.H.O., 1966.
Holroyd, A. H. ed. *Hospital Traffic and Supply Problems.* King Edward's Hospital Fund, 1968.
U.S. Public Health Service. *Where is Hospital Use Headed?* U.S.P.H.S., 1966.

16.501 Community Health Planning

The expression of social policy in the organization, administration and integration of the following services with those of the hospital: environmental health services; provision for maternal and child care; rehabilitation services; mental health and geriatric services; non-institutional health care and facilities.

TEXTBOOK

Hanlon, J. J. *Principles of Public Health Administration.* Mosby, 1968.

16.601 The Hospital as a Social System

The hospital as a social system; goals and values of the hospital; groups within the system; their goals and values; interaction between such groups; relation of foregoing to nature and quality of patient care; interaction between groups within the hospital and groups outside; patients' attitudes to the hospital and to health care; social, ethnic and regional differences in such attitudes; informal patterns of health care in relation to the hospital.

TEXTBOOKS

Cotgrove, S. *The Science of Society.* Allen & Unwin, 1967.

Davies, A. F. and Encel, S. *Australian Society.* Cheshire, 1965.

Freeman, H. E., Levine, S. and Reeder, L. G. *Handbook of Medical Sociology.* Prentice-Hall, 1963.

Mumford, E. and Skipper, J. K. *Sociology in Hospital Care.* Harper & Row, 1967.

Scott, W. R. and Volkart, E. H. *Medical Care: Readings in the Sociology of Medical Institutions.* Wiley, 1966.

16.681 Human Relations in Administration

The content and methods of psychology and determinants of behaviour. Some contemporary theories of social behaviour will be examined and social organization analysed. Findings in the field of group dynamics, with emphasis on leadership behaviour, will also form part of the subject-matter and there will be further studies in communication.

16.701 Statistics

Sources of statistical data; errors and pitfalls in the use of statistics. Measures of central tendency, dispersion and skewness. Elementary treatment of probability. Introduction to statistical inference; estimation and hypothesis testing; elements of sampling and sample survey design. Correlation and regression. Index numbers. Time series analysis. Introduction to demography and vital statistics; measures of mortality, fertility and population replacement. Statistics of the Australian health care system.

TEXTBOOKS

Benjamin, B. *Health and Vital Statistics.* Allen & Unwin, London, 1968.

Kazmier, L. J. *Statistical Analysis for Business and Economics.* McGraw-Hill, 1967.

Pollard, A. H. *Demography: An Introduction.* Pergamon, Sydney, 1968.

Yamane, T. *Statistics: An Introductory Analysis.* 2nd ed. Harper & Row, N.Y., 1967.

16.901G Health Services Statistics I

Statistical methods and theory: frequency distributions and their description; an introduction to probability; principles of sampling; estimation and hypothesis testing; statistical decision theory; normal, Poisson and binomial distributions; linear regression; index numbers; time series analysis.

16.902G Health Services Statistics II

The application of statistical methods to problems of management and problems of direct relevance to the health care field. Introduction to operations research (investory theory, queuing theory, linear programming, PERT AND CPM); applications of O.R. to hospital management problems; vital statistics and demography (measures of fertility and mortality, construction and use of life tables); hospital and health statistics; PAS/MAP and other hospital information systems.

16.903G Health Services Organization

Relate the material presented in Behavioural Science I and Organization Theory I to the hospital and health care environment. Identification of formal and informal structures within the hospital and health services, and analysis of decision-making roles in these services.

16.904G Australian Health Care System

The historical, demographic and epidemiological background to the provision of health care in Australia. The role of the Commonwealth, the States, and other instrumentalities in providing health and hospital services. Financial and economic aspects of the provision of health care. Problems currently besetting the Australian health care system.

16.905G Health Services Accounting

This course commences with an examination of basic theory and concept in relation to health service accounting. Particular attention is given to the interrelationship between statistics and accounting; the nature and use of cost data; budget preparation; co-ordination and integration of budgets; accounting for planning and control; cost finding procedures.

16.906G Hospital Organization and Management I

Analysis of the organizational structure of the hospital and its major components in terms of functions, systems, goals, values, professionalism, co-ordination and innovation. The interaction between management and the physical structure. The planning process and the project team, building siting and design, contract administration, cost planning, environmental design, commissioning and evaluation.

16.907G Hospital Organization and Management II

Further detailed analysis of the subsystems of the hospital in terms of operation, staffing, design and communication. Planning and design for particular clinical and non-clinical functions and departments.

16.908G Behavioural Science (Health Administration)

This course is concerned with the social impact of illness upon families and communities; with attitudes towards birth, birth control, health, sickness, healing and death; the relation of culturally determined attitudes to the provision and utilization of health services; relationships between medical, para-medical, and non-medical workers in the health field; problems of health education and deviant social behaviour; the behaviour of the patient.

16.909G Community Health Planning

Factors determining planning, provision and integration of community health care: environmental health services, provision for the aged, the physically handicapped and the mentally handicapped; occupational hygiene programmes; maternal and child health clinics; school medical and dental services; preventive and screening services; health centres; health education; ancillary services.

16.910G Comparative Hospitals and Health Services Administration

Systems of hospital and health services in the United Kingdom, the United States of America and other countries; their sources of finance and the media through which it is disbursed; the authority and responsibilities of administrative bodies concerned; the planning of their services; methods of staffing; demographic and other measures of performance; comparisons with the Australian system.

16.911G Health Services Administration I

The essential elements of administration and the tools of management are examined and related to the particular problems of health service administration. Planning organization; staffing; direction; control; decision-making and communication.

16.912G Health Services Administration II

Administrative roles and relationships of the medical, nursing and other health service personnel, departmental organization, systems analysis, data processing and information systems.

16.913G Health Care Facilities A

The Australian Health Scheme; the role of the Commonwealth, States and other instrumentalities in providing health and hospital services; authority and responsibility of the administrative bodies; legislation; sources and distribution of finance; planning of services; staffing; integration of services.

16.914G Health Care Facilities B

Comparative study of health services in various advanced and developing countries; major differences in policy and administration examined in relation to medical, social, political and economic patterns.

16.915G Health Care Facilities C

The organization and function of non-institutional health care facilities are examined. These facilities include environmental health services; domiciliary health and welfare services; provisions for the aged, physically and

mentally handicapped; preventive and screening services; programmes of occupational hygiene; maternal and child welfare clinics; school medical and dental services; health education; ancillary services. The integration of services is discussed.

16.916G Health Care Facilities D

Institutional provision of health care; factors generating content of institutional provision; principles of planning and design as applied to general, special and teaching hospitals and to facilities for community health care and welfare; roles of members of the planning team and methods of communication and co-ordination; the planning process from briefing through planning proposals and construction to contract administration, commissioning, modification and evaluation. Planning and design for particular clinical, administrative and supply functions. Environmental factors in design and operation of buildings.

16.917G Personnel Practice (Health Administration)

Personnel practice—topics include recruitment and selection policies and methods; training; performance evaluation; work measurement; wage and salary administration; authority and discipline; service and benefit schemes; interviewing, counselling; safety.

16.918G Health Services Law

Following an examination of the sources and processes of law, students proceed to a consideration of the law relating to public health, hospitals and hospital authorities, welfare services, mental health and medical practice.

BIOLOGICAL SCIENCES

17.001 General and Human Biology

Characteristics of living organisms. Properties of living matter. Cell structure and function. Life cycles. An introduction to biochemistry, ultrastructure, genetics and cytology. Plant structure and function. Physiology of vertebrate animals, human biology and variation. The biology of microorganisms. Evolution. Anatomy and histology of selected animals. Practical work to illustrate the lecture course.

