The University of New South Wales

Professional Studies

1976 Faculty Handbook

The University of New South Wales
PO Box 1 Kensington NSW Australia 2033 Phone 6630351

Professional Studies

1976 Faculty Handbook

The University of New South Wales Library has catalogued this work as follows:

UNIVERSITY OF NEW SOUTH WALES —
Faculty of Professional Studies
Handbook.
Annual. Kensington.
1968 +

378.94405
NEW

University of New South Wales — *Faculty of Professional Studies* — Periodicals

Printed by Walter Stone & Sons at the Wentworth Press, 48 Cooper Street, Surry Hills

Contents

General Information

In order to minimize the time and effort that you will put into your study you should make an effort to learn what facilities the University offers, to investigate the best methods of study and to discover as much as possible about the course for which you are enrolled.

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

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

Now, see the following sixteen pages for other general information which may be of value to you.

Some people who can help you

Note: All phone numbers below are University extension numbers. If you are outside the University, dial 663 0351 and ask for the extension or dial 662—and then the extension number.

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

The Deputy Registrar (Student Services), Mr P. O'Brien, and his Administrative Assistant, Mr S. Briand, are located on the first floor of the Chancellery. They will see students who need advice and who have problems and are not sure whom they should see about them. Mr Briand looks after financial assistance matters. Enquire at room 148A, phone 2482 or 3164.

The Assistant Registrar (Examinations and Student Records), Mr J. Warr, is located on the ground floor of the Chancellery. For particular enquiries regarding *Student Records* (including matters related to *illness affecting study)* contact Mr. B. Newell (phone 2141), and regarding *Examinations,* Mr J. Grigg (phone 2143). This section can also advise on matters relating to *discontinuation of subjects* and *termination of courses.* General enquiries should be directed to 3711.

The Assistant Registrar (Admissions and Higher Degrees), Mr J. Hill, is located on the ground floor of the Chancellery. For particular enquiries regarding *undergraduate courses* phone Mr J. Beauchamp on 3319. General enquiries should be directed to 3711.

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

The Housing Officer, Mrs J. Hay, is located in the Student Amenities and Recreation Unit in Hut B at the foot of Basser Steps. For assistance in obtaining *suitable lodgings* phone 3803.

The Student Health Unit is located in Hut E on College Road. The Director is Dr M. A. Napthali. For *medical aid* phone 2679.

The Student Counselling and Research Unit is located at the foot of Basser Steps. The Head is Mr G. Gray. For assistance with educational or vocational problems ring 2600-2605 for an appointment.

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

The Chaplaincy Centre is located in Hut F at the foot of Basser Steps. For spiritual aid consult Rev B. W. Wilson (Anglican)—2684; Rev Father J. King or Rev Father M. Fallon (Catholic)—2379; Pastor H. Davis (Church of Christ)—2683; Rev P. Holden (Methodist)—2683; Pastor G. Rollo (Seventh Day Adventist)—2683; Rabbi M. Kantor (Jewish)—3273.

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

Calendar of Dates

1976

Session 1	March 1 to May 9.
(14 weeks)	*May Recess:* May 10 to May 16
	May 17 to June 13
	Midyear Recess: June 14 to July 18
Session 2	July 19 to August 22
(14 weeks)	*August Recess:* August 23 to August 29
	August 30 to October 31
	Study Recess: November 1 to November 7

January

Thursday 1	New Year's Day—Public Holiday
Friday 9	Last day for application for review of results of *annual* examinations Last day for application for permission to re-enrol by students who infringed re-enrolment rules at *annual* examinations
Monday 12	Timetables for *deferred* examinations available
Friday 16	Last day for acceptance of applications by Admissions Office for transfer to another course within the University
Monday 26	Australia Day—Public Holiday
Tuesday 27	*Deferred* examinations begin

February

Saturday 7	*Deferred* examinations end
Monday 16	Enrolment period begins for new students and students repeating first year
Tuesday 17	Last day for appeal against exclusion by students who infringed re-enrolment rules at *annual* examinations
Friday 20	*Deferred* examination results available
Monday 23	Enrolment period begins for second and later year students
Tuesday 24	Last day for application for review of *deferred* examination results
Friday 27	Last day for application for permission to re-enrol by students who infringed re-enrolment rules at *deferred* examinations

March

Monday 1	**Session 1 commences**
Friday 12	Last day for acceptance of enrolments by new students (late fee payable)
Thursday 18	Last day for appeal against exclusion by students who infringed re-enrolment rules at *deferred* examinations
Thursday 25	Last day for acceptance of enrolments by students re-enrolling in second and later years (late fee payable)
Friday 26	Last day for students other than those attending the University for the first time to discontinue without failure subjects which extend over Session 1 only
Monday 29	Last day to enrol in additional subjects

April

Friday 16 to Monday 19	Easter
Friday 23	Last day for students attending the University for the first time to discontinue without failure subjects which extend over Session 1 only
Sunday 25	Anzac Day
Monday 26	Public Holiday

May

Tuesday 4	Publication of provisional timetable for June/July examinations
Monday 10	**May Recess begins**
Wednesday 12	Last day for acceptance of corrected enrolment details forms
Friday 14	Last day for students other than those attending the University for the first time to discontinue without failure subjects which extend over the whole academic year
Sunday 16	**May Recess ends**

Monday 17	Last day for students to advise of examination timetable clashes
June	
Tuesday 1	Publication of timetable for June/July examinations
Sunday 13	**Session 1 ends**
Monday 14	Queen's Birthday—Public Holiday **Midyear Recess begins**
Tuesday 15	Midyear examinations begin
Tuesday 29	Midyear examinations end
July	
Sunday 18	**Midyear Recess ends**
Monday 19	**Session 2 begins**
Friday 30	Foundation Day Last day for students attending the University for the first time to discontinue without failure subjects which extend over the whole academic year
August	
Friday 13	Last day for students other than those attending the University for the first time to discontinue without failure subjects which extend over Session 2 only
Monday 23	**August Recess begins** Holiday for non-academic staff
Sunday 29	**August Recess ends**
Tuesday 31	Last day for acceptance of applications for re-admission in 1977 after exclusion under the re-enrolment rules
September	
Friday 10	Last day for students attending the University for the first time to discontinue without failure subjects which extend over Session 2 only
Tuesday 14	Last day for return of corrected enrolment details forms
Sunday 12	Last day for applications from students graduating in 1977 for admission to University degrees and diplomas
Tuesday 21	Publication of provisional timetable for annual examinations
October	
Friday 1	Last day to apply to MUAC for transfer to another university in Sydney metropolitan area and Wollongong Last day for students to advise of examination timetable clashes
Monday 4	Eight Hour Day—Public Holiday
Tuesday 19	Publication of timetable for annual examinations
November	
Monday 1	**Study Recess begins**
Sunday 7	**Session 2 ends**
Monday 8	Annual examinations begin
Tuesday 30	Annual examinations end
December	
Saturday 25	Christmas Day—Public Holiday
Monday 27	Boxing Day—Public Holiday

1977

Session 1	March 7 to May 14 *May Recess:* May 16 to May 21 May 23 to June 18 *Midyear Recess:* June 20 to July 23
Session 2	July 25 to August 27 *August Recess:* August 29 to September 3 September 5 to November 5 *Study Recess:* November 7 to November 12
January	
Monday 3	Public Holiday
Friday 7	Last date for application for review of results of *annual* examinations
Monday 10	Publication of timetable for *deferred* examinations
Friday 14	Last day for acceptance of applications by Admissions Office for transfer to another course within the University
Tuesday 25	*Deferred* examinations begin
Monday 31	Australia Day—Public Holiday
February	
Saturday 5	*Deferred* examinations end
Monday 14	Enrolment period begins for new students and students repeating first year
Friday 18	Results of *deferred* examinations available
Monday 21	Enrolment period begins for second and later year students
Tuesday 22	Last day for applications for review of *deferred* examination results

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 as well as short recesses of one week within each of the sessions.

Session 1 commences on the first Monday of March.

Organization of the University

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

In 1975 the University had 18,128 students and 3,984 staff who worked in more than eighty buildings. These figures include staff and students at Broken Hill (W. S. and L. B. Robinson University College), Duntroon (the Faculty of Military Studies) and Jervis Bay.

The Council

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

The Council consists of 42 members representative of the professions, commerce and industry, the legislature, employee organizations, rural, pastoral and agricultural interests, and the academic staff of the University, its graduates and students.

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

The Chairman of the Council is the Chancellor, Sir Robert Webster, and the Deputy Chancellor is the Hon. Sir Kevin Ellis.

The Professorial Board

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

The Faculties

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

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

The eleven Faculties are Applied Science, Architecture, Arts, Biological Sciences, Commerce, Engineering, Law, Medicine, Military Studies, Professional Studies, and Science. In addition, the Board of Studies in General Education fulfils a function similar to that of the faculties. The Board of Studies in Science is responsible for the academic administration of the Science course.

The Schools

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

Executive Officers

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

He is assisted in this task by three Pro-Vice-Chancellors, Professor J. B. Thornton, Professor R. E. Vowels and Professor A. H. Willis; the Deans and the three heads of the administrative divisions.

General Administration

The administration of general matters within the University comes mainly within the province of the Registrar, Mr C. G. Plowman, the Bursar, Mr T. J. Daly, and the Business Manager (Property), Mr R. K. Fletcher.

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

The Bursar's Division is concerned with the financial details of the day-to-day administration and matters to do with staff appointments, promotions, etc. The Property Division is concerned with the maintenance of buildings and grounds and equipment, and includes the University Architect's office.

Student Representation on Council and Faculties

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

Students proceeding to a degree or a graduate diploma may elect one of their number to a Faculty for each 500 registered students, with a minimum of three students per Faculty. Elections take place towards the end of the academic year for a one-year term of office.

Open Faculty Meetings

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

Identification of Subjects by Numbers

For information concerning the identifying number of each subject taught in this faculty, turn to the first page of the main section below entitled Subject Descriptions and Textbooks.

See the Calendar for the full list of identifying numbers and subjects taught in the University.

General Studies Program

Almost all undergraduates in Faculties other than Arts and Law are required to complete a General Studies program. The Department of General Studies publishes its own Handbook which is available free of charge. All enquiries about General Studies should be made to the General Studies Office, Room G54, Morven Brown Building (663 0351 Extn. 3478).

Student Services and Activities

The University Library

The University Library is on the upper campus adjacent to the Chancellery, the Sciences Building, the Goodsell and the Morven Brown Buildings. The Biomedical Library is in the western end of the Sciences Building with a branch at Prince Henry Hospital, telephone 661 0111. The University Library buildings house the Law Library, the Physical Sciences Library, the Social Sciences and Humanities Library and the Undergraduate Library.

There are services at other centres:

Broken Hill Division: W. S. and L. B. Robinson University College Buildings, Broken Hill. Phone: 6022/3/4.

Water Reference Library: Manly Vale. Phone: 948 0261.

Each library provides a reference and lending service for staff and students, and is open in both Sessions 1 and 2 during day and evening periods, except the Water Reference Library which is only open during the day.

Staff and students must use a machine-readable identification card to borrow from the main University Library. Personal identification is required in the other libraries listed. For students a current Union card is acceptable. Staff must apply to the Library for a library card.

New students can collect temporary borrowing cards at the Library in Orientation Week. It is recommended that students attend the *Introduction to the Library* held during Orientation Week and the first week of Session 1.

Specific library problems should be referred to the Reader Assistance Unit located in the foyer of the Library. Copies of the *Library Guide* are available on request.

Accommodation

There are seven residential colleges on campus which offer accommodation to male and female students. The philosophy of the management, the residence fees and facilities vary from college to college. In addition to the basic fees charged most colleges make additional minor charges such as a registration fee and a power charge. It is anticipated that the fees in most colleges will be increased for 1976. Assistance is also provided in finding off-campus accommodation.

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

International House International House accommodates over 120 students from Australia and twenty other countries. Preference is given to more senior undergraduates and graduate students. Apply in writing to the Warden, International House, PO Box 88, Kensington, NSW 2033.

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

Shalom College Shalom College provides accommodation for 86 men and women students. Non-resident membership is available to students who wish to avail themselves of the Kosher dining room and tutorial facilities. Apply in writing to the Master, Shalom College, The University of New South Wales, PO Box 1, Kensington, NSW 2033.

Warrane College An affiliated Roman Catholic residential college, Warrane provides accommodation for 200 men students, both graduate and undergraduate. Non-resident membership is available to male students who wish to participate in College activities and make use of its facilities. Fees are payable on a session basis. Apply in writing to the Master, Warrane College, PO Box 123, Kensington, NSW 2033.

Off-campus Housing The Student Amenities and Recreation Unit maintains an up-to-date record of different types of off-campus housing including hostels, full board, bed and breakfast, flats and houses for rent. For information and assistance apply to the Housing Officer, Hut B, at the foot of Basser Steps (extension 3260).

Student Employment

The Student Employment Unit offers assistance with career employment for final year students and graduates of the University. This service includes the mailing of regular job vacancy notices to registered students and a campus interview program for final year students.

Careers advice and assistance is also available to undergraduates. Assistance is offered in finding vacation employment which gives either course-related experience or industrial training experience, where this is a course requirement. Information and advice regarding cadetships, undergraduate and graduate scholarships is also available.

The service is located in the Chancellery on the ground floor.

Phone extension 3259 for employment and careers advice, or extension 2086 for cadetships and industrial training information.

Student Health

The Student Health Unit, staffed by qualified medical personnel, offers free medical and first-aid services to male and female students. The service is not intended to replace private or community health services and thus if chronic or continuing conditions are revealed or suspected you will be advised and referred to your own doctor or an appropriate hospital. The health service is not responsible for fees incurred in these instances. Confidential appointments can be made at Hut E at the foot of Basser Steps between 9 am and 5 pm Monday to Friday. Phone extension 2679 or 3275.

Student Counselling and Research

The Student Counselling and Research Unit provides individual and group counselling for all students—prospective, undergraduate and graduate. If you have any personal needs, worries or confusion use this free, informal, personal service to help you sort out the basic issues. If the counsellor can't help you himself he usually knows someone who can.

Counselling appointments are available during sessions and recesses between 9 am and 7 pm. Phone 663 0351 extensions 2696 and 2600 to 2605, or call during Unit office hours, 8.30 am to 5.30 pm. Urgent interviews are possible on a walk-in basis between 9 am and 5 pm. Group counselling programs are offered both day and evening between 9 am and 9 pm by special arrangement.

Student Amenities and Recreation

This Unit, working in close liaison with the Sports Association, assists various recognized clubs by arranging and providing facilities and by handling on their behalf all inquiries and applications for membership.

It also provides a recreational program for students and staff at the Physical Education and Recreation Centre; liaises with the Public Transport Commission of New South Wales on matters concerning student travel concessions; and assists students in finding suitable accommodation off the campus.

Concessional application forms for all types of travel may be obtained at the Student Amenities and Recreation Unit or at the Information Desk in the Chancellery.