TEXTBOOKS

Abercrombie, M., Hickman, C. J. and Johnson, M. L. *A Dictionary of Biology*. Penguin, 1967.

Keeton, W. T. *Biological Sciences*. Norton, N.Y., 1967.

REQUIREMENTS FOR PRACTICAL WORK

A list of equipment required for practical work will be posted on the notice board in the ground floor of the Biological Sciences Building. Students must purchase this material before the first practical class.

DEPARTMENT OF INDUSTRIAL ARTS

21.011 Industrial Arts I

The nature of rigorous and structural design. The elements of creative design—design as aesthetic order—its relationship to perception theory and measurement of aesthetic judgment—the notion of value and value keys in design. The theory and nature of colour perception. A brief treatment of the historical background of industrial organization in society—the nature of work and some important psychological, sociological and economic factors in man-machine relationships. Basic industrial work situations and an analysis of the methods used to classify and describe them. Man-machine relationships as a problem in design—human qualities in opposition to and in co-operation with machines—an introduction to the problems associated with the transfer of information, energy and matter between man and machine.

Laboratory and Studio—The execution of prescribed projects in various media illustrative of the principles of design. The study and practice of the principal techniques used in work measurement.

TEXTBOOKS

Childe, G. *What Happened in History*. Pelican, A108.

de Sausmarez, M. *Basic Design—The Dynamics of Visual Form*. Studio Vista, 1964.

Lindbeck, J. R. *Design Textbook*. McKnight & McKnight, 1963.

Pye, D. *The Nature of Design*. Studio Vista, 1964.

Read, H. E. *Art and Industry*. 5th ed. Faber, 1966.

White, L. *Medieval Technology and Social Change*. O.U.P., 1962.

21.012 Industrial Arts II

The principles of three-dimensional design and design analysis. Introduction to product design—visual fundamentals and visual presentation in two and three dimensions—functional and psychological aspects of product design. The theories of work factor systems, basic motion-time study, motion-time analysis, and methods-time measurement with particular reference to their human significance.

Laboratory and Studio—The execution of three-dimensional projects in various media. Projects in product design. Experimental work and directed observation involving the various methods of work analysis.

TEXTBOOKS

Jones, J. C. and Thornley, D. G. *Conference on Design Methods*. Pergamon, 1963.

Landes, D. S. *The Rise of Capitalism*. Macmillan, 1966.

Leach, B. *A Potter's Notebook*. Faber, 1955.

Middleton, M. *Group Practice in Design*. Architectural Press, 1969.

Mumford, L. *Technics and Civilization*. Harbinger Paperback. Harcourt, Brace & World, 1934.

21.013 Industrial Arts III

The creative process and the factors influencing it—detailed study of and solutions to the problems associated with product design. The philosophy of comprehensive design and its relationship to work—an integrative overview of the attitudes and viewpoints of the designer and the techniques of

analysis, synthesis and evaluation currently used. Industrial organization theory—the principal theories of industrial organization from the eighteenth century to the present day. The nature of management and its various functions and methods or organization in western industrial society.

Laboratory and Studio—The execution of advanced problems in product design in various media—analysis and criticism. Field work in industry involving the analysis and evaluation of methods of industrial organization.

TEXTBOOKS

Kazmier, L. J. *Principles of Management.* McGraw-Hill, 1964.
Leach, B. *A Potter's Notebook.* Faber, 1955.
Middleton, M. *Group Practice in Design.* Architectural Press, 1969.
Mumford, L. *The Myth of the Machine.* Secker & Warburg, 1967.
Sorensen, C. E. *My Forty Years with Ford.* Collier, 1962.

21.111 Education I

Two strands: (*a*) Fundamental theories of education. (*b*) A social history of education from the nineteenth century.

The theory of education will be concerned with questions relating to the fundamental purposes of education with implications of certain distinctive and influential ideas; the development of these concepts will be traced by reference to the contributions of certain outstanding educational thinkers from Plato to the twentieth century. These ideas will be related to the function of education in an age of crisis. Topics covered will include classical idealism and Christian thought—Renaissance humanism—sense realism and the ideal of universal education—the disciplinary view of education—the rise of naturalism— the psychological trend—the scientific emphasis—contemporary theories of education (conservative theories, supernaturalist theories, progressive theories, education and the planned society, the ideal of individual development).

The social history of education from the nineteenth century to the present day will be centred on the development of education in Great Britain and the significance of this for the growth of educational ideas and systems in Australia and America.

TEXTBOOKS

Armitage, W. H. G. *400 Years of English Education.* Cambridge U.P., 1964.
Austin, A. G. *Australian Education,* 1788-1900. Pitman, 1961.
Castle, E. G. *Ancient Education and Today.* Pelican, A511.
Curtis, S. J. and Boultwood, M. E. A. *A Short History of Educational Ideas.* U.T.P., 1961.
Jarman, T. L. *Landmarks in the History of Education.* Murray, 1963.
Lester-Smith, W. O. *Education.* Pelican, A380.
O'Connor, D. J. *An Introduction to the Philosophy of Education.* Routledge & Kegan Paul, 1966.

21.112 Education II

Two strands: (*a*) Theories of the curriculum and curriculum development. (*b*) The sociology of education.

Theories of the curriculum will follow on from the fundamental theories of education discussed in Education I. The elements of this section of the course will include theories of the curriculum, the approach to curriculum construction, criteria for subject-matter selection, patterns of curriculum organizations, research and the curriculum.

The sociology of education—the nature of the field—theoretical orientation (ideological theory, role theory, basic sociological models)—the school as a social system (societal function—roles of teachers—social class and teaching—the pupil population—some general problems of teachers in society)—the family (structure, parent-child relationships—parental roles and behaviours—general stimulation of the Australian home)—the peer group—cultural objects.

Sociology of Education

TEXTBOOK

Ashley, B. J., Cohen, H. S. & Slatter, R. G. *An Introduction to the Sociology of Education.* Macmillan, 1969.

Brookover, W. B. & Erickson, E. L. *Society, Schools and Learning.* Allyn & Bacon, 1969.

Curriculum Theory and Development

TEXTBOOKS

Taba, H. *Curriculum Development—Theory and Practice.* Harcourt, Brace & World, 1962.

Wyndham, H. S. et al. *Report on Secondary Education in N.S.W. (The Wyndham Report).* N.S.W. Govt. Printer, 1957.

21.201 Freehand Drawing

Teaches the student to see and draw objects as they are, to perceive the structure of natural forms, and to appreciate the causes behind their formation. The practical work in various media, pencil, pen, brush and charcoal, is intended also to develop the ability to express ideas in a visual way. This can later form a basis for the execution of projects in industrial design.

Subjects include: drawing of single objects and groups of objects, figure drawing, drawing from memory, and quick sketching; depiction by line and by light and shade; the principles of free perspective drawing.

TEXTBOOKS

Anderson, D. M. *Elements of Design.* Holt, Rinehart & Winston, 1961.

de Sausmarez, M. *Basic Design—The Dynamics of Visual Form.* Studio Vista, 1964.

21.211 Drawing and Design

Advanced problems in engineering or architectural drawing and design. Assignments to be carried out in the studio, but tutorials will be given where necessary.

TEXTBOOKS

Rule, J. T. and Coons, S. A. *Graphics.* McGraw-Hill, 1961.

Tweeddale, J. G. *Practical Mechanical Design.* Iliffe Books, 1963.

21.801, 21.802, 21.803 Educational Practice

Undertaken in an approved institution.