The Student Amenities and Recreation Unit is located in Hut B at the foot of Basser Steps. The various services may be contacted by phone on the following extensions: Sports Association, 2235; Physical Education and Recreation Centre, 3271; Travel, 2617; Accommodation, 3260.

Physical Education and Recreation Centre

The Physical Education and Recreation Centre consists of eight squash courts and a main building. The latter has a large gymnasium and ancillary practice rooms for fencing, table tennis, judo, weight-lifting and a physical fitness testing room. The Supervisor of Physical Recreation is responsible for the Centre and provides a recreational program for both students and staff. If you would like to take part in any of the programs contact the Supervisor on extension 3271.

The University Union

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

The Union is housed in three buildings near the entrance to the Kensington Campus from Anzac Parade. These are the Roundhouse, the Blockhouse and the Squarehouse. Membership of the Union is compulsory at $45 per year for all registered students and is open to all members of staff and graduates of the University.

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

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

The Students' Union

The Students' Union is run by students and represents them on and off campus. Presidential elections are by

popular vote and all students who have completed two years at the University are eligible for election.

Membership is compulsory at $10 per annum.

The activities of the Students' Union include:

1. Infakt—a student-run information referral service. If you want someone to talk to or need help of any kind see the people at Infakt located in the bus at the foot of Basser Steps.
2. A casual employment service.
3. Organization of Orientation Week.
4. Organization of Foundation Day.
5. A nursery/kindergarten, "The House at Pooh Corner".
6. Publication of the student paper "Tharunka".
7. A free legal service run by a qualified lawyer employed by the Students' Union Council.

The Students' Union is affiliated with the Australian Union of Students (AUS) which represents students on the national level.

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

Chaplaincy Centre

This service is provided for the benefit of students and staff by five Christian Churches 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. For further details, turn to page 2.

Student Clubs and Societies

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

The Sports Association The Sports Association caters for a variety of competitive sports for both men and women. Membership of the Association is compulsory for all registered students and the annual subscription is $6.

Details of sporting facilities are available in the Orientation Magazine, available at the Student Amenities and Recreation Unit (Hut B at the foot of Basser Steps).

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

Other Services and Activities

University Co-operative Bookshop Limited 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.

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

Australian Armed Forces Enquiries should be directed to:

Royal Australian Navy: Royal Australian Naval Liaison Officer, Professor J. S. Ratcliffe, Commander, R.A.N.R., at the School of Chemical Engineering. Phone extension 2406.

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

Royal Australian Air Force: Undergraduates interested in the R.A.A.F. Undergraduate Scheme should contact The Recruiting Officer, Defence Forces Recruiting Centre, 320 Castlereagh Street, Sydney.

Financial Assistance to Students

Tertiary Education Assistance Scheme

Under this scheme, which is financed by the Australian Government, assistance is available as follows:

- for full-time study in approved courses
- subject to a means test
- on a non-competitive basis
- to students who are not bonded
- to students who are permanent residents of Australia.

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

- Undergraduate and graduate degree courses
- Graduate diplomas
- Approved combined Bachelor degree courses
- Master's qualifying courses where the course is the equivalent of an honours year and the student has not attempted an honours year.

Benefits

Means-tested Living Allowance The maximum rates of living allowances are $1,000 per annum for students living at home and $1,600 per annum for students living away from home. The maximum rates of living allowance will be paid where the adjusted family income is equal to or less than $7,600 per annum. The adjusted family income is assessed by subtracting from the gross income of both parents their business expenses and an amount of $450 for each dependent child other than the student.

When the adjusted family income exceeds $7,600 p.a. the amount of living allowance will be reduced by $2 for every $10 of income until the family income exceeds $15,200 per annum. After this level, the living allowance will be reduced by $3 for every $10 of income.

A concession may be made where there are other children in the family undertaking tertiary education with scholarship assistance from schemes other than the Tertiary Education Assistance Scheme of less than $600 pa.

Students qualifying for living allowance will also receive the following allowances where appropriate:

Incidentals Allowance The Incidentals Allowance of $100 is designed to help the student meet the cost of those fees which have not been abolished—the Students' Union, University Union and Sports Association fees, and other expenses associated with their studies.

Travel Allowance Students whose home is in the country may be reimbursed the cost of three return trips per year, during vacation time.

Dependants' Allowance This is made up of allowances of $15 per week for a dependent spouse and $7 per week for each child.

How to Apply If you were a 1975 Higher School Certificate candidate or a tertiary student receiving an allowance, you were sent forms last October. Other students may obtain forms from the Admissions Section *or* the Student Employment and Scholarships Unit, *or* from the Regional Director, Department of Education, Central Square, 323 Castlereagh Street, Sydney, N.S.W. 2000 (Telephone 218 8800). The administrative closing date for 1976 applications was 31 October 1975.

Scholarships, Cadetships, Prizes

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

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

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

2 *Graduate Awards* An honours degree is generally an essential requirement for gaining one of the many graduate scholarships which are available at the University. Therefore gifted students should not neglect the opportunity to qualify for honours and thus become eligible for an award.

Details of graduate awards are contained in the University Calendar.

Other Financial Assistance

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

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

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

3 Early in 1973 the Australian Government made funds available to the University to provide loans to students in financial difficulty. The loans are to provide for living allowances and other approved expenses associated with attendance at University. Repayment usually commences after graduation or upon withdrawal from the course. Students are required to enter into a formal agreement with the University to repay the loan.

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

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

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

Financial Assistance to Aboriginal Students

Financial assistance is available from a number of sources to help Aboriginal students. Apart from the Australian Government's Tertiary Education Assistance Scheme there is a Commonwealth Aboriginal Study Grant Scheme. Furthermore, the University may assist Aboriginal students with some essential living expenses in exceptional circumstances.

All inquiries relating to this scheme should be made at the office of the Deputy Registrar (Student Services), Room 148A, in the Chancellery.

Rules and Procedures

The University, in common with other large organizations, has some agreed ways of doing things in order

to operate efficiently and equitably for the benefit of all members. The rules and procedures listed below will affect you at some time or another. In some cases there are penalties (e.g. fines or exclusion from examinations) for failure to observe these procedures and therefore they should be read with care.

The information is arranged as answers to questions most asked by students. The first group of questions concerns admission and enrolment, the second fees and other money matters, the third examinations, and the remainder more general matters such as student conduct on campus.

Admission and Enrolment

How do I qualify for admission? In order to enter an undergraduate course you must qualify for matriculation to the University; satisfy requirements for admission to the course of subjects chosen; and be selected for admission to the faculty or course you wish to enter. Full details of matriculation and admission requirements are contained in a pamphlet obtainable at the Admissions Office and in the Calendar.

All students, except those enrolling in graduate research degrees (see below), must lodge an authorized enrolment form with the Cashier on the day the enrolling officer signs the form.

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

If a student is unable to pay the fees the enrolment form must still be lodged with the Cashier and the student will be issued with a 'nil' receipt. The student is then indebted to the University and must pay the fees by the end of the second week of the Session for which enrolment is being effected. Penalties apply if fees are paid after that time (see below). Payment may be made through the mail in which case it is important that the student registration number be given accurately.

New Undergraduate Enrolments Persons who are applying for entry in 1976 must lodge an application for selection with the Metropolitan Universities Admissions Centre, PO Box 7049, GPO, Sydney 2001, by 1 October 1975.

Those who are selected will be required to complete enrolment at a specified appointment time before the start of Session 1. Compulsory fees must be paid on the day of the appointment. In special circumstances, however, and provided class places are still available, students may be allowed to complete enrolment after the prescribed week, subject to the payment of a penalty (see below).

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

First Year Repeat Students First year students who failed more than half the programme at the 1975 Annual Examinations and who were not granted any deferred examinations should 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 Students should enrol through the appropriate School in accordance with the procedures set out in the current year's booklet, *Enrolment Procedures*, available from the Admissions Office and from School offices.

New Research Students Students enrolling for the first time in graduate research degrees will receive an enrolment form by post. They have two weeks from the date of offer of registration in which to lodge the enrolment form with the Cashier and pay the appropriate fees. Completion of enrolment after this time will incur a penalty (see below).

Re-enrolling Research Students Students re-enrolling in research degrees should lodge the enrolment form with the Cashier as soon as possible but no later than the end of the second week of Session 1. Completion of enrolment after this date will incur a penalty (see below).

Submission of Graduate Thesis or Project Report at Commencement of Session 1 A candidate who has completed all the work for a graduate degree except for the submission of a thesis or project report is required to re-enrol and pay fees as outlined above *unless* the thesis or project report is submitted by the end of the second week of Session 1 in which case the candidate is not required to re-enrol. Those required to re-enrol may claim a refund of fees if able to withdraw (see below).

Miscellaneous Subject Enrolments Students may be permitted to enrol for miscellaneous subjects (ie as students not proceeding to a degree or diploma) provided the Head of the School offering the subject considers it will be of benefit to the student and there is accommodation available. Only in exceptional cases will subjects taken in this way count towards a degree or diploma. A student who is under exclusion may not be enrolled in miscellaneous subjects which may be counted towards any course from which he has been excluded.

Final Dates for Completion of Enrolments No enrolments for courses extending over the whole year or for Session 1 only will be accepted from new students after the end of the second week of Session 1 (12 March 1976) except with the express approval of the Deputy Registrar (Student Services) and the Head of the School concerned; no later year enrolments for courses extending over the whole year or for Session 1 only will be accepted after the end of the fourth week of Session 1 (26 March 1976) without the express approval of the Deputy Registrar (Student Services). No enrolments for courses occupying Session 2 only will be accepted after the end of the second week of Session 2 (30 July 1976) without express approval of the Deputy Registrar (Student Services).

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

What special rules apply if I wish to be considered for admission with advanced standing? If you make application to register as a candidate for any degree or other award granted by the University you may be admitted to the course of study with such standing on the basis of previous attainments as may be determined by the Professorial Board. For complete details regarding "Admission with Advanced Standing" consult the University Calendar.

What happens if I am unable to pay fees at the time of enrolment? If you are unable to pay fees by the due date you may apply in writing to the Deputy Registrar (Student Services) for an extension of time which may be granted in extenuating circumstances.

What happens if I fail to pay the prescribed fees or charges? If you fail to pay prescribed fees or charges or become otherwise indebted to the University and you fail to make a satisfactory settlement of your indebtedness upon receipt of due notice then you cease to be entitled to the use of University facilities. You will not be permitted to register for a further session, to attend classes or examinations, or be granted any official credentials. In the case of a student enrolled for Session 1 only or for Sessions 1 and 2 this disbarment applies if any portion of fees is outstanding after the end of the eighth week of Session 1 (23 April 1976). In the case of a student enrolled for Session 2 only this disbarment applies if any portion of fees is outstanding after the end of the sixth week of Session 2 (27 August 1976).

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

Can I transfer from one course to another? To transfer from one course to another you must apply on an application form obtainable from the Admissions Office by 16 January. If your application is successful you are required to comply with the enrolment procedures for the year/stage of the new course and, unless otherwise instructed, you should present the letter granting transfer to the enrolling officer. You should also inform the enrolling officer of the school in which you are enrolled of your intention to transfer.

Can I change my course program? If you wish to seek approval to substitute one subject for another, add one or more subjects to your program or discontinue part or all of your program, you must make application to the Registrar through the Head of the School responsible for the course on forms available from the School office. The Registrar will inform you of the decision. Application to enrol in additional subjects must be submitted by the end of the fourth week of Session 1.

It is emphasized that failure to sit for examinations in any subject in which you are enrolled will be regarded as failure to satisfy the examiners in that subject unless written approval to withdraw without failure has been obtained from the Registrar.

Withdrawal from subjects Students are permitted to withdraw from subjects without being regarded as having failed, provided they apply by the dates indicated.

First Year Students

1. one-session subjects: the end of the eighth week of session;

2. double-session subjects: the end of the second week of Session 2.

For the purpose of this rule a first-year student is defined as one who is attending the University for the first time either on a full- or part-time basis and is enrolled in the first year or first stage of a course.

Other Students

1. one-session subjects: the end of the fourth week of session;

2. double-session subjects: the end of the May Recess.

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

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

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

First-year Rule

1. A student enrolled for the first time in any undergraduate course in the University shall be required to

show cause why he/she should be allowed to continue the course if that student fails more than half the program in which he/she is enrolled. In order that students may calculate half their program, the weighting of subjects in each course is defined in *Schedule A*,* which may be varied from time to time by the Professorial Board.

Repeated-failure Rule

2. A student shall be required to show cause why he/she should be allowed to repeat a subject which that student has failed more than once. *Where the subject is prescribed as part of the student's course he/she shall also be required to show cause why he/she should be allowed to continue that course.* Failure in a deferred examination as well as in the initial examination counts for the purposes of this rule as one failure.

General Rule

3. The Re-enrolment Committee may, on the recommendation of the relevant faculty or board of studies, review the academic progress of any student. If that student's academic record seems to demonstrate, in the opinion of the Committee, the student's lack of fitness to pursue a subject or subjects and/or a course or courses, the Committee may require that student to show cause why he/she should be allowed to re-enrol in such subject(s) and/or course(s).

The Session-unit System

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

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

Exemption from Rules by Faculties

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

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

'Showing Cause'

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

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

Appeal

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

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

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

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

The decision of the Committee shall be final.

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

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

Exclusion

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

* For details of Schedule A see University Calendar.

* It is proposed that under this arrangement, the membership of the Appeal Committee will be Pro-Vice-Chancellor J. B. Thornton (Chairman), Professor D. M. McCallum, Chairman of the Professorial Board, and a member of Council in the category of members elected by the graduates of the University, nominated by the Vice-Chancellor.

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

C A student excluded from a course or courses under the provisions of **A** or **B** may not enrol as a miscellaneous student in subjects which may be counted towards any such course.

Re-admission after Exclusion

9. A An excluded student may apply to the Re-enrolment Committee for re-admission after two academic years.

B An application for re-admission after exclusion should be made on the form available from the Examinations and Student Records Section and should be lodged with the Registrar not later than 31 August in the year prior to that for which re-admission is sought. A late application may be accepted at the discretion of the University.

C An application should include evidence that the circumstances which were deemed to operate against satisfactory performance at the time of exclusion are no longer operative or are reduced in intensity and/or evidence of appropriate study in the subject(s) (or the equivalent) on account of which the applicant was excluded.

Restrictions and Definitions

10. A These rules do not apply to students enrolled in programs leading to a higher degree or graduate diploma.

B A subject is defined as a unit of instruction identified by a distinctive subject number.

How do I apply for admission to degree or diploma? Applications for admission to a degree or diploma of the University must be made on the appropriate form by 12 September, in a student's final year. Forms are mailed to all final year students. Don't forget to inform the University if you subsequently change your address so that correspondence related to the ceremony will reach you without delay. Applicants should ensure that they have completed all requirements for the degree or diploma, including industrial training where necessary. Any variation such as cancelling of application in order to proceed to an honours degree or submission of an application following discontinuation of honours program, must be submitted in writing to the Registrar no later than 30 January.

Fees*

Do I have to pay fees for tuition? No. There are no fees for tuition but other fees and charges are payable.