21.901 Tutorial. 21.902 Seminar. 21.903 Project.

21.501G Industrial Design

Will emphasize the main functions, skills and responsibilities of the designer for industry, and give a broad view of design in an industrial society, an æsthetic conviction and sensibility and the skills and methods required for the practice of industrial design. Parts of the subjects will be taken jointly by students of product design and communication design; other sections will provide for specialization.

Historical, social and aesthetic bases of industrial design.
Design Methodology.
Signs, Symbols and Communication.
Colour Theory.
Professional, Commercial and Industrial Practice.
Design Media.
*Environmental Studies.**
Visual Communications.†

TEXTBOOKS

See 21.511G Design Projects.

21.511G Design Projects

Throughout the course the students will be involved in a continuous series of design exercises and projects, graduated in scale and difficulty and with varying emphasis on particular aspects of design technology.

These projects form the central part of the course. The subjects chosen will relate to the current lecture or case study programmes, so that theory and practice can be integrated. The design projects provide an experience in which technology, design method, aesthetics and social need are synthesized and in which interrelationship must be sought and inconsistencies resolved. The student is brought to face problems involving judgment, choice and decision, some of which can be based on objective, analytical study, whilst others will be more subjective, intuitive and emotive.

The projects will be supervised by the academic staff of the Department with assistance from an appropriate practising designer and, when necessary, academic staff from other sections of the University. Tutorials as well as discussions with individual students will arise from the projects, especially during the design development phase. Opportunity will be given for the student to act as a member of a design team.

At the commencement of each design project the students will be briefed in detail as to the intention, and object of the exercise; this brief will also include basic information, controlling factors, a time schedule and requirements for presentation.

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*To be taken by product design students only.
†To be taken by communication design students only.

21.501G INDUSTRIAL DESIGN and 21.511G DESIGN PROJECTS

TEXTBOOKS

Britt, S. H. ed. *Consumer Behavior and the Behavioral Sciences.* Wiley, 1966.

Middleton, M. *Group Practice in Design.* Architectural Press, 1969.

Potter, N. *What is a Designer?* Studio Vista, 1969.

Additional textbooks for PRODUCT DESIGN OPTION

Buck, C. H. *Problems of Product Development and Design.* Pergamon, 1963.

Scott, J. P. D. *The Business of Product Design.* Business Publications, 1965.

Additional textbooks for COMMUNICATION DESIGN OPTION

Cataldo, J. W. *Graphic Design and Visual Communication.* International Textbook Co., 1966.

Kagy, F. D. *Graphic Arts.* 2nd ed. Goodheart-Willcox, 1965.

McLuhan, M. *Understanding Media.* Sphere Books, 1967.

21.521G Seminar

In general, seminars will be devoted to design theory and philosophy and to the presentation by students of papers on design problems. Seminars will be closely integrated with the other sections of the course work. From time to time, such matters as general design problems, current issues in design, unusual design problems and addresses by visiting designers, will also constitute the topics of seminars.

21.531G Creative Art Elective

SCHOOL OF APPLIED GEOLOGY

25.001 Geology I

Physical Geology—The structure and main surface features of the earth; geological cycle—processes of erosion, transportation, sedimentation and lithification. Surface and sub-surface water. Weathering, lakes, rivers, glacial phenomena. Vulcanism, earthquakes, orogenesis and epeirogenesis. Introductory physiography.

Crystallography and Mineralogy—Introduction to crystal symmetry, systems, forms, habit, twinning. Occurrence, form and physical properties of minerals. Mineral classification. Descriptive mineralogy. Principal rock forming minerals.

Petrology—Field occurrence, lithological characteristics and structural relationships if igneous, sedimentary and metamorphic rocks. Introduction to coal, oil and ore deposits.

Stratigraphy and Palaeontology—Basic principles of stratigraphy; introductory palaeontology. The geological time scale. The geological history of the Australian continent and more specifically that of New South Wales in introductory outline.

Practical Work—Preparation and interpretation of geological maps and sections. Map reading and use of simple geological instruments. Study of

simple crystal forms and symmetry. Identification and description of common minerals and rocks in hand specimen. Recognition and description of examples of important fossil groups. Supplemented by three field tutorials, attendance at which is compulsory.

TEXTBOOKS

Bryan, J. H., McElroy, C. T. and Rose, G. *Explanatory Notes to Accompany the Sydney Four-mile Geological Map (with map).* 3rd ed. Bureau of Mineral Resources, Canberra, 1966.

Hurlbut, C. S., Jnr. *Dana's Minerals and How to Study Them.* 3rd Science ed. Wiley, 1963.

Longwell, C. R. and Flint, R. F. *Introduction to Physical Geology.* Wiley.

Rutley, F. *Rutley's Elements of Mineralogy.* Rev. by Read, H. H. Murby, London.

Tyrrell, G. W. *Principles of Petrology, an Introduction to the Science of Rocks.* Methuen, London.

25.502 Geology II (B.Sc. (Ed.) Course)

Stratigraphy—Sedimentary processes and products. Environments of deposition. Principles of Stratigraphy. The geological history of Australia and the stratigraphy of selected geological provinces in New South Wales.

Descriptive mineralogy—Introduction to crystallography; the stereographic projection and its use in crystallography. The use of X-ray methods in mineralogy. A study of rock-forming minerals and ore minerals.

Practical Work—Crystal forms and the stereographic projection; description and recognition of common minerals in hand specimen.

Invertebrate Palaeontology—Principles of palaeontology and its relationship with the other branches of geology. Systematic description and detailed morphological study of the invertebrate phyla and their subdivisions.

Practical Work—Detailed diagnostic and morphological description of common fossils with reference to their stratigraphic distribution.

Lithology—Principles of classification of rocks; a detailed study of igneous, sedimentary and metamorphic rocks in hand specimen.

Ore bodies—Elements on the origin of ore bodies. Magmatic and sedimentary ore deposits. Non-metallic ores.

TEXTBOOKS

Stratigraphy

Dunbar, C. O. and Rodgers, J. *Principles of Stratigraphy.* Wiley, 1957.

Descriptive Mineralogy

Hurlbut, C. S. ed. *Dana's Manual of Mineralogy.* Wiley.

Phillips, F. C. *An Introduction to Crystallography.* Longmans.

Invertebrate Palaeontology

Easton, W. H. *Invertebrate Palaeontology.* Harper & Bros., 1960.

or

Moore, R. C., Lalicker, C. G. and Fischer, A. G. *Invertebrate Fossils.* McGraw-Hill, 1952.

Beerbower, J. *Search for the Past.* 2nd ed. Prentice-Hall, 1968.

25.503 Geology III (BSc. (Ed.) Course)

Petrology—Theoretical principles on the formation of igneous, sedimentary and metamorphic rocks. Magma types and trends of differentiation. Sedimentary rocks and their environment of deposition as revealed by composition, texture and structure. Metamorphic zones. Tutorial classes will illustrate the discussed principles with the aid of a projection microscope.

Geophysics—The earth, its shape, structure and composition. Seismology, gravity, geodesy, geomagnetism and palaeomagnetism.

Oceanography—The oceanic water-masses and their dynamic, physical and chemical properties. Submarine topography and geology, recent sedimentation and sediments of organic origin. Economic oceanography.

Coal Geology—The geology of coal fields; the mineralogy and petrology of coals. The environment of formation and origin of coal.

Structural Geology—The interdependence of geotectonics, tectonics and structural geology. Force, stress and strain within the geological environment. Primary structures; an introduction to secondary structures.

Vertebrate Palaeontology—The rise of the vertebrates and the early amphibia; the reptiles. The flying reptiles and the birds. The early primates and the advent of man.

Stratigraphic Palaeontology—Principles of palaeontology applied to stratigraphy. The stratigraphic column. Palaeoecology, Palaeogeography and geochronology.