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

How much is my contribution to student activities and services on campus? All students (with the exceptions noted below) will be required to pay the following fees if enrolling for a program involving two sessions. Those enrolling for only one session will pay one-half of the Student Activities Fees, but the full University Union entrance fee, if applicable.

University Union entrance fee—$20 payable on first enrolment

Students Activities Fees:

University Union—$45 annual subscription

Sports Association—$6 annual subscription

Students' Union:

Students enrolling in full-time courses—$10 annual subscription

Students enrolling in part-time courses—$8 annual subscription

Miscellaneous—$25 annual fee.

(The miscellaneous fee is used to finance expenses generally of a capital nature relating to student activities. Funds are allocated to the various student bodies for projects recommended by the Student Affairs Committee and approved by the University Council.)

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

Pathology Instrument Kit—$10
(Refundable on return in satisfactory condition)

Who is exempt from payment of fees?

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

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

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

3. University Union fees and subscriptions may be waived by the Deputy Registrar (Student Services) for students enrolled in graduate courses in which the academic requirements require either no or minimal attendance on the Kensington campus.

4. Students who while enrolled at another university in Australia in a degree or diploma course are given approval to enrol at the University of New South Wales but only in a miscellaneous subject or subjects to be credited towards the degrees or diplomas for which they are enrolled elsewhere are exempt from all Student Activities Fees and the University Union entrance fee.

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

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

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

How much will textbooks and special equipment (if any) cost? You must allow quite a substantial sum for textbooks. This can vary from $200 to $600 depending on the course taken. These figures are based on the cost of new books. The Students' Union operates a second-hand bookshop. Information about special equipment costs, accommodation charges and cost of subsistence on excursions, field work, etc., and for hospital residence (medical students) are available from individual schools.

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

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

What penalties exist for late payment of fees? The following additional charges will be made in 1976 when fees are paid late:

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

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

Yes. The following rules apply:

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

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

Examinations

When are examinations held? Most annual examinations are held in November-December but examinations in many subjects are also held during the Midyear Recess.

Provisional timetables indicating the dates and times of examinations and notices of the location of examinations are posted on the central notice boards in the Biological Sciences Building, the Chancellery, Central Lecture Block, Dalton Building (Chemistry), Main Building (Mining and Physics), and in the Western Grounds Area on 4 May and 21 September. You must advise the Examinations Unit (Chancellery) of a clash in examinations by 17 May and 1 October. Final timetables are displayed and individual copies are available for students on 1 June and 19 October.

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

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

How are examination passes graded? Passes are graded: High Distinction, Distinction, Credit and Pass. A Pass Conceded may be granted to a student whose mark in a subject is slightly below the standard required for a pass but whose overall satisfactory performance warrants this concession.

A Terminating Pass may be granted where the mark for the subject is below the required standard. A terminating pass will not permit a student to progress further in the subject or to enrol in any other subject for which a pass in the subject is a co-requisite or prerequisite. A student given a terminating pass may attempt a deferred examination, if available, to improve his performance but should he fail in such attempt, the terminating pass shall stand.

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

Can examination results be reviewed? Examination results may be reviewed for a fee of $11 a subject, which is refundable in the event of an error being discovered.

This review consists mainly of ensuring that all questions attempted have been marked and checking the total of the marks awarded. Applications for review must be submitted on the appropriate form to the Examinations and Student Records Section together with the necessary fee by the following dates:

Annual examinations held in November/December 1976 —Friday 7 January 1977.

Deferred examinations held in January/February 1977 —Tuesday 22 February 1977.

Are allowances made if students are sick before or during an examination? A student who through serious illness or other cause outside his control *is unable to attend an examination* is required to bring the circumstances (supported by a medical certificate or other evidence) to the notice of the Registrar *not later than seven days after the date of the examination,* and may be required to submit to medical examination.

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

All medical certificates should be as specific as possible concerning the severity and duration of the complaint and its effect on the student's ability to take the examinations.

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

A student suffering from a physical disability which puts him at a disadvantage in written examinations should apply to the Registrar in writing for special provision when examinations are taken. The student should support his request with medical evidence.

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

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

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

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

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

4. No candidate shall be admitted to an examination after thirty minutes from the time of commencement of the examination.

5. No candidate shall be permitted to leave the examination room before the expiry of thirty minutes from the time the examination commences.

6. No candidate shall be re-admitted to the examination room after he has left it unless during the full period of his absence he has been under approved supervision.

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

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

9. All answers must be in English unless otherwise directed. Foreign students who have the written approval of the Officer-in-Charge of Examinations may use standard translation dictionaries.

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

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

Under what circumstances are deferred examinations granted? Deferred examinations may be granted in the following cases:

1. When a student through illness or some other acceptable circumstance has been prevented from taking the annual examination or has been placed at a serious disadvantage during the annual examinations.

2. To help resolve a doubt as to whether a student has reached the required standard in a subject.

3. To allow a student by further study to reach the required standard in a subject.

4. Where a student's progression or graduation is inhibited by his failure in one subject only, a deferred examination may be granted notwithstanding his failure otherwise to qualify for this concession.

In the Faculties of Arts, Commerce and Law special circumstances apply in the granting of deferred examinations. Details in each circumstance are given in the section *Faculty Information* in the respective handbooks for these faculties, or in the Calendar.

Deferred examinations must be taken at the centre at which the student is enrolled, unless he has been sent on compulsory industrial training to a remote country centre or interstate. In this case the student must advise the Registrar, on a form available from his school or the Information Desk, the Chancellery, of relevant particulars, before leaving for his destination, in anticipation that deferred examination papers may have to be forwarded to him. Normally, the student will be directed to the nearest university for the conduct of the deferred examination.

Can I buy copies of previous examination papers? Yes—for 5c each from the Union Shop in the University Union.

Student Conduct on Campus

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

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

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

In the case of illness or of absence for some other unavoidable cause you may be excused by the Registrar for non-attendance at classes for a period of not more than one month or, on the recommendation of the Dean of the appropriate Faculty, for a longer period.

Applications for exemption from lectures (leave of absence) should be addressed to the Registrar and, where applicable, should be accompanied by a medical certificate. If examinations have been missed, state this in your application.

If you fail a subject at the annual examinations in any year and re-enrol in the same course in the following year, you must include in your program of studies for that year the subject in which you 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.

If you attend less than eighty per cent of your possible classes, you may be refused permission to sit for the examination in that subject.

Why is my University Union card important? All students are issued with a University Union membership card. Your card must be carried during attendance at the University and shown on request.

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

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

New students will be issued with University Union cards on enrolment.

Why should I inform the University if I change my address? If you change your address you should notify the Student Records Section of the Registrar's Division as soon as possible. Failure to do this could lead to important correspondence (including examination results) not reaching you. The University cannot accept responsibility if official communications fail to reach students who have not notified their change of address. Change of Address Advice Forms are available at Faculty and School offices and at the Information Counters on the Ground Floor of the Chancellery Building.

These will be accepted up to 30 November, except for final year students who may advise changes up to four weeks before their graduation ceremony.

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

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

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

How are student records kept up to date? Enrolment details forms will be sent to all students on 26 April and 30 August. It is not necessary to return these forms unless any information recorded thereon is incorrect. Amended forms must be returned to the Examinations and Student Records Section within fourteen days. Amendments notified after the closing date will not be accepted unless exceptional circumstances exist and approval is obtained from the Registrar. Amended forms returned to the Registrar will be acknowledged in writing. within fourteen days.

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

Can I get a permit to park on campus? Because of the limited amount of parking space available, only the following categories of students may apply for a permit: motor cycle owners (annual fee $3.90; masters and doctoral candidates (ballotted issue, annual fee $7.80); graduate, and senior undergraduate students who have completed two or three years of a full-time or part-time course (annual fee $3.90—only a limited number of permits available for students who have completed two years). A permit will allow access to the campus between 5 pm and 11 pm on weekdays and during library hours on Saturdays, Sundays and public holidays. Enquiries should be made to the Property Section, Room 240, the Chancellery, or phone 663 0351, extension 2920. It should be noted that increasing demand for parking space may require the imposition of further restrictions and that rates may change for 1976.

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

Further Information

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

General

Any student who requires information on the application of these rules or any service which the University offers, may make enquiries from the Admissions Office, the Student Counselling Unit or the Registrar.

Admissions Office

The Admissions Office provides students with information concerning courses, admission requirements and enrolment procedure.

It will receive applications from students who wish to defer or resume courses of study, to transfer from one course to another, or seek any concession in relation to a course in which they are enrolled.

These applications should, wherever possible, be lodged before the beginning of the academic year in which the concession is to apply.

Students in doubt as to whether an application is necessary to cover their own particular situation should enquire at the Admissions Office.

The Admissions Office is located in the Chancellery on the upper campus. Office hours are from 9 am to 1 pm and 2 pm to 5 pm. Monday to Friday. An evening service is provided during the enrolment period.

Notices

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

Appeals

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

The Calendar

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

Introduction

The Faculty of Professional Studies is concerned with the teaching and examination of subjects concerned with certain forms of professional training. It consists of the Schools of Education, Health Administration, Librarianship, Social Work, and the Department of Industrial Arts.

This handbook provides general information concerning the requirements for admission, enrolment and re-enrolment, as well as 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
Acting Dean
Faculty of Professional Studies

Staff

Comprises Schools of Health Administration, Librarianship, Social Work, and Education; Department of Industrial Arts.

Acting Dean
Professor A. H. Willis
Chairman
Professor G. R. Palmer

School of Education

Professor of Education and Head of School
Leslie Melville Brown, MA MEd *Syd.*, PhD *Lond.*

Professor of Education
Desmond John Drinkwater, MA *Syd.*, MA PhD *Lond.*, ABPS, MAPS, MACE

Professor of Science Education and Director of Science Teachers' Courses
Austin Adolphus Hukins, MSc DipEd *Syd.*, PhD *Alta.*, MACE

Senior Lecturers
Colin Fraser Gauld, BSc DipEd PhD *Syd.*
James Henry Gribble, BA *Melb.*, MPhil *Lond.*
Colman Kevin Harris, BA MEd *Syd.*
Phillip Hugh Meade, BSc BEd *Qld.*, MA *LaT.*, PhD *N.S.W.*

Lecturers
Robert John Barry, BSc *N.S.W.*, BA DipEd *Syd.*, MSc *Macq.*
Richard Martin Bibby, MA BD *Otago*
Rachel MacDonald Boyd, MA PhD *Otago*
Patricia Davies, BA *City, N.Y.*, MSc *Lond.*
James Arthur Fitzgerald, BA DipEd *Syd.*, LittB *N.E.*, MA *Macq.*
Michael Robert Matthews, BA BSc DipEd *Syd.*
Barry Charles Newman, BA MSc PhD *Syd.*
Shelley Phillips, BA *Melb.*, PhD *Syd.*
Shirley Louise Smith, BA PhD *Syd.*
John Sweller, BA PhD *Adel.*
Frederick Edward Trainer, BA PhD *Syd.*

Senior Administrative Officer
Jane Wholohan, BA DipEd *Syd.*

Administrative Assistant
Barbara Jane Molnar, BA *Calif.*

Staff Detached from the New South Wales Department of Education

Lecturers
William Anthony Buckley, BA DipEd *N.E.*
Donald Christopher Geddes, BCom DipEd BEd *Melb.*
Michael John Gunnourie, BSc DipEd *Syd.*
Ronald Lush Johnson, MA *Syd.* DipEd *N.E.*
Philip Thomas Kitley, BA DipEd BEd *N.E.*
Yvonne Anne Larsson, MA *Syd.*
Judith Mackinolty, BA *Melb.*, MA *Macq.*, DipEd *N.E.*
Kenneth William Palmer, BA *N.E.*
Henry James Plunkett, BA *Syd.*
Susan Madge Sandor, BSc DipEd *Syd.*
Barry Royce Schlenker, BSc *N.S.W.*
John James Shelley, BEc *Syd.*
Kevin Victor Swinson, BA *N.E.*
Frank Howard Stuart Tebbutt, BSc DipEd *Syd.*
John Macphail Ward, BA MEd *Syd.*
Kerry Evan Wheeler, BA *N.E.*

Research Assistant
Thomas Pepe, BA *Long Is. Univ.*

School of Health Administration

Professor and Head of School
George Rupert Palmer, BSc *Melb.*, MEc *Syd.*, PhD *Lond.*, FSS, FHA

Associate Professor
John Colin Harris Dewdney, BA MD BS *Melb.*, SM *Harv.*, DPH *Lond.*, DipTertEd *N.E.*, FACMA, MFCM, MACE

Senior Lecturers
Erica Margaret Bates, BA DipSocStud *Syd.*, PhD *N.S.W.*
John Roger Bancks Green, ARIBA, ARAIA, AADipl

Lecturers
Sydney Samuel Wilton Davis, LLM *Syd.*
Stephen John Duckett, BEc *A.N.U.*, MHA *N.S.W.*
Colin Grant, MA *Oxon.*, AHA
Timothy John Philips, BCom *N.S.W.*, DipEd *Syd.*

Teaching Fellow
Chloe Refshauge, BA *Macq.*

Administrative Assistant
Audrey Nancy Darville Ferguson, BA DipSocStud *Syd.*

Research Assistant
Kay Salleh, BA *Tas.*

Honorary Associates
R. L. Thomas, BCom *Melb.*, FHA, FCIS, AASA
T. J. Wood, MB BS *Melb.*, MHA *N.S.W.*, FRACP, FACMA, AHA

Department of Industrial Arts

Associate Professor
Leslie Martin Haynes, BA MEd *Syd.*, FRSA, FBPsS, FAIM, MACE

Lecturers
Donald McArthur Godden, BSc *N.S.W.*, MSc *Syd.*
Keith Alexander Lodge, BE *Syd.*, SAEA
John Kyle Redmond, MA(RCA), FRSA

Professional Officer
Janice Mary Waddell, BA *Melb.*

School of Librarianship

Professor of Librarianship and Head of School
Vacant

Senior Lecturer
Carmel Jane Maguire, BA *Qld.*, MA *A.N.U.*, ALAA

Lecturers
Jennifer Linsley Affleck, BA *Syd.*, DipLib *N.S.W.* ALAA
Allen Mark Hall, BA DipLib *N.S.W.* ALAA
Jack Richard Nelson, MA *Syd.*, ALAA
Peter Orlovich, MA DipEd *Syd.*, MLib *N.S.W.*, ALAA

Tutors
Merilyn Jean Bryce, BA *Syd.*, DipLib *N.S.W.*
Melanie Seymour, BA DipEd *Syd.*, DipLib *N.S.W.*, ALAA
Patricia Willard, BA *N.E.*, MLib *N.S.W.*, ALAA

Administrative Assistant
Peter Frank Kowald, BA DipEd *Syd.*

Research Assistant
Eugenia Angela Lovelace, BA *Syd.*, DipLib MLib *N.S.W.*

Honorary Associate
Wilma Radford, BA MEd *Syd.*, BSc *Col.*, FLAA

School of Social Work

Professor of Social Work and Head of School
Robert John Lawrence, BA DipSocSc *Adel.*, MA *Oxon.*, PhD *A.N.U.*

Senior Lecturer
Gwendoline Audrey Rennison, MA *Camb.*, CertSocSci&Admin *L.S.E.*

Lecturers
Miriam Dee Barlow, BA MSW *Calif.*
Winsome Claire Bundey, BA *N.S.W.*, DipSocStud *Syd.*
Susan Margaret Burgoyne, BA *N.E.*, DipSocWk *Syd.*
Charles Maxwell Ross Cornwell, BA BSocStud *Qld.*
Brian Anthony English, BSW *N.S.W.*
June Huntington, BA *Lond.*
Margaret Teresa Lewis, BSocStud *Qld.*, MSW *N.S.W.*
Colin John Marshall, BA DipSocWk DipCrim *Syd.*
Pamela Marjorie Thomas, BA DipSocStud *Syd.*, MS *Col.*

Senior Tutors
Maisry Elspeth Browne, BA DipSocStud *Syd.*
Jennifer Warner Wilson, BA BSocStud *Syd.*

Tutors
Caroline Ann Bray, BA DipSocStud *Syd.*
Jane Catherine Fishburn, BSW *N.S.W.*
Elizabeth Jane Lloyd, BA DipSocWk *W.Aust.*, MSW *N.S.W.*
Yia Ly, BSW *N.S.W.*

Teaching Fellow
Geoffrey Norman Channon, BSW *N.S.W.*

Visiting Fellow
Theodore Terence Tarail, BA *City, N.Y.*, DipSocWk *Col.*

Administrative Officer
Valerie Patricia McPaul, BA DipSocWk *Syd.*

Faculty Information

Faculty of Professional Studies Enrolment Procedures

Preliminary Enrolment

Industrial Arts Course

Before proceeding on vacation, students are required to attend the Department's Office to complete their 1976 programs.
Draft enrolment forms and programs must be lodged with the Department no later than 16 January 1976. Students who fail to do this will be required to attend one of the late enrolment sessions.