Geologic Mapping—An advanced course on the preparation and interpretation of geologic maps and sections. Structure contour technique and its application.

TEXTBOOKS

Students should consult the School of Applied Geology for details of textbooks for this subject.

SCHOOL OF BIOCHEMISTRY

41.101A Chemistry of Biologically Important Molecules

An introduction to the study of the physico-chemical properties of biological systems. The chemical properties of amino acids, peptides and proteins, carbohydrates, nucleic acids, fatty acids, sterols and porphyrins, and the biological roles of these compounds. Practical work to illustrate the lecture course.

TEXTBOOKS

The Molecular Basis of life. An Introduction to Molecular Biology. Readings from Scientific American, Freeman, 1968.

Loewy, A. G. and Seikevitz, P. *Cell Structure and Function.* 2nd ed. Holt Rinehart and Winston Inc., 1969.

Segal, I. H. *Biochemical Calculations.* John Wiley & Sons, 1968.

White, A., Handler, R. and Smith, E. L. *Principles of Biochemistry.* 4th ed. McGraw-Hill, 1968.

PREREQUISITES

17.001 General and Human Biology.
2.001 Chemistry I.

CO-REQUISITES
41.101B Metabolism.
This unit is offered in Session 1.

41.101B Metabolism

The intermediary metabolism of carbohydrates, lipids and nitrogenous compounds. The molecular mechanism of gene expression and protein synthesis. Practical work to illustrate the lecture course.

TEXTBOOKS
As for 41.101A.

PREREQUISITES
17.001 General and Human Biology.
2.001 Chemistry I.

CO-REQUISITES
41.101A Chemistry of Biologically Important Molecules.
This unit is offered in Session 1.

SCHOOL OF BOTANY

43.101A Genetics and Biometry

Analysis of the mitotic cycle; replication of DNA and its organization in the chromosomes, linkage, non-meiotic recombination; mutation, structural changes, polyploidy, aneuploidy; population genetics; cytoplasmic inheritance; episomes; gene structure and function. An introduction to statistical methods and their application to biological data, including an introduction to analysis of variance and experimental design.

TEXTBOOKS
Clarke, M. C. *Statistics and Experimental Design.* Arnold, 1969.
Rohlf, F. T. and Sokal, R. *Statistical Tables.* Freeman, 1969.
Srb, A. M., Owen, R. D. and Edgar, R. S. *General Genetics.* 2nd ed. Freeman, 1965.

PREREQUISITES
17.001 General and Human Biology.
This unit is offered jointly by the Schools of Botany and Zoology during Session 1.

43.101B Plant Evolution and Ecology

A study of the evolution of vegetative form and structure of vascular plants; an examination of their organization into terrestrial communities; identification, evolution and distribution of elements of the Australian flora. Field excursions, including a vacation camp are an integral part of the course.

TEXTBOOKS

Beadle, N. C. W., Carolin, R. C. and Evans, O. D. *Handbook of the Vascular Plants of the Sydney District and Blue Mountains.* 1962.

Eames, A. J. and McDaniels, L. H. *Introduction to Plant Anatomy,* 2nd ed. McGraw-Hill, 1947.

or

Esau, K. *Anatomy of Seed Plants.* Wiley, 1960.

Billings, W. D. *Plants and the Ecosystem.* Macmillan, 1964.

PREREQUISITES

17.001 General and Human Biology.

This unit is offered in Session 2. In addition, students will be required to attend excursions as arranged during the course.

43.101C Plant Physiology

Photosynthesis and selected aspects of plant metabolism. Translocation and uptake of inorganic ions; the physiology of growth and development in plants; plant growth hormones and herbicides.

TEXTBOOKS

Leopold, A. C. *Plant Growth and Development.* McGraw-Hill, 1964.

Salisbury, F. B. & Ross, C. *Plant Physiology.* Wadsworth, 1969.

PREREQUISITES

17.001 General and Human Biology.
2.001 Chemistry I *or*
1.001 Physics I* *or*
1.041 Physics IC*

This unit is offered in Session 2.

* In some circumstances this unit may be taken as a co-requisite.

43.102E Environmental Botany

The soil and atmospheric environment in which terrestrial plants exist. Behaviour and response of the flowering plant to its environment, both in nature and agriculture.

PREREQUISITES

17.001 General and Human Biology.
1.001 Physics I *or*
1.041 Physics IC.

This unit is offered in Session 1.

SCHOOL OF MICROBIOLOGY

44.101A Introductory Microbiology

The general nature, occurrence and importance of micro-organisms. A systematic review of the major groups of micro-organisms: the eucaryotic protista (micro-algae, protozoa and fungi); procaryotic protista (blue-green algae, "higher" bacteria, typical unicellular bacteria and small bacteria-like forms); plant, animal and bacterial viruses. The composition and fine structure of micro-organisms. Microbial physiology and genetics. The relationship between micro-organisms and their environment; ecological considerations. Interactions between micro-organisms and higher organisms; symbiosis, parasitism and pathogenesis, immunology.

TEXTBOOKS

Brock, T. D. *Biology of Micro-organisms.* Prentice-Hall, 1970 or if unavailable,
Frobisher, M. *Fundamentals of Microbiology.* 8th ed. Saunders, 1968. *or*
Stanier, R. Y., Doudoroff, M. and Adelberg, E. A. *General Microbiology.* 2nd ed. Macmillan, 1963 (also published under the title *The Microbial World.* Prentice-Hall.)

PREREQUISITES

17.001 General and Human Biology.
2.001 Chemistry I.

SCHOOL OF ZOOLOGY

45.101A Genetics and Biometry

See under 43.101A.

45.101B Invertebrate Zoology

A comparative study of the major invertebrate phyla with emphasis on morphology, systematics and phylogeny. Practical work to illustrate the lecture course.
Obligatory field camp.

TEXTBOOK

Barnes, R. D. *Invertebrate Zoology.* 2nd ed. Saunders, 1968.

PREREQUISITES

1.001 Physics I or 1.011 Higher Physics I or 1.041 Physics IC.
2.001 Chemistry I.
10.001 Mathematics I or 10.011 Higher Mathematics I or 10.021 Mathematics IT.
17.001 General and Human Biology.
This unit is offered in Session 2.

45.101C Vertebrate Zoology

A comparative study of the Chordata. Morphology, systematics, evolution, natural history, with reference to selected aspects of physiology and reproduction. Practical work to supplement the lecture course. Field excursions as arranged. Obligatory field camp.

TEXTBOOKS

Weichert, C. K. *Anatomy of the Chordates.* 3rd ed. McGraw-Hill, 1969.
Young, J. Z. *The Life of Vertebrates.* Clarendon Press, 1958.

PRE-REQUISITES

As for 45.101B above.

This unit is offered in Session 2.

45.201B Insect Physiology

Functions of the various organ systems and of the whole insect. Various aspects of reproduction, growth and metabolism. Experimental work to illustrate the lecture course.

TEXTBOOK

Chapman, P. F. *The Insects, Structure and Function.* E.U.P., 1969.

PREREQUISITES

45.201A Insect Structure and Classification

This unit is offered in Session 1.

SCHOOL OF SOCIOLOGY

53.121 Sociology IT

For students who will be taking only one year of sociology, and is not designed to lead on to further study in the subject. Any student who decides, after completing this course, that he wishes to do further work in Sociology, must obtain the permission of the Head of the School of Sociology and will be required to do extra work before permission is granted.

Deals with basic issues of theory and method in Sociology, illustrated mainly by reference to social institutions and processes in Australia.