Science (Education) Course

Before the end of Session 2, each student must obtain his or her Re-enrolment Form and Program Form (SED 76) plus available timetables from the School of Education's Office (Room 41, Building M, Western Grounds Area).
After notification of the annual examination results each student should complete as far as possible the above-mentioned forms and lodge them at the School of Education's Office no later than 16 January 1976. Students whose Re-enrolment Form and Program Form are not received by 16 January 1976 will have to enrol at a late re-enrolment period and the appropriate late fee will be charged.
Advice regarding the completion of these forms will be available on Tuesday 13 and Wednesday 14 January 1976 at the School of Education. Students should have their proposed programs and timetables checked during this period and before lodging them at the abovementioned Office.

Social Work Course

Before the end of Session 2 1975, each student must obtain his or her personal Enrolment Form and instruction sheet from the School. After notification of the annual examination results, the student should forward the Enrolment Form completed as far as possible, to the School of Social Work not later than Friday 16 January 1976. Students who fail to lodge their Enrolment Forms before Friday 16 January 1976 will be required to attend one of the late enrolment sessions.

Health Administration Course

Re-enrolment forms will be posted to students by the School at the end of Session 2 1975. External students should re-enrol by post after they have had notification of annual examination results. Students who intend to enrol as internal students should get in touch with the School about their proposed program during January and bring their Enrolment Forms with them when enrolling.

Enrolment Timetable

Science (Education)

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

Year 2	Wednesday 25 February 9.30 am to 12.30 pm
Year 3 & Year 4	Tuesday 24 February 9.30 am to 12.30 pm

Industrial Arts Course

Students in the BSc or BSc(Tech) degree course in Industrial Arts should attend Hut 34, Western Grounds Area, for re-enrolment as follows:

All re-enrolling students 1. With a standard full-time program, as shown in the handbook, and all part-time programs.	Wednesday 25 February 2.00 pm to 4.30 pm 6.00 pm to 7.00 pm
2. All re-enrolling students with 'broken' or non-standard programs.	Wednesday 25 February 10.00 am to 12.30 pm

Social Work Course

Students in the Bachelor of Social Work degree course should attend for re-enrolment at the School of Social Work, in accordance with the following timetable:

Year 2	Tuesday 24 February
Surnames A to K	9.30 am to 12.30 pm
Surnames L to Z	2.00 pm to 5.00 pm
Year 3	Wednesday 25 February
Surnames A to K	9.30 am to 12.30 pm
Surnames L to Z	2.00 pm to 5.00 pm
Year 4	Thursday 26 February
Surnames A to J	9.30 am to 12.30 pm
Surnames K to Z	2.00 pm to 5.00 pm

New Students with Advanced Standing

Friday 27 February
9.30 am to 12.30 pm
2.00 pm to 5.00 pm

Health Administration

Full-time Course

Students will be re-enrolled in Room G37A, the Chancellery (South Wing) on Friday 27 February at 2.00 pm.

General Studies

Students enrolling in general studies electives after completing enrolment in their own Faculty and BEFORE GOING TO THE CASHIER, should proceed to the General Studies enrolment centre in Unisearch House where they will obtain places in electives, complete class admission cards and finalize enrolment forms.

Enrolment Centre

Industrial Arts	Hut 34 Western Grounds Area (Northern end)
Social Work	School of Social Work
Science (Education)	Unisearch House 221 Anzac Parade (across from Main Campus)
Health Administration	Room G37A the Chancellery

Student Associations

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.

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. Through functions and informal gatherings professional aspects of social work, specific grievances and the course itself may be discussed. Students become members of the Association automatically on admission to the School of Social Work, and elect an executive committee which maintains a formal liaison with the School's staff. A regular newsletter, "Catalyst", is produced.

Representatives of the Association attend meetings of the Australian Association of Social Workers (NSW Branch) and the Council of Social Services of NSW, 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 to promote awareness of the opportunities available in the field of Industrial Arts.

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

Course Outlines

The Faculty of Professional Studies comprises the Schools of Education, Health Administration, Librarianship and Social Work, as well as the Department of Industrial Arts. Undergraduate courses within the Faculty's responsibility include the Bachelor of Science (Education) course, and the courses in health administration, industrial arts and social work.

Some years ago the original Board of Vocational Studies was restructured so that its functions and the composition of its membership became those of a faculty. It was re-named in 1974 the Board of Professional Studies and in 1975 the Faculty of Professional Studies. It should be noted, therefore, that any statement in this handbook referring to "the Board of Vocational Studies" *or* "the Board of Professional Studies" now applies to the Faculty of Professional Studies.

School of Education

The School of Education offers a four-year Bachelor of Science (Education) degree course; 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 Bachelor of Science (Education) degree course (BSc(Ed)) 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 seven units. The science subjects studied are mostly subjects available in the Science Course. Another feature is the study of education subjects along with science subjects in the second, third and fourth years. Two History and Philosophy of Science subjects are included in the course structure to give an understanding of the nature of science and of its relationship to society.

Honours

The BSc(Ed) may be awarded with honours. The grade of honours is determined by the quality of work performed throughout the course which includes the fourth year honours research seminar and thesis. The classes and divisions of honours are: Class 1; Class 2, Division 1; Class 2, Division 2.

Applications for admission to the honours program should be made in writing to the Head of School on the completion of third year.

Progression

Progression in the Bachelor of Science (Education) course is permitted by subject. However:

1. Course programs will continue to be stated and timetabled by year and it cannot be guaranteed that non-standard programs can be completed in the minimum number of years. A non-standard program is one which involves enrolment in subjects or units from more than one year or comprises subjects which do not normally constitute a particular year's course work.

2. Students must satisfy the rules governing re-enrolment; in particular, these require a student enrolled for

the first time in the course to complete successfully in that year half of the program in which he/she is enrolled.

3. Before enrolling in any subject a student must have satisfied the relevant prerequisite and co-requisite requirements unless permission to vary this has been granted by the Head of the appropriate School.

4. Only in exceptional circumstances will a student be permitted to enrol for more than twenty-four hours of course work per week.

5. Notwithstanding the above, before a student can enrol in any non-standard program, such program must meet with the approval of the Head of School of Education.

The Science Component

The study of science subjects constitutes a principal part of the course. In the choice of these subjects the following requirements apply:

1. there shall be a total of at least 19 science units.

2. there shall be a major science strand consisting of at least seven units from one of the areas Physics, Chemistry, Biology, Geology.

3. the subjects 1.001 or 1.011, 2.001, 10.001 or 10.011 or 10.021, 17.011, 17.021 and 25.111 shall be included.

4. at least two units in the *List of Science Subjects* shall be selected from areas other than the area of the major strand.

5. under special circumstances a student may select a science unit other than those in *List of Science Subjects* with approval of the Head of School.

406
Bachelor of Science (Education) —Full-time Course

Bachelor of Science (Education) BSc(Ed)

Year 1

		Hours per week
1.011 / 1.001	Higher Physics I *or* Physics I	6
2.001	Chemistry I	6
10.001 / 10.011 / 10.021	Mathematics I *or* Higher Mathematics I *or* Mathematics IT†	6
17.011 / 17.021 / 25.111	Biology of Mankind *and* Comparative Functional Biology *or* Geoscience I	6
		30

† Students taking 10.021 Mathematics IT are not allowed to proceed beyond First Year Physics.

Year 2

		Hpw
17.011 / 17.021 / 25.111	Biology of Mankind *and* Comparative Functional Biology *or* Geoscience I	6
	Four other science units	12
58.512	Introduction to Education	3*
		21

* Directed observations in schools are additional to this time.

Year 3

	Three Science units	9
58.513	Education IA	4½
58.523	Education IB	5*
62.001	History & Philosophy of Science I	3
		21½

* School experience including teaching practice is additional to these hours.

Year 4

	Two Science units	6
58.514	Education IIA	4
58.524	Education IIB	6*
58.554	Research seminar and thesis†	2
62.002	History and Philosophy of Science II	3
		21

* School experience including teaching practice is additional to these hours.
† Honours students only.

List of Science Subjects

Physics Area

1.112A Electromagnetism
1.112B Modern Physics
1.112C Thermodynamics and Mechanics
1.113A Wave Mechanics and Spectroscopy
1.113B Electromagnetic Fields and Physical Optics
1.113C Statistical Mechanics and Solid State
1.113D Astrophysics and Nuclear Physics
1.113Z Techniques and Design for Experimental Physics
1.133A Electronics
1.143A Biophysics
1.143B Solid State Devices and Electronics
1.143D Conceptual Framework of Physics
1.143E Electrical and Optical Properties of Solids
1.212A Geometrical Optics
1.212B Electronics
1.212C An Introduction to Solids

NOTE:

Higher Physics units may also be selected.

Chemistry Area

Level II Units**

2.002A Physical Chemistry
2.002B Organic Chemistry
2.002D Analytical Chemistry
2.042C Inorganic Chemistry

Level II/III Units††

2.003E Nuclear & Radiation Chemistry
2.003H Molecular Spectroscopy & Structure
2.003J Fundamentals of Biological Chemistry
2.003K Solid State Chemistry
2.013A Introductory Quantum Chemistry

Level III Units

2.003A Physical Chemistry
2.003B Organic Chemistry
2.003C Inorganic Chemistry
2.003D Instrumental Analysis
2.003L Applied Organic Chemistry
2.003M Organometallic Chemistry
2.013B Synthesis of Complex Organic Molecules
2.013C Advanced Inorganic Chemistry
2.013D Advanced Analytical Chemistry
2.013L Chemistry and Enzymology of Foods
2.013M Thermochemistry
2.023A Chemical Physics
2.023B Natural Product Chemistry
2.023L Biological and Agricultural Chemistry
2.033A Physical Chemistry of Macromolecules
2.033L Applied Organic Chemistry (double unit)
2.043A Environmental Chemistry
2.043L Chemistry and Enzymology of Foods (double unit)
2.053A Chemical Kinetics and Reaction Mechanisms
2.053L Biological and Agricultural Chemistry (double unit)
2.063A Advanced Molecular Spectroscopy

** The levels referred to are levels in the Science Course.
†† Level II/III units are counted as Level III units for degree purposes but may be done in second or third year.

Note:

1. Not more than two Level II/III units may be studied unless at least one level II unit is also studied.

2. Not more than one of the double units 2.033L, 2.043L, 2.053L may be credited for degree purposes in the BSc(Ed) Course.

Biology Area

17.012 General Ecology
41.101A Chemistry of Biologically Important Molecules
41.101B Metabolism
41.101C Control Mechanisms
41.102A Biochemistry of Macromolecules and Cell Biochemistry
41.102B Metabolic Pathways and Control Mechanisms
43.101 Genetics
43.111 Plant Evolution and Ecology
43.121 Plant Physiology
43.102 Advanced Genetics
43.112 Plant Taxonomy
43.122 Advanced Plant Physiology
43.132 Mycology
43.142 Environmental Botany
43.152 Plant Pathology
44.101 Introductory Microbiology
44.102 General Microbiology
44.122 Immunology
45.101 Biometry
45.201 Invertebrate Zoology
45.301 Vertebrate Zoology
45.111 Field Ecology
45.112 Marine Ecology
45.122 Animal Behaviour
45.132 Comparative and Environmental Physiology
45.142 Developmental and Reproductive Biology
45.302 Vertebrate Zoogeography
45.202 Advanced Invertebrate Zoology
45.402 Insect Structure and Classification
45.412 Insect Physiology
45.422 Applied Entomology
73.011A Principles of Physiology*

* Double unit, 6 hours per week for both sessions.

Mathematics Area

10.111A Pure Mathematics II—Linear Algebra
or
10.111B Pure Mathematics II—Analysis
or
10.211A Applied Mathematics II—Mathematical Methods
or
10.331 Statistics SS

Geology Area

25.502 Geology II
25.503 Geology III
25.504 Geology IV

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 programs. The undergraduate course may be taken on a full-time or (external) 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 Master of Health Planning 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.

Because the Bachelor's course has been revised, a student enrolled prior to 1973, who has passed in nine or more subjects, will be permitted to complete the requirements for the degree under the regulations which applied in 1972.

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.

404

Bachelor of Health Administration Course

Bachelor of Health Administration
BHA

Full-time Course

Year 1

		Hours per week S1‡	S2‡
14.001	Introduction to Accounting	4	0
14.023	Accounting for Health Administration	0	4
16.001	Management I	0	4
16.201	Law I	4	0
16.701	Statistics	0	4
16.801	The Australian Health Care System	4	0
		12	12

Year 2

16.501	Economics (Health Administration)	4	0
16.002	Management II	4	0
16.003	Management III	0	4
16.202	Law II	0	4
16.921	Health Care Planning I	4	0
16.922	Health Care Planning II	0	4
		12	12

Year 3

16.101	Comparative Health Care Systems	0	4
16.301	Political Science	4	0
16.302	Social Administration	0	4
16.601	Behavioural Science I	4	0
16.602	Behavioural Science II	0	4
16.923	Health Care Planning III	4	0
		12	12

‡ May be varied with approval of the Head of School.