TEXTBOOKS

Berger, P. L. *Invitation to Sociology.* Penguin, 1963.
Cotgrove, S. *The Science of Society.* Allen & Unwin, 1967.
Davies, A. F. & Encel, S. eds. *Australian Society.* 2nd ed. Cheshire, 1970.
Encel, S. *Equality & Authority.* Cheshire, 1970.
Shaw, A. G. L. *The Story of Australia.* Faber, 1962.
Worsley, P. M. ed. *Introduction to Modern Sociology.* Penguin, 1970.

SCHOOL OF LIBRARIANSHIP

55.112 Libraries and Information

The role of the library in the total communication system of society, as an agency for the preservation, dissemination and development of knowledge and information. The history of libraries and their involvement in social and technological change. The provision, functions and services of various types of library with particular reference to the Australian environment. The role of the librarian in the library and in the information process; the library profession. Labrarianship in relation to information science.

55.114 Communication and Record

The communication process. The development of various kinds of record to serve communication and to preserve knowledge. The development of printing and the book, and of other forms of record. The effects of recent technical innovations in transmitting and recording information. Reprography in relation to the diffusion of knowledge and to libraries. The mass media and their role in communication. The inter-relationships of the printed word, reading and the mass media.

55.122 Library Materials Selection and Organization

The selection and acquisition of library materials in all physical forms. The book trade and other sources of supply. The cataloguing, classification, indexing and circulation of materials in relation to the needs of users. The role of mechanization and automation.

TEXTBOOKS

Akers, S. G. *Simple Library Cataloguing.* 5th ed. A.L.A., 1969.
Anglo-American Cataloguing Rules. A.L.A., 1967.
Carter, M. D. & Bonk, W. J. *Building Library Collections.* 3rd ed. Scarecrow Press, 1969.
Foskett, A. G. *The Subject Approach to Information.* Bingley, 1969.

55.123 Reference Service and Materials

(a) Information sources, especially reference books, and their uses in library processes and reader services. Using publications to provide information at various levels in different library situations. (b) The bibliography as a record of publication in the mass and as a guide to individual items. National, trade and subject bibliography. Indexes and abstracts. (c) Reference books not limited to a particular subject: publication methods, coverage, organization of content, studied in relation to purpose and use. (d) The principles and methods of reference work. Its place in the total information network and in library service. Question analysis, search strategy and presentation of results to the user. The relationship of traditional reference methods to the design of mechanized information retrieval systems.

TEXTBOOK

Barton, M. N. *Reference Books.* 6th ed. Enoch Pratt Free Library, 1966.

55.124 Library Administration

The principles of administration and their application to libraries. Setting library objectives and measuring library achievement. Tools and methods of administration. The management of library staff and library finance. Administrative implications in the provision of library services and the adoption of techniques including electronic data processing. The authority relationships of libraries; the library in the political process.

TEXTBOOK

Drucker, P. F. *The Practice of Management.* Pan Books, 1969.

55.231 Subject Bibliography: The Humanities

55.232 Subject Bibliography: The Social Sciences

55.233 Subject Bibliography: Pure and Applied Sciences

55.238 Subject Bibliography: Government Publications

The structure of the literature, with special reference to the information and research needs of users. Publications embodying original work, criticism, exposition, popularisation. The major reference works in the field. Important collections in libraries, and other sources of publications and information. Problems of availability of resources.

55.232 Subject Bibliography: The Social Sciences

TEXTBOOK

Lewis, P. R. *The Literature of the Social Sciences: an Introductory Survey and Guide.* Library Association, 1960.

55.238 Subject Bibliography: Government Publications

TEXTBOOK

Sawer, G. *Australian Government Today.* rev. ed. M.U.P., 1967.

55.239 School Curricular Materials

Evaluation and selection of book and non-book materials for use by staff and students in the school learning programme, based on a study of subject syllabi. The compilation of subject bibliographies to support the learning and teaching processes. Methods of relating and presenting materials.

55.362 Mechanized Systems for Libraries

Systems analysis and design for libraries. The application of electronic data processing techniques to the control of library systems for acquisitions, serials processing, circulation control and for the production of library catalogues.

Computers and allied hardware. Basic concepts of programming with emphasis on the type of programming problems encountered in library automation and document organization. Programming languages and their suitability for the solution of library problems.

Principles and methods of information indexing, storage and retrieval for machine systems. Automatic indexing.

The state of automation in libraries and the impact on libraries of mechanized information systems such as MARC, MEDLARS, Chemical Abstracts Service, and of experiments in on-line systems such as Project INTREX.

TEXTBOOKS

Arnold, R. R., Hill, H. C. & Nichols, A. V. *Introduction to Data Processing.* 2nd ed. Wiley, 1969.

Artandi, S. *An Introduction to Computers in Information Science.* Scarecrow Press, 1968.

Clark, J. O. E. *Computers at Work.* Hamlyn, 1969.

Coblans, H. *Use of Mechanized Methods in Documentation Work.* Aslib, 1966.

55.369 Archives

Archives history, definition, institutional relations, and uses in public administration, the law and historical studies. Archives legislation, administration, organization, preservation, services. Management of current records, especially in relation to achival preservation.

55.371 Children's Literature

A survey of printed materials for children and young adults in relation to their needs, interests and abilities. Criteria for evaluation and selection for library collections. Use of materials in reading guidance with children and young adults.

55.373 Public Libraries

The purpose of the public library in the community examined through (a) a comparative study of public library services with emphasis on special programmes of service to adults, young adults and children; (b) surveys and plans for the introduction of library service to specific regions.

55.378 University and College Libraries

Trends and developments in tertiary education in relation to the purposes and functions of university and college libraries.

The library's response to the university environment and to the library user through its resources and services.

55.381 Special Libraries

The nature of special libraries and the environments in which they operate. The evolution of the special library. The relationships of the special library to its parent organization, to its users and to other sources of information. The functions of the special library and their translation into appropriate services. Systems and techniques relevant to special libraries including mechanized information systems. Staffing, siting, planning special libraries. Measurement of special library effectiveness.

55.387 School Libraries

A comparative study of the development of the role of the library in the school in relation to educational thought and practice.

Provision, administration and organization of school library resources and services on national, state and local levels for staff and students.

TEXTBOOKS

Australia. Commonwealth Secondary School Libraries Committee. *Standards for Secondary School Libraries: a Preliminary Statement*. 1969.

Fenwick, S. I. *School and Children's Libraries in Australia*. Cheshire, 1966.

Library Association of Australia. *Standards and Objectives for School Libraries*. Cheshire, 1966.

MASTER OF LIBRARIANSHIP

55.911 Seminar Course

A minimum of 90 hours' attendance is required in one year over 2 sessions for tutorials and seminar discussions.

1. Cataloguing codes: codes in addition to the A.L.A. Cataloguing rules for author and title entries and the Library of Congress rules for descriptive cataloguing, especially the British Museum rules, the Prussian Instructions, the Vatican code, and the proposed international code.

2. Subject indexing: methods in addition to those based on Cutter's Rules for a dictionary catalog. Crestadoro's concordance of titles and the later keyword or title permutation methods. Kaiser's Systematic indexing, Coordinate indexing: Batten's punch matching and Taube's number matching and Uniterm method. Manually and mechanically operated punched card systems, including Mooers' Zatocoding.

3. Information storage and retrieval systems. Microfilm, magnetic tape, drum and other methods. Coding and code dictionary problems. Use of computers.

4. Classification theory and classifications after Dewey.

5. National bibliography, cooperative acquisition and holding, and central cataloguing. Library of Congress National Union Catalog, British Regional libraries and National Central Library and British National Bibliography, Australian Advisory Council on Bibliographical Services and the Australian Bibliographical Centre at Canberra. Cooperative acquisition, interlibrary and deposit collections. Possibilities and problems of copy cataloguing. Association of central cataloguing and cooperative acquisition.

6. Libraries in education, science and culture. Public library services comparatively studied. Purposes, provision, legislation, finance, administration. Relations with adult education. Effects of mass communication media on reading and library use. Reference and research libraries: public, university and special, problems of growth, coordination and cooperation.

SCHOOL OF EDUCATION

58.011 Australian Education

The examination of the features of Australian Education with reference to procedures in some selected countries and with special attention to social factors which influence education in Australia.

TEXTBOOKS

Katz, F. M. ed. *Sociology of Education.* Macmillan, 1970.
Partridge, P. H. *Society, Schools and Progress in Australia.* Pergamon, 1968.

58.012 Educational Practice

Classroom organization and practice: individual and group techniques; management; teaching aids (including radio and television). Measurement in education. Curriculum construction and modification. School organization.

TEXTBOOK

Clarizio, H. F., Craig, R. C. and Mehrens, W. A. eds. *Contemporary Issues in Educational Psychology.* Allyn and Bacon, 1970.

58.013 Educational Psychology

Learning in the classroom. Variables such as growth and development, motivation, personality and group behaviour related to the learning process.

TEXTBOOKS

Bartoshuk, A. K. *Motivation.*

Dolinsky, R. *Human Learning.*

Horowitz, L. M. *Measurement.*

Lundin, R. W. *Personality.*

Reese, E. P. *The Analysis of Human Operant Behaviour.*

Smith, C. *Child Development.*

Suedfeld, P. *Social Processes.*

Vernon, J. ed. *Introduction to Psychology: A Self-Selection Textbook.* W. C. Brown Company, 1966.

58.015 Philosophy and Theory of Education

Viewpoints on the purposes of education and their relationship to curriculum theory and development. Conceptual studies, connections between education and general philosophy, and trends in philosophy of education.

TEXTBOOKS

Brown, L. M. *Aims of Education.* Teachers' College, Columbia, 1969.

Gribble, J. *Introduction to Philosophy of Education.* Allyn and Bacon, 1969.

58.016 Seminars

A study of educational issues by means of individually prepared student papers and a variety of small-group discussion techniques including panels, forums and debates.

Method Subjects

58.021 Commerce Method*

58.022 English Method*

58.023 French Method*

Rivers, W. *Teaching Foreign Language Skills.* Chicago U.P., 1968.

58.025 German Method*

58.031 Spanish Method*

58.024 Geography/Social Studies Method*

Biddle, D. S. & Shortle, D. *Programming in Geography.* Martindale Press, 1969.

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*A list of books required is available from the Head, School of Education.

58.026 Guidance Method*

Bennet, M. E. *Guidance and Counselling in Groups.* 2nd ed. McGraw-Hill, 1963.

58.027 History Method*

58.028 Library Method*

58.029 Mathematics Method*

58.030/1 Science Method (Double Teaching Subject)*

58.030/2 Science Method (Single Teaching Subject)*

Science Foundation for Physics: *Science for High School Students.* rev. ed., N.S.W. Government Printer, 1970.

Thurber, W. A. & Collette, A. T. *Teaching Science in Today's Secondary Schools.* 3rd ed. Allyn and Bacon, 1968.

58.040 Selected Activities

Classes will also be arranged in some other areas relevant to teacher preparation as for example, Health Education and Physical Education and in subjects in which students have a particular interest such as Comparative Education, Philosophy in Education, Experimental Education, Educational Statistics, Society and Education. The subjects offered will be determined by the interest of students and the availability of staff and facilities.

58.050 Supervised Teaching Practice

Seven weeks' supervised teaching practice in schools. Where possible, an additional two weeks unsupervised teaching practice will be arranged before the commencement of the academic year.

58.501 Education A

Introduction to educational theory. Educational psychology and educational practice. Science curriculum and instruction. School experience including directed observation and some supervised teaching.

TEXTBOOKS

Brown, L. M. *Aims of Education.* Teachers' College Press, Columbia University, N.Y., 1970.

The Science Foundation for Physics. *Science for High School Students.* rev. ed. N.S.W. Govt. Printer, Sydney, 1970.

Thurber, W. A. and Collette, A. T. *Teaching Science in Today's Secondary Schools.* 3rd ed. Allyn and Bacon, Boston, 1968.

Wilson, J. A. R., Robeck, M. C. and Michael, W. B. *Psychological Foundations of Learning and Teaching.* McGraw-Hill, N.Y., 1969.

58.502 Education B

Australian and comparative education. Philosophy and theory of education. Educational psychology and educational practice. Science curriculum and instruction. School experience including extensive supervised teaching.

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* A list of books required is available from the Head, School of Education.

MASTER OF EDUCATION

58.201G Comparative Education

Important educational problems in a number of countries, with special reference to South East Asia. The school and the school child, the professional preparation of teachers, technical education, tertiary education, the school and society. Topics treated in Comparative Education will be related to the Australian educational scene.

58.202G Educational Planning and Administration

General principles of administration applied to the organization and administration of education. The factors underlying the administration of the Australan educational systems, both government and independent. Particular problems of Australian education—e.g. centralization of administration, the comprehensive secondary school, the organization of education for atypical pupils, the role of the school inspector, the relationship between the state and independent school systems. The planning of educational programmes in developing countries with which Australia is associated. The economics of educational planning.

58.203G Educational Psychology

In this treatment of some psychological principles relating to education particular attention will be given to the contribution of educational psychology to classroom teaching, and to problems of learning theory and a selection of learning theorists, developmental theory, motivation and sociological problems for educators.

58.204G Educational Theory in the Twentieth Century

The views and influence of individual thinkers: Dewey, Kilpatrick, Childs, Buber, Berdyaer, Sartre, Russell, A. S. Neill, Homer Lane, Nunn, Riesman, Fromm, Frankl, Maritain, Hutchins, Mannheim, Makarenko. Recent educational theories relating to the curriculum, such as those of Bruner and Schwab. An introduction to modern social theory in relation to education.

58.205G Educational Research

The methodologies of educational research including statistical procedures and the design of surveys and experiments. The assessment of significant research projects and experiments both in Australia and overseas. Measurement and evaluation in education.

58.206G History of Education

(i) History of Western Education. (ii) History of Australian Education. In each part there will be both a study of movements and cultures as well as of distinguished thinkers. Part (i) will provide a background for understanding (ii) Australian education will trace the growth of national education, the relationship between denominational and national systems, the impact of various acts and the work and influence of men such as Wilkins, Parkes, Rusden and Board.

58.207G Philosophy in Education

Relationship between philosophy and philosophy of education; aims of education; traditional theories such as idealism, pragmatism, existentialism; the relationship between belief and practice, or theory and practice; the notion of education as "practical discourse"; conceptual studies of instruction, indoctrination, critical thinking, creativity etc.; ethical questions such as moral responsibility and character, and the philosophy of punishment; psychological and social aspects of freedom, such as authority and student power, education for aggression or co-operation.

58.208G Child Growth and Development

Selected theories of child development, the development and differentiation of cognitive functioning, motivational and personality variables, problems and methods of research. Factors which modify and support human development will be considered with reference to their educational implications.

58.209G Advanced Statistical Method in Education

The application of probability theory and statistical method to problems of measurement and evaluation in education. Discussion of sampling techniques, the use of linear regression and analysis of variance in experimental designs, and the application of other statistical models to the understanding of educative processes. Particular areas of application are mental testing, educational achievement, and learning.