External Course

Stage 1

		Hours per week
14.001	Introduction to Accounting	4
16.201	Law I	4
16.801	The Australian Health Care System	4
		12

Stage 2

14.023	Accounting for Health Administration	4
16.001	Management I	4
16.701	Statistics	4
		12

Stage 3

16.501	Economics (Health Administration)	4
16.002	Management II	4
16.921	Health Care Planning I	4
		12

Stage 4

16.003	Management III	4
16.202	Law II	4
16.922	Health Care Planning II	4
		12

Stage 5

16.301	Political Science	4
16.601	Behavioural Science I	4
16.923	Health Care Planning III	4
		12

Stage 6

16.101	Comparative Health Care Systems	4
16.302	Social Administration	4
16.602	Behavioural Science II	4
		12

Department of Industrial Arts

The Department of Industrial Arts offers a BSc degree available through full-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 graduate level, the Department offers a Master of Science degree by research as well as a course in Industrial Design leading to the award of a Graduate Diploma.

The Subject Matter of Industrial Arts

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

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

Before the growth of modern industrial society, it was possible to identify the industrial arts with certain skilled occupations, for example, gold and silversmithing, weaving, metalworking, woodworking and pottery. Industrial methods and mass production have changed the forms of intellect, imagination and skill required for the creation of useful objects. Products are now seldom the result of the activity of single individuals, rather they reflect the skills of many people applied through the industrial organization. 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 civilization. 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 Course

The course offered by the Department of Industrial Arts is intended to provide a broad understanding of the man-product relationship, with studies in depth of the most relevant areas of knowledge drawn from natural science, technology, social science and other fields. Of central importance is the subject Industrial Arts. The core study in this subject is 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 specialized information which is needed for the study and teaching of design, in particular, and of industrial arts generally.

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

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

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

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

400

Industrial Arts—Full-time Course

Bachelor of Science
BSc

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

Year 1

		Hours per week
1.011	Higher Physics I *or*	6
1.001	Physics I	
2.001	Chemistry I	6
5.010	Engineering A*	6
5.030	Engineering C*	
12.001	Psychology I	5
		23

Year 2

		Hpw
4.911	Materials Science	1½
	Psychology II†	7
21.011	Industrial Arts I	3
21.201	Freehand Drawing	3
58.512	Introduction to Education	3
An elected science subject		
10.001	Mathematics I	6
	or	
27.801	Introduction to Physical Geography*	4½
27.802	Introduction to Human Geography*	

Year 3

4.951	Materials Technology	4
21.012	Industrial Arts II	4
21.211	Drawing and Design	2
21.902	Seminar	1
58.071	Methods of Teaching IA	3
58.513	Education IA	4½
	General Studies	1½
An elected science subject		
10.111A	Pure Mathematics II—Algebra	
10.111B	Pure Mathematics II—Analysis	
10.211A	Applied Mathematics II—Mathematical Methods	6
	or	
27.811	Physical Geography**	2¾
27.812	Human Geography**	

* One session only.
† Phychology II comprises three units, 12.052 Basic Psychological Processes, 12.062 Complex Psychological Processes and 12.152 Research Methods.
** Two upper level units selected in consultation with the School of Geography.
‡ School experience including teaching practice will be additional to these hours.

Year 4

21.013	Industrial Arts III	5
21.903	Project	3
58.072	Methods of Teaching IIA	3
58.514	Education IIA	4
An elected science subject		
10.111C	Pure Mathematics II—Abstract Algebra	
10.112D	Pure Mathematics III—Set Theory	
10.212A	Applied Mathematics III—Numerical Analysis *plus* one of 10.112C, 10.112E or 10.212D	8
	or	
	Geography†	2¾
	or	
	Psychology III*	8

* Psychology III comprises four units selected in consultation with the School of Psychology.
† Two upper level units selected in consultation with the School of Geography.
‡ School experience including teaching practice is additional to these hours.

Industrial Arts—Part-time Course

Bachelor of Science (Technology)
BSc

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

Graduate Courses

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

School of Librarianship

The School of Librarianship offers graduate courses leading to the degree of Master of Librarianship (MLib), the Diploma in Librarianship (DipLib) and the Diploma in Archives Administration (DipArchivAdmin).

School of Social Work

The School of Social Work offers a course leading to the degree of Bachelor of Social Work. The degree of Master of Social Work (MSW) is also available, and may be undertaken by course work or by research.

Bachelor of Social Work (BSW) Degree Course

This undergraduate course is designed to prepare students for the professional practice of social work. It is normally undertaken as a four-year full-time program. However, at the discretion of the Head of School, a student unable to study full-time may, under special circumstances, take the course over a period of time not exceeding seven (7) years.

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 Education

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, 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 program.

Admission to the Course

Students should note that lack of facilities has caused restriction on entry to the course.

Progression

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

Honours

An Honours degree is awarded for superior performance throughout the course, with greater weight being given to later years. The classes and divisions of honours are: Class 1; Class 2, Division 1; Class 2, Division 2.

403
Social Work—Full-time Course

Bachelor of Social Work
BSW

Year 1

		Hours per week S1	S2
12.001	Psychology I	5	5
53.101	Sociology 1A	3	0
53.102	Sociology 1B	0	3
63.001	Australian Social Organization and two first level units approved as counting towards the BA degree	3	3

Year 2

63.412	Social Philosophy and Policy	3	3
63.421	Social Welfare Systems I	3	–
63.511	Human Behaviour I	6	3
63.611A	Social Work Practice IA	4	4
63.611B	Social Work Practice IB	–	–*
	General Studies Elective	1½	1½

* 2-week block in Midyear 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	4	4
63.512	Human Behaviour II	4	4
63.612A	Social Work Practice IIA	4	4
63.612B	Social Work Practice IIB	–*	–
63.621	Social Work Research Methods I	–	2
	General Studies Elective	1½	1½

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

Year 4

63.423	Social Welfare Systems III	4	4
63.613A	Social Work Practice IIIA	7	5
63.613B	Social Work Practice IIIB	–*	–*
63.622	Social Work Research Methods II	2	–
	General Studies Elective	1½	1½

* Part 1: 8-week block in January and February—40 days (280 hours). Part 2: 3-week block in Midyear Recess + 2 days a week during Session 2, + 1-week block after end of session—51 days (357 hours).

Graduate Enrolment Procedures

Graduate Study

Qualifying Programs
(for admission to Higher Degree Candidature)

Students may only enrol in such programs after approval has been obtained from the relevant Higher Degree Committee.

Unless advised to the contrary successful applicants are required to attend for enrolment at the appropriate time and place as listed below. The letter offering a place must be taken to the enrolment centre.

Candidates who are continuing a qualifying program are required to attend for re-enrolment at the appropriate time and place as listed below.

Note: All qualifying students must lodge an authorized enrolment form with the Cashier on the day the enrolling officer signs the form. (See Enrolment Procedures earlier in this handbook.)

Schools in the Faculty of Professional Studies, *except the School of Education*	Friday 27 February 2.00 pm to 5.00 pm 6.00 pm to 8.00 pm Office of the appropriate School
School of Education	Wednesday 18 February 2.00 pm to 5.00 pm Room 101 Western Grounds Area

Higher Degree Research Programs

New Students

Students seeking admission to Higher Degree (Research) must make application on the appropriate form which should be submitted to the Registrar. *Successful applicants will be advised by letter concerning the method of enrolment.*

Re-enrolling Students

Candidates registered for Higher Degrees (Research) are required to re-enrol at the commencement of each academic year. **Unless advised to the contrary candidates should obtain re-enrolment forms and advice on procedure and fees from the office of the appropriate School after 1 January 1976.** Each candidate must complete a re-enrolment form and submit it to the Cashier. (See Enrolment Procedures earlier in this handbook.)

A candidate who has completed all the work for a graduate degree except for the submission of a thesis is required to re-enrol as above *unless* the thesis is submitted by 13 March 1976 in which case the candidate is not required to re-enrol.

Masters and Graduate Diploma Courses

Note: All formal masters and graduate diploma students must lodge an authorized enrolment form with the Cashier on the day the enrolling officer signs the form. (See Enrolment Procedures earlier in this handbook.)

New Students

Students seeking admission to formal masters courses and graduate diploma courses are required to apply on the appropriate form and by the closing date specified for the particular course (see the relevant faculty handbook). Unless advised to the contrary successful applicants are required to attend for enrolment at the appropriate time and place as listed below. The letter offering a place must be taken to the enrolment centre.

Re-enrolling Students

Candidates continuing formal graduate courses including those who have completed their formal examination but have not submitted their project report are required to attend for re-enrolment at the appropriate time and place as listed below:

Diploma in Education (DipEd)

	Wednesday 11 February
Surnames A to L	10.00 am to 12.30 pm
Surnames M to Z	2.00 pm to 4.30 pm
Lecture Hall 100	
Western Grounds Area	

Master of Education (MEd)

Room 101	Wednesday 18 February
Building M	2.00 pm to 5.00 pm
Western Grounds Area	

Master of Health Administration (MHA)

Room G31	Friday 27 February
The Chancellery	10.00 am to 4.00 pm

Health Administration (GradDip)

Room G37	Friday 27 February
The Chancellery	2.00 pm

Industrial Design (GradDip)

Hut 34	Friday 27 February
Western Grounds Area	6.00 pm to 7.30 pm

Master of Librarianship, Diploma in Librarianship and Diploma in Archives Administration

Office of the School of	Wednesday 25 February
Librarianship Hut 12	9.30 am to 12.00 noon
	2.00 pm to 7.00 pm

Master of Social Work (MSW)

School of Social Work	Friday 27 February
	2.00 pm to 5.00 pm

Graduate Study

Faculty of Professional Studies

The Faculty of Professional Studies consists of the Schools of Education, Health Administration, Librarianship and Social Work and the Department of Industrial Arts. Facilities are available in each of these Schools for research degrees leading to Master's or Doctor's degrees. In addition the following formal course Master's degrees are offered: Master of Education; Master of Health Administration; Master of Health Planning; Master of Librarianship; and Master of Social Work. Courses for the award of a graduate diploma are available in archives administration, education, industrial design and librarianship.

School of Education

The School of Education offers a one-year full-time course for graduates leading to the Diploma in Education (DipEd) and also courses leading to the degree of Master of Education (MEd).

556
Diploma in Education Course

Diploma in Education
DipEd

Since 1966 a course leading to the award of the Diploma in Education (DipEd) has been available to graduates from the University or other approved universities. The one-year full-time Graduate Diploma course is designed to give professional training in education to graduate students, but it is also possible for this course to be taken over two years, and in some circumstances over three years, on a part-time basis. The course includes lecture-seminars and associate group activities, individual assignments, observations of teaching methods and practice teaching.

		Hours per week*
58.080	Education A	5
58.081	Education B	5
58.082	Education C	9
		19

* A weekly average for the two sessions.

Re-enrolment in Diploma in Education

A candidate who fails in half or more of his subjects will not be permitted to re-enrol unless the Higher Degree Committee of the Board of Professional Studies grants permission because it considers the circumstances to be exceptional.

Further, a candidate who fails in both Education A and Education B, and whose overall performance is considered unsatisfactory by the Committee will be required to repeat all components. In exceptional cases the Committee may grant permission to re-enrol in only those components failed.

299
Master of Education (Honours) Course

891
Master of Education Course

Master of Education
MEd

The conditions for the award of the Master of Education degree are set out earlier in this section. The course is designed for educationists who wish to study education at an advanced level and may be taken at two levels: pass and honours.

The Pass degree is generally taken by subjects to the value of eight units together with a project. Applicants for registration for the honours degree are normally expected to satisfy in subjects to the value of four units at a suitable standard, and to submit a thesis. Alternatively students without an honours degree in Education (or other relevant subject) may apply for registration after completing subjects to the value of eight units at a suitable standard, but this condition may be varied in exceptional cases. Such students transferring from Pass to Honours registration will then complete the degree by means of a thesis.

Miscellaneous Subjects

		Units
58.201G	Comparative Education	2
58.202G	Educational Planning and Administration	2
58.204G	Educational Theory in the Twentieth Century	2
58.206G	History of Education	2
58.212G	Mathematics Education	2
58.214G	Advanced Educational Research	2
58.215G	Social Sciences Education	2

Philosophy of Education Subjects

58.250G	Introduction to Philosophy of Education	2
58.251G	Ethical Theories and Moral Education	2
58.252G	The Nature of Theory and the Study of Education	2
58.253G	Philosophy and the Curriculum	2
58.254G	The Philosophy of Mind and Educational Theory	2
58.255G	Marxism and the Study of Education	2

Sociology of Education Subjects

58.300G	Education in Society	2
58.301G	Sociology of Education A	2
58.302G	Sociology of Education B	2
58.303G	Sociological Research Methods in Education	2

Science Education Subjects

58.330G	General Issues in Science Education	2
58.331G	The Development of Scientific Concepts	1
58.332G	Evaluation in Science Education	1
58.333G	Primary Science Education	1
58.334G	The Nature of Science and Science Education	1
58.335G	Curriculum Development in Science	1

Educational Psychology Subjects

58.360G	Introduction to Educational Psychology	1
58.361G	Introduction to Child Growth and Development	1
58.362G	Child Growth and Development	1
58.363G	Cognitive Development and Classroom Learning	1
58.364G	Instructional Technology	1
58.365G	Motivation and Attitudes in School Settings	1
58.366G	History of Educational Psychology	1
58.367G	Contemporary Issues in Educational Psychology	1
58.368G	Psychology, History and Literature	1
58.369G	Introduction to Research Methods in Educational Psychology	1
58.370G	Further Research Methods in Educational Psychology	1
58.371G	Advanced Developmental Psychology in Educational Behavioural Settings	1
58.372G	Learning Theory and Classroom Instruction	1
58.373G	Behaviour Modification in the Classroom and School Setting	1
58.374G	Social Learning and Education	1
58.375G	Psychophysiology in the Classroom	1
58.376G	The Education of Exceptional Children	1
58.377G	Personality Development and Counselling Techniques in Education	1
58.378G	The Role of the School Psychologist	1

Note:

1. A one-unit subject is of 2 hours per week for one session. A two-unit subject is of 2 hours per week for two sessions.

2. Candidates with appropriate Honours degrees may be registered for MEd(Hons) at initial enrolment. Their program is subjects to the value of four units and a research thesis. (Such candidates will lose Honours registration after completion of these subjects if the standard attained is considered unsatisfactory by the Higher Degree Committee.)

3. Candidates who have the Higher Degree Committee's approval to transfer from MEd(Pass) to MEd(Hons) after completion of subjects to the value of eight units are reminded of the conditions governing maximum time.

School of Health Administration

The School of Hospital Administration was founded in 1956 with a grant from the W. K. Kellogg Foundation primarily to provide graduate education and training in hospital administration. In 1969 the name was changed to School of Health Administration in accord with its broader objectives in teaching and research. It serves the needs of hospitals and health services throughout Australia but overseas candidates may also be admitted.

The School provides one formal graduate course leading to the award of the degree of Master of Health Planning, and another leading to the award of 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.

Master of Health Administration

The conditions for the award of the degree of Master of Health Administration are set out in the Calendar.

296
Master of Health Administration (By Research)

Master of Health Administration MHA

Facilities are available in the School for students to undertake research studies leading to the degree of Master of Health Administration, either as full-time internal students or as part-time students external to the University. Students are required to have a suitable first degree and are normally expected to have considerable experience in their proposed field of study within health or hospital services. Enquiries should be directed to the Head of School.

890
Master of Health Administration (By Formal Course Work)

Master of Health Administration MHA

The course has been designed to equip students with the basic knowledge required for senior administrative and planning work in hospitals and other health services. It does not emphasize training in specialized techniques but aims to introduce basic concepts and to educate students for management in the broadest sense of that term. No previous experience in the health field is required and graduates from any discipline are eligible to apply.

All applicants for admission to the formal course are required to provide the University with their scores on the Admission Test for Graduate Studies in Business which is conducted by the Educational Testing Service, Box 966, Princeton, New Jersey 08540, USA. Applicants must contact the Educational Testing Service direct to make arrangements to undertake the test.

The degree is awarded on the successful completion of the following program, normally taken by full-time study over two years.

Full-time Course

Year 1

Session 1

		Hours per week
16.901G	Health Services Statistics I	2
16.904G	Australian Health Care System	2
16.905G	Health Services Accounting	2
33.302G	Behavioural Science I*	3
33.303G	Management Accounting and Information Systems I*	2
33.305G	Organization Theory I*	3
		14

Year 1

Session 2

16.902G	Health Services Statistics II	2
16.940G	Medical Care Organization	2
16.942G	Medical Sociology	2
33.308G	Behavioural Science II*	3
33.310G	Management Accounting and Information Systems II*	2
33.311G	Organization Theory II*	3
		14

Year 2

Session 1

16.906G	Hospital Organization and Management I	3
16.910G	Comparative Hospital and Health Services Administration	3
16.919G	Research Project	2
16.933G	Health Services Law I	2
16.935G	Health Economics I	2
33.304G	Micro-economics and Business Decisions*	2
33.306G	Quantitative Analysis in Business I*	3
		17

Year 2

Session 2

16.909G	Community Health Planning	2
16.919G	Research Project	2
16.907G	Hospital Organization and Management II	3
16.934G	Health Services Law II	2
33.309G	Macro-economics and Policy*	2
33.313G	Quantitative Analysis in Business II*	3
	Elective†	4
		18

* This subject is offered by the Graduate School of Business as part of the requirements for the Master of Business Administration degree.
† To be chosen by the student in consultation with the Head of the School of Health Administration from the graduate subjects provided by the Graduate School of Business and the School of Health Administration. The approval of the Head of the Graduate School of Business is required to undertake an elective offered by that School.

Master of Health Planning

The School of Health Administration offers a Master of Health Planning degree for persons who have been employed in the health field for at least three years and who hold a degree, normally of at least four years' duration. (This course replaces the Graduate Diploma in Health Administration which is no longer offered.)

The course is designed to provide the knowledge and skills required to undertake responsibilities for the planning of health services at the federal, state and regional levels. It is primarily intended for people who expect to hold positions with broad administrative and planning roles in the health services.

The degree is awarded on the successful completion of the following program. The course is normally taken by one year of full-time study, but applications for part-time enrolment will also be considered.

Conditions for the award of the degree of Master of Health Planning are set out in the Calendar.

894

Master of Health Planning Course

Master of Health Planning
MHP

Full-time Course

Session 1

		Hours per week
16.930G	Introduction to Health Planning	2
16.931G	Introduction to Organization Theory	2
16.932G	Introduction to Behavioural Science	2
16.901G	Health Services Statistics I	2
16.904G	Australian Health Care System	2
16.905G	Health Services Accounting	2
16.933G	Health Services Law I	2
16.935G	Health Economics I	2
		16

Session 2

16.909G	Community Health Planning	2
16.936G	Physical Planning and Design	2
16.937G	Health Services Research and Evaluation	2
16.938G	Seminar in Health Policy	2
16.902G	Health Services Statistics II	2
16.934G	Health Services Law II	2
	Plus	
	Project and/or Electives*	6
		18

***Note**

1. Electives are to be chosen by the student in consultation with the Head of the School of Health Administration, from the subjects offered by the Schools of Health Administration, Social Work or the Graduate School of Business, and such other schools as are deemed appropriate. The approval of the relevant Head of School is required to undertake an elective offered by another school.

2. It is expected that the following elective subjects will be offered by the School of Health Administration in 1976:

		Equivalent hours per week
16.907G	Hospital Organization and Management II	2
16.910G	Comparative Hospital and Health Services Administration	2
16.940G	Medical Care Organization	2
16.941G	Epidemiology	2
16.942G	Medical Sociology	2
16.943G	Interpersonal Communications in Organizations	2
16.944G	Health Economics II	2
16.945G	Health Manpower	1
16.946G	Health Information Systems	1

Students may obtain credit of 2, 3 or 4 hours per week by undertaking a research project approved by the Head of School.

Diploma Course

558

Health Administration Graduate Diploma Course

Graduate Diploma
GradDip

This course is no longer offered and is replaced by the course leading to the award of the degree of Master of Health Planning.

Department of Industrial Arts

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

295

Master of Science (By Research)

Master of Science
MSc

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

557

Industrial Design Graduate Diploma Course

Graduate Diploma
GradDip

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

Year 1
—Part-time Course

		Hours per week
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 graduate courses leading to the degree of Master of Librarianship (MLib), the Diploma in Archives Administration (DipArchivAdmin) and the Diploma in Librarianship (DipLib).

Master of Librarianship

The conditions governing the award of the degree of Master of Librarianship by research and by formal course work are set out in the Calendar. As the University's facilities are limited, admission may be competitive.

298

Master of Librarianship (By Research)

Master of Librarianship
MLib

In addition to the thesis requirement, each candidate will complete the following two subjects* to be taken in one year:

		Hours per week S1	S2
55.805G	Issues in Librarianship	0	2
55.807G	Research Methods in Librarianship	2	0

892

Master of Librarianship (By Formal Course Work)

Master of Librarianship
MLib

Advanced training in librarianship by formal course work is designed to provide education in broad areas of specialization beyond the basic professional level. The present program of study provides a course for those who will specialize in the application of principles to the organization and management of libraries.
Each candidate will complete the program of study which may be taken on a full-time basis in one year and on a part-time basis over two years.
In addition to the formal course work, each candidate will be required to submit a report on a project (55.901G) involving individual study and investigation.
There may be occasional field excursions at times to be arranged.

Full-time Course

		Hours per week S1	S2
55.801G	Library and Information Services Management A	2	2
55.803G	Library and Information Services Management B	2	2
55.805G	Issues in Librarianship	0	2
55.807G	Research Methods in Librarianship	2	0
55.901G	Project Report		

In addition to the above, students are required to undertake studies in Organization Theory and Behavioural Science. In the past these subjects have been undertaken in the Master of Business Administration program of the Graduate School of Business. That program is not being offered in 1976 but subjects of a comparable nature will be offered, likely to involve six hours per week of class attendance in both sessions. Details are available from the School of Librarianship.

Part-time Course

Year 1

55.801G	Library and Information Services Management A	2	2

In addition to the above, students are required to undertake studies in Organization Theory and Behavioural Science. In the past these subjects have been undertaken in the Master of Business Administration program of the Graduate School of Business. That program is not being offered in 1976 but subjects of a comparable nature will be offered, likely to involve six hours per week of class attendance in both sessions. Details are available from the School of Librarianship.

Year 2

55.803G	Library and Information Services Management B	2	2
55.805G	Issues in Librarianship	0	2
55.807G	Research Methods in Librarianship	2	0
55.901G	Project Report		

* If there is sufficient demand and if the resources of the University permit, these subjects may be offered in a block period of six to eight weeks to candidates in special circumstances, such as those living long distances from the University.

Diploma Courses

Progression in School's Diploma Courses

A candidate who fails in half or more of his subjects will not be permitted to re-enrol unless the Higher Degree Committee of the Faculty of Professional Studies grants permission because it considers the circumstances to be exceptional.

559
Graduate Diploma in Librarianship

Diploma in Librarianship
DipLib

The Graduate Diploma course leading to the award of the Diploma in Librarianship is designed to provide university graduates with a basic education in librarianship and the opportunity to specialize. Candidates must hold a degree, other than in Librarianship, from the University of New South Wales or other approved university, and those enrolling in the two School Libraries subjects must also hold a Diploma in Education or a qualification accepted by the Higher Degree Committee of the Faculty of Professional Studies as equivalent. 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 program.

The Course

The course 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 generally include two from Group I and two from Group II (55.385 School Libraries I and 55.386 School Libraries II count as three subjects).

Full-time Course*

		Hours per session S1	Hours per week S2
Compulsory			
55.112	Libraries and Information	42	0
55.114	Communication and Record	42	0
55.122	Library Materials Selection and Organization	56	5
55.123	Reference Service and Materials	56	0
55.124	Library Administration	14	2
55.991	General Assignment	–	–
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
55.236	Subject Bibliography: Law (Co-requisite 55.238)	0	2
55.238	Subject Bibliography: Government Publications	0	2
55.371	Literature for Young People	0	2
	Group II		
55.362	Mechanized Systems for Libraries	0	2
55.373	Public Libraries	0	2
55.378	University and College Libraries	0	2
55.381	Special Libraries	0	2
55.385	School Libraries I (Co-requisites 55.371, 55.386)	0	3
55.386	School Libraries II (Co-requisites 55.371, 55.385)	0	3

* In addition to formal course work there are occasional field excursions, and students taking 55.385 and 55.386 will be required to serve an attachment to a public library and a school library for the equivalent of 4 hours weekly for 28 weeks, or a 4-week block if totally outside of session.
† Not all the optional subjects are necessarily available each year.

560
Graduate Diploma in Archives Administration Course

Diploma in Archives Administration
DipArchivAdmin

The Graduate Diploma course leading to the award of the Diploma in Archives Administration is designed to provide education in the principles and methods of the

administration of archives and allied materials, including current records and collections of manuscripts.

Candidates must hold a degree from the University of New South Wales or any other approved university. Candidates who have not studied Australian history and politics may be required to take a qualifying or concurrent program approved by the Faculty of Professional Studies.

Each candidate will complete the program of study which may be taken as a full-time course in one year or as a part-time course over two years. Both are daytime courses.

In addition to formal course work there may be excursions to relevant institutions.

Full-time Course

		Hours per week S1	S2
55.123	Reference Service and Materials	4	0
55.238	Subject Bibliography: Government Publications	0	2
55.712	Archives Theory and History	4	4
55.713	Archives Administration	4	7
55.714	Information Environment for Archivists	3	0
	and any one of		
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
55.236	Subject Bibliography: Law	0	2
		15	15

Part-time Course

Year 1

55.123	Reference Service and Materials	4	0
55.238	Subject Bibliography: Government Publications	0	2
55.712	Archives Theory and History	4	4
	and any one of		
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
55.236	Subject Bibliography: Law	0	2
		8	8

Year 2

55.713	Archives Administration	4	7
55.714	Information Environment for Archivists	3	0
		7	7

School of Social Work

Master of Social Work

The School of Social Work offers the degree of Master of Social Work, which may be undertaken by research or by formal course work. The conditions governing the award of the degree are set out earlier in this section.

297
Master of Social Work (By Research)

Master of Social Work
MSW

The degree of Master of Social Work by research requires that in addition to the thesis, each candidate must in his first year of registration complete the subjects 63.807G Social Policy Analysis and 63.814G Social Planning.

893
Master of Social Work (By Formal Course Work)

Master of Social Work
MSW

This course is designed to extend the professional knowledge of qualified social workers. Candidates may specialize in interpersonal helping, community work or administration. In addition to the formal course work, each candidate is required to submit a report on a project involving individual study and investigation of some area of social welfare.

The course is available as a one-year full-time program or a two-year part-time program.

Full-time Course

		Hours per week
Session 1		
63.801G	Advanced Social Work Practice I (Interpersonal Helping)	
	or	
63.816G	Advanced Social Work Practice I (Community Work)	4
	or	
63.818G	Advanced Social Work Practice I (Administration)	
63.806G	Social and Behavioural Science	3
63.808G	Professional Interpersonal Competence	2
63.815G	Social Work Research Methods	2
63.805G	Issues for the Social Work Profession	1
63.807G	Social Policy Analysis	2
63.809G	Project	4
		18

Session 2

		Hpw
63.802G	Advanced Social Work Practice II (Interpersonal Helping)	
	or	
63.817G	Advanced Social Work Practice II (Community Work)	6
	or	
63.819G	Advanced Social Work Practice II (Administration)	
63.811G	Practice Theory and Social Welfare Administration	2
63.814G	Social Planning	2
63.812G	Project Seminar	2
63.809G	Project	6
		18

Part-time Course

Session 1

		Hpw
63.801G	Advanced Social Work Practice I (Interpersonal Helping)	
	or	
63.816G	Advanced Social Work Practice I (Community Work)	4
	or	
63.818G	Advanced Social Work Practice I (Administration)	
63.806G	Social and Behavioural Science	3
63.808G	Professional Interpersonal Competence	2
		9

Session 2

63.802G	Advanced Social Work Practice II (Interpersonal Helping)	
	or	
63.817G	Advanced Social Work Practice II (Community Work)	6
	or	
63.819G	Advanced Social Work Practice II (Administration)	
63.811G	Practice Theory and Social Welfare Administration	2
		8

Session 3

63.815G	Social Work Research Methods	2
63.805G	Issues for the Social Work Profession	1
63.807G	Social Policy Analysis	2
63.809G	Project	4
		9

Session 4

63.814G	Social Planning	2
63.812G	Project Seminar	2
63.809G	Project	6
		10

Subject Descriptions and Textbooks

Reference booklists are not published here, but are available from the various Schools.

For General Studies subjects see the Board of Studies in General Education Handbook, which is available free of charge.

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

Identification of Subjects by Numbers

Each subject provided by a School has an identifying number. The integer is the identifying number of the School and the numbers after the decimal point distinguish the subject from others conducted by that School, some of which may have the same name. For example, Physics I has several variations. The subject number 1.001 denotes Physics I and is the physics subject included in first year Applied Science, Science and Engineering course programs; 1.011 is the corresponding subject at a higher level; 1.081 is the special Physics I subject included in the first year Medicine course, and so on.

As well as providing a clear means of identifying subjects with the same or similar names, the subject number is also used in the recording of enrolment and examination information on machine data processing equipment. It is therefore emphasized that students should cite both the correct subject name, subject number and course code in all correspondence or on forms dealing with courses.