58.210G Science Education

A survey of recent research in science education; discussion of recent thinking about aims, theories of cognitive growth and principles of curriculum development; an examination of new science curricula in Australia and overseas in the light of the information thus gained.

SCHOOL OF HISTORY AND PHILOSOPHY OF SCIENCE

62.001 History and Philosophy of Science I

Session 1 An Introduction to the History and Philosophy of Science

A review of the origins and development of the sciences up to and including Copernicus, with a special emphasis on the physical sciences. This material will be used to illustrate some of the principles of the philosophy of science.

TEXTBOOKS

Crombie, A. C. *Augustine to Galileo.* 2 vols. Penguin.
Kuhn, T. S. *The Copernican Revolution.* Random House.
Toulmin, S. *The Philosophy of Science.* Harper or Grey Arrow.
Toulmin, S. E. & Goodfield, J. *The Fabric of the Heavens.* Penguin.

Session 2 The Origins of Modern Science

Development of the sciences from Brahe to Newton. Brahe, Kepler, Galileo, Harvey, Newton, Huygens, Roemer, Baconian and Cartesian principles and some discussion of social factors bearing on the Scientific Revolution, with particular reference to the Academy of Sciences and the Royal Society.

TEXTBOOKS

Butterfield, H. *The Origins of Modern Science.* Bell.
Cohen, I. B. *The Birth of a New Physics.* Heinemann.
Kuhn, T. S. *The Copernican Revolution.* Random House.

62.002 History and Philosophy of Science II

Session 1 The Principles of the Philosophy of Science

A general introduction to the philosophy of science. Following a preliminary examination of the nature of the more common forms of argument employed in natural science and mathematics, some of the more central problems of the philosophy of science will be examined, such as—the nature of scientific explanation; the status of scientific laws; confirmation and falsification; paradigms and the dynamics of scientific development; the functions of models and analogies; the status of theoretical entities. This part of the course will seek to lay a proper foundation for the examination of individual concepts during Session 2.

TEXTBOOKS

Cohen, M. R. & Nagel, E. *An Introduction to Logic and Scientific Method.* Harcourt, Brace & World.
Kant, I. *Prolegomena to Any Future Metaphysics.* Bobbs-Merrill or Manchester U.P.
Kuhn, T. S. *The Structure of Scientific Revolutions.* Chicago U.P.
Popper, K. R. *The Logic of Scientific Discovery.* Basic Book Company.

Session 2 The Development of Fundamental Concepts of the Sciences

The course will be concerned with the historical development of some of the principal concepts of the natural sciences, in such a manner as to draw attention to related philosophical issues.

SCHOOL OF SOCIAL WORK

63.411 Introduction to Social Welfare

A general orientation to the scope and nature of social problems and to social welfare activities in western industrial, and other societies—the social welfare problems, policies and provisions that are characteristic of societies at different stages of modernization. Students are introduced to the social welfare literature.

TEXTBOOKS

United Nations Report on the World Social Situation. 1970 edition.
Wickenden, E. *Social Welfare in a Changing World.* U.S. Govt. Printing Office, Washington D.C., 1965.

63.412 Social Philosophy and Policy

The analysis of social norms and the underlying values which regulate behaviours in the modern welfare state:—

(*a*) The diverse forms of norms, rules or behavioural prescriptions which exist in this kind of society, and methods of classifying these.

(*b*) The language and logic of rules.

(*c*) Societal values and ideologies (social, political, religious), and their relationship to behavioural prescriptions.

(*d*) The various principles and modes of justification used to support behavioural prescriptions—key social concepts like justice, rights, obligation, equality, democracy, legality, morality.
(*e*) The need for and limits of rationality.
(*f*) The values of social welfare.
(*g*) The values of the social work profession. Professional ethics.

As an exercise in social philosophy and policy analysis, students examine in seminars policy issues under current public discussion in the press.

TEXTBOOKS

Benn, S. I. and Peters, R. S. *Social Principles and the Democratic State.* Allen & Unwin, London, 1958.
Howard, D. S. *Social Welfare: Values, Means and Ends.* Random House, New York, 1969.

63.421 Social Welfare Systems I

The defining characteristics of social welfare systems. The nature of the social welfare enterprise in Australia. The major historical determinants of its pattern of development: overseas and local influences. Students begin the compilation of a handbook on social welfare which is added to throughout the remainder of the course.

TEXTBOOKS

Kewley, T. H. *Social Security in Australia: Social Security and Health Benefits from* 1900 *to the Present.* Sydney U.P., Sydney, 1965.
Myrdal, G. *Beyond the Welfare State.* Allen & Unwin, University Press paperback, 1958.
Rennison, G. A. *We Live Among Strangers: A sociology of the Welfare State.* M.U.P., Melbourne, 1970.
Titmuss, R. M. *Essays on the Welfare State.* 2nd ed. Allen & Unwin, University paperback.

*63.422 Social Welfare Systems II

Organizational Analysis of Social Welfare Systems:

The relevance of organization theory for understanding social welfare systems. Four concepts of organizational level—societal, community, agency, and professional. Dimensions of the system—the objectives, clients and potential clients, the use and availability of resources (personnel, fiscal and technological), auspice or sponsorship, location, external and internal influences, stability and change, the politics of the system. Policy issues inherent in the range of alternatives within and between dimensions.

Social Welfare Sub-Systems:

A comparative study of the main social welfare sub-systems in an urban industrial society, with particular reference to Australia. Categories of sub-system—defined by a common social goal—income security, health, housing, education, employment, recreation, family well-being. Each sub-system is studied in terms of its major organizational dimensions. Its efficiency and effectiveness.

TEXTBOOKS

Kahn, A. J. *Studies in Social Policy and Planning.* Russell Sage Foundation, N.Y., 1969.
Kahn, A. J. *Theory and Practice of Social Planning.* Russell Sage Foundation, N.Y., 1969.
Official Year Book of the Commonwealth of Australia. latest ed. Commonwealth Bureau of Census and Statistics, Canberra.
Zald, M. N. ed. *Social Welfare Institutions: A Sociological Reader.* Wiley, Sydney, 1965.

* Applicable only from 1972.

*63.423 Social Welfare Systems III

Social Welfare Sub-Systems:

A comparative study of the main social welfare sub-systems in an urban industrial society, with particular reference to Australia. Categories of sub-system: defined by population category—age groups, physical disability, mental disability, sex, ethnicity, war service, religion, socio-legal deviance, geographic location, occupation, economic status.

Each sub-system is studied in terms of its major organizational dimensions. Its efficiency and effectiveness.

Social Welfare Planning:

Different bases of planning and co-ordination:

(*a*) The relationship between different levels of social organization; functional divisions on the one level of social organization and other linkage questions.

(*b*) Definition of a social problem as a basis for organization.

Students undertake a project on a selected social problem, studying its definition, incidence, theories of causation, and policies and provision to cope with it.

(*c*) The role of the social worker and the social work profession in social welfare planning.

The objective in this subject is to develop sound professional judgement in relation to social welfare problems, policies and provision, not to teach social policy practice roles as such.

63.511 Human Behaviour I

The processes of "normal" growth and development, using a multi-disciplinary approach. The maturational phases of the life cycle, beginning with the prenatal period, proceeding to birth, new-born, infancy, pre-school, childhood, adolescence, young adulthood, middle years, old age. The various frames of reference—biological, psychological, and sociological—used to define and interpret the phases. The interaction of physical, intellectual, emotional, spiritual, and social influences and attributes in a human being. Individual "careers"—varying conceptions of effective social functioning and well-being. Particular attention is given to the influence of social structures (e.g. families, groups, organizations, communities, and societies) and social processes on the behaviour of individuals; and also on the behaviour of groups and communities. The nature and changing character of these structures in interaction with individuals, groups and communities. The potential for change in the social functioning of individuals, groups and communities.