You should become familiar with the identifying numbers of the subjects listed in this handbook:

Identifying Number	School, Faculty or Department
1	School of Physics
2	School of Chemistry
4	School of Metallurgy
5	School of Mechanical and Industrial Engineering
10	School of Mathematics
12	School of Psychology
14	School of Accountancy
16	School of Health Administration
17	Biological Sciences
21	Department of Industrial Arts
25	School of Applied Geology
27	School of Geography
41	School of Biochemistry
43	School of Botany
44	School of Microbiology
45	School of Zoology
53	School of Sociology
55	School of Librarianship
58	School of Education
62	School of History and Philosophy of Science
63	School of Social Work
73	School of Physiology and Pharmacology

See the Calendar for the full list of subjects and their identifying numbers and for summaries of the disciplines taught in each School or Department.

School of Physics

Undergraduate Study

The School of Physics offers most courses at lower and higher levels. The following descriptions refer to lower level courses. A student may substitute a corresponding higher level course, provided that the prerequisites and co-requisites are satisfied.

Physics Level I Units

1.001
Physics I — S1+S2 L3T3

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

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

Textbook

Weidner R. T. & Sells R. L. *Elementary Physics, Classical and Modern* Allyn & Bacon

Physics Level II Units

1.112A
Electromagnetism — S2 L2½T3½

Prerequisites: 1.001, 10.001. Co-requisite: 10.211A.

Electrostatics in vacuum and in dialectrics. Magnostatics in vacuum and in magnetic materials. Maxwell's equations and simple applications.

Textbook

Parton J. E. & Owen S. J. T. *Applied Electromagnetics* Mac Press

1.112B
Modern Physics — S1 L2½T3½

Prerequisites: 1.001, 10.001. Co-requisite: 10.211A. Students cannot take both 1.112B and 1.212C.

Special theory of relativity, Lorentz transformation, relativistic mass momentum and energy: Schrödinger wave equation expectation values, operators, eigenfunctions, eigenvalues, free-particle, bound-particle and applications to physical systems, spectra, electron spin, spin-orbit coupling, exclusion principle, origins and spectra of X-rays, electron energy levels in solids.

Textbook

Arya A. P. *Elementary Modern Physics* Addison-Wesley

1.112C
Thermodynamics and Mechanics — S1+S2 L1½T½

Prerequisites: 1.001, 10.001. Co-requisite: 10.211A.

Thermodynamics: First and second laws of thermodynamics. Thermodynamic functions and simple applications. Statistical foundations of thermodynamics. *Mechanics:* Properties of solids and liquids, elasticity, hydrostatics, hydrodynamics, vibration of systems with one degree of freedom, S.H.M., superposition, damped S.H.M., forced vibration, resonance, Fourier analysis, vibrations of coupled systems, Lagrangian mechanics, oscillations of continuous systems, waves, wave packet group velocity.

Textbooks

French A. P. *Vibrations and Waves* Nelson
Mandl F. *Statistical Physics* Wiley
Stephenson R. J. *Mechanics and Properties of Matter* Wiley

1.212
Physics IIT

Any two of the following half-units: 1.212A, 1.212B, 1.212C.

1.212A
Geometrical Optics — S1 L1T2

Prerequisities: 1.001, 10.001.

The concept of the ray of light and the point image. Reflection. Fresnel's laws. Refraction. The thin lens. The thick lens and the lens systems. Instruments and their aberrations. Introduction to optical computations. Photometry.

Textbook

Fincham W. *Optics* Hatton

1.212B
Electronics — SS L1T2

Prerequisites: 1.001, 10.001. Students cannot take both 1.212B and 1.133A.

The application of electronics to other disciplines. Includes: principles of circuit theory and analogue; computing; amplifiers, their specification and application; transducers; electronic instrumentation; industrial data acquisition.

Textbook

Smith R. J. *Circuits, Devices and Systems* 2nd ed Wiley

1.212C
Introduction to Solids — S2 L2T1

Prerequisites: 1.001, 10.001. Students cannot take both 1.212C and 1.112B.

Introductory quantum mechanics and atomic physics; crystal

structure; point and line defects; introductory band theory; conductors, semiconductor and insulators; energy level diagrams.

Textbook

Rudden M. N. & Wilson J. *A Simplified Approach to Solid State Physics* Butterworths

Physics Level III Units

1.113A
Wave Mechanics S1 L2½T3½

Prerequisite: 1.112B. Co-requisite: 1.112C.

Concepts and formulation, finite wells and barriers, tunnelling, harmonic oscillator and applications, hydrogen atom, perturbations, systems of identical particles, electron states in complex systems, bonding, molecules, periodic solids.

Textbook

No set texts.

1.113B
Electromagnetic Fields and Physical Optics S2 L2½T3½

Prerequisites: 1.112A, 10.211A.

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

Textbook

Lipson H. & S. S. *Optical Physics* C.U.P.

1.113C
Statistical Mechanics and Solid State S1 L2½T3½

Prerequisites: 1.112B. Co-requisites: 1.113A, 1.112C.

Thermodynamic potentials, ensembles and partition functions, lattice vibrations, the grand canonical ensemble, Pauli exclusion principle, Bose-Einstein and Fermi-Dirac distributions.

Structure of crystals, imperfections, specific heat. Band theory of solids, semiconductors.

Textbooks

Blakemore J. S. *Solid State Physics* Saunders
Jackson E. A. *Equilibrium Statistical Mechanics* Prentice-Hall
Mandl F. *Statistical Physics* Wiley

1.113D
Astrophysics and Nuclear Physics S2 L2½T3½

Prerequisites: 1.112B, 1.113A.

The observational environment, optical astronomy, radio astronomy, X-ray astronomy, stellar evolution, radio sources, the sun. Detecting instruments and accelerators for nuclear particles, Rutherford scattering, nuclear atom, neutrino, radioactive processes, nuclear reactions, angular distributions, mesons, baryons, excited nuclear states.

Textbook

Tayler R. J. *The Stars, Their Structure and Evolution* Wyneham Science Series

1.143A
Biophysics S1 L3½T½

Prerequisite: 1.112C.

Ear and sound, eye and light, impulses by nerves, the brain, hearing, vision muscles, heart-beat, structure of proteins, nucleic acid, radiation effects, enzymes, diffusion and permeability.

Textbook

Ackerman E. *Biophysical Science* Prentice-Hall

1.143B
Solid State Devices and Electronics S2 L2T4

Generalized amplifiers, negative feedback, special amplifiers, regulated power supplies, modulation, pulse circuits, silicon-controlled rectifier circuits, instruments.

Textbooks

No set texts.

1.143D
Conceptual Framework of Physics S2 L3T2

Prerequisites: 1.112A, 1.112B & 1.112C (this last unit may be taken as a Co-requisite in special cases).

Physics and metaphysics: the place of speculation in theory formation. Space and time: systems of coordinates, the nature and arrow of time, parity, micro causality. Fundamental physical phenomena: the fundamental phenomena on which physical theories have been based; electrical, gravitational, inertial nuclear and entropy/probability. Field theory: in particular e.m. and gravitational field theory. Mathematical formalization of physical phenomena, action at a distance, field propagation, field energy, connection to relativity. Relativity: the fundamental postulates, simultaneity, limiting speeds, connection with field theory, mass and energy. Relationship between micro- and macro-cosmos: devisibility of matter (molecules, atoms, nuclei, nucleon), matter and anti matter, statistical nature of the behaviour of large aggregates or systems, the concept of entropy, the second law of thermodynamics. The place of determinism in physics. Matter and energy: Conservation laws, inertial mass, equivalence principle, field energy, spatial delimitation of material particles. Theory of quantum processes: granularity effects, uncertainty principle, effects of measurements, virtual processes. Determinism vs. indeterminism in physics, application to nuclear phenomena.

Textbooks

No set texts.

1.113Z
Techniques and Design for Experimental Physics

Training in practical skills for building of metal, wood and glass apparatus. This unit is a preparation for experimental research and is especially aimed to equip prospective physics teachers to devise experiments and design equipment.

Textbooks

No set texts.

School of Chemistry

Undergraduate Study

2.001
Chemistry I — S1 S2 L2T4

Classification of matter and theories of the structure of matter. Atomic structure, the periodic table and chemical behaviour. Chemical bonding, molecular structure and stereochemistry. Chemical kinetics and equilibrium; enthalpy, free energy and entropy changes in chemical systems. The structure, nomenclature and properties of organic and inorganic compounds. Reactions of organic and inorganic compounds.

Textbooks

Aylward G. A. & Findlay T. J. V. *SI Chemical Data* Wiley
Chemistry I—Laboratory Manual University of NSW
De Puy C. H. & Rinchaet K. L. *Introduction to Organic Chemistry* 2nd ed Wiley
Mahan B. H. *University Chemistry* 3rd ed Addison-Wesley

2.021
Chemistry IE — S1 or S2 L3T3

A terminating subject for students in the aeronautical, civil, electrical, industrial, mechanical and mining engineering, and naval architecture courses.

Classification of matter and theories of the structure of matter; atomic and molecular structure, the periodic table and chemical behaviour; chemical bonding and the nature and properties of chemical systems; equilibrium and energy changes in chemical systems; introduction to colloidal systems.

Textbooks

Aylward G. H. & Findlay T. J. V. eds *SI Chemical Data* Wiley
Barrow G. M., Kenney M. E., Lassila J. D., Litle R. L. & Thompson W. E. *Understanding Chemistry* Benjamin
Chemistry IE Laboratory Manual NSWUP

Level II Units

2.002A
Physical Chemistry — S1 or S2 L3T3

Prerequisites: 1.001 or 1.011 **and** *2.001* **and** *10.001, 10.011 or 10.021.*

Thermodynamics: first, second and third laws of thermodynamics; statistical mechanical treatment of thermodynamic properties; applications of thermodynamics: chemical equilibria, phase equilibria, solutions of non-electrolytes and electrolytes, electrochemical cells.

Kinetics: order and molecularity; effect of temperature on reaction rates; elementary reaction rate theory.

Surface chemistry and colloids: adsorption, properties of dispersions; macromolecules and association colloids.

Textbooks

Barrow G. M. *Physical Chemistry* 3rd ed McGraw-Hill
Shaw D. J. *Introduction to Colloid and Surface Chemistry.* 2nd ed Butterworths

2.002B
Organic Chemistry — S1 or S2 L3T3

Prerequisite: 2.001.

Chemistry of the more important functional groups; aliphatic hydrocarbons, monocyclic aromatic hydrocarbons, halides, alcohols, phenols, aldehydes, ketones, ethers, carboxylic acids and their derivatives, nitro compounds, amines and sulphonic acids.

Textbooks

Morrison R. T. & Boyd R. N. *Organic Chemistry* 3rd ed Int. Stud. Ed. Allyn & Bacon
Only if proceeding to further study of Organic Chemistry:
Vogel A. I. *Elementary Practical Organic Chemistry* Pt II Qualitative Organic Analysis Longman

2.002D
Analytical Chemistry — S1 or S2 L2T4

Prerequisites: 2.001 **and** *10.001, 10.011 or 10.021.*

Chemical equilibria in analytical chemistry. Acid-base, complex formation, redox systems, solid/solution, and liquid/liquid equilibria with applications to volumetric, gravimetric and complexometric analysis, and to liquid/liquid extractions. Spectrophotometry, basic principles. Chromophores. Fundamentals of precision. Electrochemistry, theory and applications to electrodeposition and potentiometry; ion selective electrodes. Radioactive tracer techniques. Data evaluation in analytical chemistry. Qualitative analysis.

Textbooks

Eckschlager K. *Errors and Measurements in Chemical Analysis*
Chalmers R. A. trans ed Van Nostrand
Ewing G. W. *Instrumental Methods of Chemical Analysis* McGraw-Hill
Fischer R. B. & Peters D. G. *Quantitative Chemical Analysis* Saunders

2.042C
Inorganic Chemistry — S1 or S2 L2T4

Prerequisite: 2.001.

Chemistry of the non-metals, including B, C, Si, N, P, S, Se, Te, halogens, and noble gases. Chemistry of the metals of groups IA, IIA, and Al. Typical ionic, giant-molecule and close-packed structures. Transition metal chemistry, including variable oxidation states, paramagnetism, Werner's theory, isomerism of six- and four-coordinate complexes, chelation, stabilization of valency states. Physical methods of molecular structure determination. Chemistry of Fe, Co, Ni, Cu, Ag, Au.

Textbooks

1.
Jolly W. L. *The Chemistry of the Non-Metals* Prentice-Hall
Larsen E. M. *Transitional Elements* Benjamin
or
2.
Cotton F. A. & Wilkinson G. *Advanced Inorganic Chemistry* 2nd ed Wiley

Level II/III Units

2.003A
Physical Chemistry — S1 or S2 L3T3

Prerequisite: 2.002A.

Thermodynamics, including non-ideal systems; advanced electrochemistry; statistical thermodynamics; applications to gases, liquids and chemical equilibria; states of matter.

Textbook

Barrow G. M. *Physical Chemistry* 3rd ed McGraw-Hill

2.003B
Organic Chemistry — S1 or S2 L2T4

Prerequisite: 2.002B.

Alicyclic Chemistry. Stereochemistry of acyclic systems; classical and non-classical strain in cyclic systems; stereochemistry and conformation of monocyclic and polycyclic compounds; synthesis, reactions and rearrangement of monocyclic compounds, including stereochemical selectivity; transannular reactions in medium rings. Synthesis and reactions of fused and bridged polycyclic systems.

Heterocyclic Chemistry. Synthesis and reactions of the following hetero-aromatic systems pyridine, quinoline, isoquinoline. Flavones and isoflavones pyrimidine; pyrrole, furan, thiophen. Indole, imidazole.

Textbooks

Morrison R. T. & Boyd R. N. *Organic Chemistry* 3rd ed Allyn and Bacon Int. Stud. Ed.
or
Roberts J. D. & Caserio M. C. *Basic Principles of Organic Chemistry* Benjamin
Joule J. A. & Smith G. F. *Heterocyclic Chemistry* Van Nostrand Reinhold
McQuillin F. J. *Alicyclic Chemistry* C.U.P.
Tedder J. M., Nechvatal A., Murray A. W. & Carnduff J. *Basic Organic Chemistry* Pt. 3. Wiley
Vogel A. I. *Elementary Practical Organic Chemistry* Pt II Qualitative Organic Analysis Longman
Whittaker D. *Stereochemistry and Mechanism* Clarendon

2.003C
Inorganic Chemistry — S1 or S2 L2T4

Prerequisite: 2.042C.

Coordination chemistry: valence bond and crystal field theory and their application to magnetic and spectral properties of complexes. Factors affecting the stability of complexes; unusual oxidation states of transition metals. Chemistry of the groups IIIA (the lanthanides and actinides), IVA, VA, VIA and VIIA. More advanced chemistry of groups IIIB, IVB, VB, VIB and VIIB and the noble gases.

Textbook

Cotton F. A. & Wilkinson G. *Advanced Inorganic Chemistry* 3rd ed Wiley

2.003D
Instrumental Analysis — S1 or S2 L2T4

Prerequisites: 2.002A **and** *2.002D.*

Selected spectrophotometric methods of analysis: infrared, emission, flame, precision spectroscopy, spectrofluorimetry, X-ray fluorescence, mass spectroscopy. Instrumental chromatography, thermal analysis. Electrochemical and kinetic methods. Introduction to automation and data processing.