Classroom learning is reinforced by observation of behaviour, under simulated and actual life conditions.

TEXTBOOKS

Lidz, T. *The Person: His Development throughout the Life Cycle.* Basic Books, New York, 1968.

Maier, H. W. *Three Theories of Child Development.* Harper & Row, New York, and John Weatherill, Tokyo, 1969.

Secord, P. F. and Backman, C. W. *Social Psychology.* McGraw-Hill, New York, and Kogakusha Co., Tokyo, 1964.

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* Applicable only from 1972.

63.512 Human Behaviour II

An interdisciplinary approach to the development of deviant behaviour at various age stages, in individuals, groups and communities—biological, psychological, and social deviance. Concepts of disease and pathology; of social problems—definition, incidence, ætiology. Differences and similarities. Classroom learning is reinforced by observation of behaviour, under simulated and actual life conditions.

TEXTBOOKS

Cameron, N. *Personality Development and Psychopathology: A Dynamic Approach.* Houghton Mifflin, Boston, 1963.
Clinard, M. B. *Sociology of Deviant Behaviour.* Holt, Rinehart and Winston, New York, 1968.
Goffman, E. *Stigma: Notes on the Management of Spoiled Identity.* Penguin Books, 1968.

63.611A Social Work Practice IA

The organization of professional social work practice—by methods, by fields.

An introduction to each of the main problem-solving methods of professional social work practice—social casework, social group work, community work, administration, and research. The historical and present level of development of each method—the problems of social functioning it is concerned with, its knowledge-base, values, and principles of practice. Through video-tapes, tape recordings, and role playing, students learn preliminary skills in interpersonal relations.

The professions in modern industrial societies. The professionalization of social work. The organization of the social work profession in Australia, the U.S.A. and Britain, and internationally—its educational institutions, employing agencies, and professional associations. The size, characteristics, location, objectives, and values of the profession. Current challenges and growing points of the profession.

TEXTBOOKS

Biestek, F. P. *The Casework Relationship.* Unwin University Books (1957), 1967.
Etzioni, A. *Modern Organizations.* Prentice-Hall, Englewood Cliffs, New Jersey, 1964.
Goldstein, H. K. *Research Standards and Methods for Social Workers.* Hauser Press, New Orleans, 1963.
Hicks, H. G. *The Management of Organizations.* McGraw-Hill, 1967.
Hollis, F. *Casework: A Psychosocial Therapy.* Random House, New York, 1964.
Konopka, G. *Social Group Work: A Helping Process.* Prentice-Hall, 1963.
Lawrence, R. J. *Professional Social Work in Australia.* A.N.U. Press, Canberra, 1965.
Watzlawick, P., Beavin, J. H. & Jackson, D. D. *Pragmatics of Human Communication.* W. W. Norton, New York, 1967.

63.611B Social Work Practice IB

Under the supervision of a field instructor of the School, usually in a fairly structured social work agency, a student begins to learn to apply the principles of professional practice. The emphasis is on work with a broad range of clients and of social problems, rather than on depth of experience. Students study, either within or in connection with the agency,

examples of all the main social work methods, and examples of social welfare services. The prime purpose, however, is to begin to acquire, in an actual practice setting, skills and responsibility in interpersonal relations.

The duration of this first field work placement is 40 working days (294 hours).

TEXTBOOK

Directory of Social Service Agencies. latest ed. Council of Social Service of New South Wales, Sydney.

63.612A Social Work Practice IIA

Students develop their learning in the application of professionally relevant knowledge, values and skills, in the solution of problems of social functioning. Depending upon the nature of the problem and its possible solutions, the professional roles taught are those of the caseworker, the group-worker, the community worker, the administrator, and the researcher. At this stage, however, special attention is given to interpersonal helping, i.e. to social casework and social group work.

TEXTBOOKS

Hollis, F. *Casework: A Psychosocial Therapy.* Random House, 1964.

Northen, H. *Social Work with Groups.* Columbia U.P., N.Y., 1969.

Parad, H. ed. *Ego Psychology and Dynamic Casework.* Family Service Association of America, New York, 1958.

Parad, H. ed. *Crisis Intervention: Selected Readings.* Family Service Association of America, New York, 1965.

Younghusband, E. ed. *New Developments in Casework.* Allen and Unwin, London, 1968.

63.612B Social Work Practice IIB

Part 1—Usually as a member of a student unit located in a social work agency and supervised by a field instructor of the School, the student has learning experiences which help him to acquire skills in the casework method at some depth. Stress is placed on gaining self-awareness, understanding of conscious use of self in interpersonal relationships, and understanding of the diagnostic process and the development of treatment skills.

The duration of this second field work placement is 45 days (315 hours).

Part 2—The emphasis in this third supervised field work placement is upon field evaluation of aspects of service, using a theoretical basis gained from classroom teaching. For instance, students may devise means to evaluate their own clinical practice or the agency's method of delivery of service to clients or the effectiveness of a particular form of social work intervention. Where possible, a student studies in depth an aspect of social work practice in which he has developed a particular interest.

The duration of this placement is 40 days (280 hours).

63.613A Social Work Practice IIIA†

All students gain further learning in administration and interpersonal helping. In addition, each student concentrates upon learning initial professional competence in one of the following professional methods—social casework, social group work, community work, or administration. (The last two can be chosen only under certain conditions.)

Towards the end of the year, all students combine in a series of professional competence seminars. These examine the responsibilities of the

† Applicable only in 1972.

individual social worker and the social work profession in present-day and future Australian society.

TEXTBOOKS

Bartlett, H. M. *Social Work Practice in the Health Field*. National Association of Social Workers, New York, 1961.
Grinker, R. R. and Associates. *Psychiatric Social Work*. Basic Books, New York, 1970.
Northen, H. *Social Work with Groups*. Columbia U.P., N.Y., 1969.

Groupwork elective

Shulman, L. *A Casebook of Social Work with Groups: The Mediating Model*. Council on Social Work Education, N.Y., 1968.

Casework elective.

Turner, F. ed. *Differential Diagnosis and Treatment in Social Work*. Collier-Macmillan, 1968.

63.613B Social Work Practice IIIB†

Usually as a member of a student unit located in a social work agency and supervised by a field instructor of the School, the student has further learning experiences in the method on which he has elected to concentrate in Social Work Practice IIIA.

The duration of this fourth and final placement is 51 days (357 hours).

63.614 Social Work (Honours)†

A seminar series dealing with (*a*) problems of research design and implementation in social work; and (*b*) a comparative study of the issues facing the social work profession in the U.S.A., Britain, and Australia. Throughout the year, students design and carry out a research assignment under staff supervision.

SCHOOL OF PHYSIOLOGY

73.011A Principles of Physiology

An introductory course in physiology. Homeostasis encountered in man and animals. Function considered at cellular and systematic levels, with examples from mammalian and invertebrate species.

TEXTBOOKS

Ganong, W. F. *Review of Medical Physiology*. 4th ed. Lange Medical Publications, Los Altos, 1969.
Guyton, A. C. *Function of the Human Body*. 3rd ed. W. B. Saunders, 1964.
Katz, B. *Nerve, Muscle and Synapse*. McGraw-Hill, 1966.

PREREQUISITES

17.001 General and Human Biology.
10.001 Mathematics I or 10.011 Higher Mathematics I or 10.021 Mathematics IT.
2.001 Chemistry I.

This is a two-unit course that will continue for 6 hours each week throughout the year.

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† Applicable only from 1972.