Textbooks

Chalmers R. A. *Aspects of Analytical Chemistry* Contemporary Science Oliver & Boyd. Paperback
Ewing G. W. *Instrumental Methods of Chemical Analysis* McGraw-Hill
Hamilton L. F., Simpson S. & Ellis D. W. *Calculations of Analytical Chemistry* 7th ed McGraw-Hill

2.003E
Nuclear and Radiation Chemistry — S1 or S2 L2T4

Prerequisite: 2.001 **and** *10.001, 10.011 or 10.021.*

Fundamental particles, nuclear structure and properties. Nuclear transformations. Properties of nuclear radiations. Interaction of radiation with matter—gross attenuation, ionization. Detection and measurement of nuclear radiations—ionization, proportional, Geiger-Muller, scintillation, semiconductor counting for alpha, beta and gamma radiation and neutrons. Absolute and coincidence counting. Nuclear pulse spectrometry. Nuclear instrumentation, principles of radiation measuring equipment. Radiation chemistry: primary and secondary processes in the absorption of ionizing radiation in gases, liquids and solids. Free radical detection and reactions. Technological applications and techniques. Separation of isotopes by physical and chemical means. Preparation of radionuclides in high energy machines and nuclear reactors. Radiochemical techniques. Handling precautions. Chemistry of nuclear transformations. Chemistry of reactor fuel cycles. Applications of radionuclides in chemistry, biology and industry.

Textbooks

Carswell D. J. *Introduction to Nuclear Chemistry* Elsevier
or
Friedlander G., Kennedy J. & Miller J. M. *Nuclear and Radiochemistry* 2nd ed Wiley
or
Harvey B. *Introduction to Nuclear Physics and Chemistry* Prentice-Hall

2.003H
Molecular Spectroscopy and Structure — S1 or S2 L3T3

Prerequisite: 2.001.

Absorption and emission of radiation. Atomic spectra. Molecular spectroscopy: vibrational, including infrared and Raman; UV-visible; instrumentation and sample handling. Magnetic resonance. Mass spectrometry with particular reference to structure determination. Laboratory and tutorial work to illustrate the above, including inspection of major instruments.

Textbook

Silverstein R. M., Bassler C. G. & Morrill T. C. *Spectrometric Identification of Organic Compounds* 3rd ed Wiley

2.003J
Fundamentals of Biological Chemistry — S1 or S2 L2T4

Prerequisite: 2.001. Excluded: 41.101A.

Aspects of the chemical and physical properties of materials

important in biological systems. Methods of separation purification and estimation and to correlations of structure with reactivity.
Methods of separation and identification, such as gel permeation, discussed as appropriate to each topic.
Significance of isomerism in biological systems, optical and geometrical, absolute configuration. Amino acids, peptides and introduction to protein structure. Relevant properties, acid/base properties, pK values, zwitterion isoelectric points. Simple peptide synthesis.
Treatment of carbohydrates, establishment of structures reactivity. Chemistry of monosaccharides, disaccharides and polysaccharides. Methods of analysis chemical and physicochemical.
Fats, correlation of properties with saturated and unsaturated fatty acid composition. Structural chemistry of fatty acids. Reaction of unsaturated fatty acids, urea complexes. Detergents.
Trace elements in biological systems. Chemistry of common heterocyclic systems with emphasis on molecules of biological importance.

Textbooks

Acheson R. M. *Introduction to the Chemistry of Heterocyclic Compounds* Interscience
Barker R. *Organic Chemistry of Biological Compounds* Prentice-Hall

2.003K
Solid State Chemistry — S2 L2T4

Prerequisites: 2.001 **and** *10.001 or 10.011.*

The determination of crystal structures by single crystal diffraction: X-ray and neutron diffraction methods. Practical and automated aspects of the solution of crystal structures: applications to inorganic, moleculae and macromoleculae crystals. Patterns of solid state structure: the structures of crystals with unusual and valuable chemical and physical properties. Solid state reactions, surface properties and catalysis. Applications of EPR, NMR and mass spectrometry.

Textbooks

Bond G. C. *Catalysis by Metals* Academic
Greenwood N. N. *Ionic Crystals, Lattice Defects and Non-stoichiometry* Butterworths
Stout G. H. & Jensen L. H. *X-ray Structure Determination* Macmillan

2.003L
Applied Organic Chemistry — S1 + S2 L1T2

Prerequisite: 2.002B. Excluded: 2.013L, 2.033L, 2.043L.

Discussion at advanced level of the chemistry of selected commercially important groups of organic materials. Mechanisms of reaction and physical properties, together with methods of examination, in overall unit approach, correlating structure with behaviour. Emphasis on breakdown to model systems.
Theory of physical techniques, refractometry, polarimetry etc. from basis of additivity. Fatty acids with emphasis on unsaturation, thermal and oxidative polymerizations, alkyl resins, analysis of mixtures. Waxes and sterols; selected natural and synthetic macromolecules; polymerization processes, including treatment of initiators, chain transfer agents, retarders. Vulcanization and sulphur-olefin reactions. Photochemical processes; electro-organic chemistry. Fine chemicals, soaps and detergents. Aspects of metal catalysis in industry.

Textbook

No set text. A list of reference books is provided by the school.

2.003M
Organometallic Chemistry — S1 or S2 L2T4

Prerequisite: 2.002B.

Synthesis, structure and reactions of metal alkyls and aryls; metal carbonyls, isonitriles and acetylides; compounds of metals with unsaturated hydrocarbons; organic chemistry of boron, silicon, phosphorus and arsenic; application of organometallic compounds in organic synthesis and homogeneous catalysis.

Textbooks

Pauson P. *Organometallic Chemistry* Arnold
Swan J. M. & Black D. St. C. *Organometallics in Organic Synthesis* Chapman & Hall

2.013A
Introductory Quantum Chemistry — S1 L3T3

Prerequisites: 1.001 or 1.011 **and** *2.001* **and** *10.001, 10.011 or 10.021.*

Quantum mechanical concepts. Particle in a box. Rotational and vibrational motions—spectra. The hydrogen atom. Angular momentum. Many electron atoms; effects of electron spin; atomic spectra. Molecular spectroscopy and valence: electronic structure and spectra of molecules. The Franck-Condon principle. Delocalization; Hückel M.O. theory. Ligand field theory. Photoelectron spectroscopy. Magnetic resonance: basic principles and experimental techniques; spin density effects in ESR spectra; theory of nuclear shielding and spin-spin coupling; relaxation processes.

Textbooks

Barrow G. M. *Physical Chemistry* 3rd ed McGraw-Hill
Dixon R. N. *Spectroscopy and Structure* Methuen

2.013B
Synthetic Organic Chemistry — S2 L2T4

Prerequisite: 2.003B.

Introduction, aims, stereochemical and positional problems, recognition of sub-units. Modern functional group transformations with particular reference to positional and stereochemical control. Spectroscopic markers. Electrocyclic reactions, formation, contraction and expansion of rings, Diels-Alder and related cycloadditions, photochemistry, Woodward-Hoffmann rules, protecting groups. Representative syntheses of compounds of theoretical and biological interest, e.g. cubane, Dewar benzene, caryophyllene, reserpine, corrins.

Textbook

Carruthers W. *Some Modern Methods of Organic Syntheses* C.U.P.

2.013C
Advanced Inorganic Chemistry — S1 or S2 L2T4

Prerequisite: 2.042C. Co-requisite: 2.003C.

Reaction mechanisms involving metal complexes, spectroscopic methods for investigating metal complexes, including infrared, electronic, and Mössbauer spectroscopy. Inorganic crystal chemistry: structures and properties of simple compounds, solid electrolytes, semi-conductors, and insulators. π-Complexes, carbonyls, nitrosyls, ethylene complexes, and sandwich-type compounds; methods of preparation, reactions, evidence for structures and type of bonding involved.

Textbook

Cotton F. A. & Wilkinson G. *Advanced Inorganic Chemistry* 3rd ed Wiley

2.013D
Advanced Analytical Chemistry — S1 or S2 L2T4

Prerequisite: 2.002D. Co-requisite: 2.003D.

Sampling of biological, environmental and industrial materials. Preparation for analysis. Approaches to analysis of gases, waters, soils and geological materials, plants and biological materials, ceramics, ferrous and non-ferrous metals and alloys. Chemical microscopy.

Textbooks

Chalmers R. A. *Aspects of Analytical Chemistry* Contemporary Science. Oliver & Boyd*
Eckschlager K. *Errors and Measurements in Chemical Analysis* Chalmers R. A. trans ed Van Nostrand
Ewing G. W. *Instrumental Methods of Chemical Analysis* McGraw-Hill
Hamilton L. F., Simpson S. & Ellis D. W. *Calculations of Analytical Chemistry* 7th ed McGraw-Hill
Kolthoff I. M., Sandell E. B., Meehan E. J. & Bruchenstein S. *Quantitative Chemical Analysis* Macmillan
Schaeffer W. F. *Microscopy for Chemists* Dover
Schwarzenbach G. & Flaschka H. *Complexometric Titrations* Irving H. M. trans 2nd ed Methuen

2.013L
Chemistry and Enzymology of Foods — S1 S2 L1T2

Prerequisite: 2.002B. Excluded: 2.043L.

The chemistry of food constituents at an advanced level, the relationship between the chemistry and enzymology associated with the origin and handling of foodstuffs. Treatment of the stability of constituents, changes in colour and texture occurring during processing and storage. Methods of assessment, chemical and physical.

General classification of constituents, role of free and combined water. Fixed oils and fats, rancidity of enzymic and autoxidative origin anti-oxidants—natural and synthetic—theories on mechanisms of action, carbo-hydrates reactivity, role in brewing processes, carbohydrate polymers, starch structure, enzymic susceptibility and mode of action, estimations, enzymic degradation and enzymic browning, reactions and stability of natural pigments, vitamins, preservatives.

Textbooks

No set texts. A list of reference books is provided by the School.

2.013M
Thermochemistry — S1 or S2 L2T4

Prerequisite: 2.002A.

Thermochemistry of metal complex and organometallic reactions: Dissociation of molecules and bond energies; solvation of ions and molecules; reactions in non-aqueous solution; substitution reactions; Lewis acid-base reactions; formation of inorganic polymers. Energy induced reactions. Mechanism of inorganic substitution, electron-transfer and free-radical reactions; reactions of co-ordinated ligands; template synthesis; porphyrin complexes.

Textbook

Benson D. *Mechanisms of Inorganic Reactions in Solution* McGraw-Hill

2.023A
Chemical Physics — S1 or S2 L4T1

Prerequisites: 2.002A **and** *10.211A.*

Wave mechanics—linear operators; Schrödinger wave equation, applications, methods of solution; variation principle, linear combinations, perturbation theory. Many-electron problems—central field method; electron spin; Fermi-Dirac statistics; angular momentum operators; Coulomb repulsion two-electron operator; spin-orbit coupling Russell-Saunders and jj coupling; Zeeman effect; vector coupling and Wigner coefficients; allowed transitions. Group theory—symmetry operations; matrix representation; irreducible representation; characters of a group; non-rigid molecules; antisymmetry operators.

Textbook

Golding R. M. *Applied Wave Mechanics* Van Nostrand

2.023B
Natural Product Chemistry — S1 or S2 L2T4

Prerequisite: 2.003B.

The isolation, structure determination, synthesis and biosynthesis, and the reactions of selected classes of organic compounds of biological significance. The chemistry of plant and animal products—terrestrial and marine. Examples from carbohydrates, terpenoids and steroids, alkaloids and other naturally-occurring heterocyclic systems. Interdisciplinary aspects of the topic.

Textbook

Tedder J. M., Nechevatal A., Murray A. W. & Carnduff J. *Basic Organic Chemistry Part IV* Wiley

2.023L
Biological and Agricultural Chemistry — S1 S2 L1T2

Prerequisites: 2.002B. Excluded: 2.053L.

Water supplies, bore water, methods of examination and assessment. Origin of plant constituents of importance to food industries. Oxygen and nitrogen heterocyclic chemistry as required for natural pigments, phenolics, tannins, methods of estimation. Photochemical processes. Toxic and non-toxic constituents, alkaloids, enzyme inhibitions, preparation, assessment and active site concepts.

Animal feeds, fodders, silage formation. Soil and plant nutrients. Fractionations of carbohydrates, proteins. Structure and glyceride fractionation of fats.

Agricultural chemicals, feed additives. Insecticides, pesticides, natural and synthetic. Fungicides, herbicides and plant growth hormones. Synthesis formulation, stability and degradation processes. Extensions in vitamin chemistry. Trace metals in plant and animal metabolites.

Textbook

No set texts. A list of reference books is provided by the School.

* Paperback.

2.033A
Physical Chemistry of Macromolecules — S1 or S2 L2T4

Prerequisites: 1.112C or 2.002A **and** *2.002B or 2.003J.*

Macromolecules in solution; determination of molecular size: gel permeation chromatography, diffusion, sedimentation, viscometry, osmometry and light scattering. Spectroscopic properties: circular dichroism and optical rotary dispersion; conformation of macromolecules in solution; helix-random coil transitions. Macromolecules in the solid state; X-ray diffraction; basic structural features.

Textbook

Van Holde K. E. *Physical Biochemistry* Prentice-Hall.

2.033L
Applied Organic Chemistry — S1 S2 L2T4

Prerequisite: 2.002B. Excluded: 2.003L, 2.043L, 2.053L.

As for 2.003L but in greater detail and depth.

Textbook

No set texts. A list of reference books is provided by the School.

2.043A
Environmental Chemistry — S1 or S2 L2T4

Prerequisite: 2.002A.

Role of chemist in society, impact of technology. Physico-chemical aspects of atmosphere chemistry: dispersion of colloids and solid matter, photo-chemical reactions. Hydrological cycle: reactions in the sea, rivers and estuaries; chemical characteristics of surface and sub-surface waters. Simple digital and analogue computer models of ecological systems based on chemical data and physico-chemical properties (for further details see 3.101 and 22.143).

Textbooks

Dickson T. R. *The Computer and Chemistry* Freeman
Hamilton C. H. *Chemistry in the Environment* Freeman
Schaum Outline Series. *Numerical Analysis* McGraw-Hill

2.043L
Chemistry and Enzymology of Foods — S1 S2 L2T4

Prerequisite: 2.002B. Excluded: 2.013L, 2.033L, 2.053L.

As for 2.013L but in greater detail and depth.

Textbooks

No set texts. A list of reference books is provided by the School.

2.053A
Chemical Kinetics and Reaction Mechanisms — S1 or S2 L3T3

Prerequisite: 2.002A.

Basic kinetic concepts, mechanisms of elementary processes and fundamental theories of kinetics. Gas-phase systems, unimolecular and free-radical reactions. Reactions involving excited species, pyrolysis, photolysis, mass spectrometry; comparison of flash photolysis and pulse radiolysis. Reactions in solution. Surface kinetics and catalysis. Fast reactions. Applications of the above concepts to inorganic and organic reaction mechanisms.

Textbooks

Gardiner W. C. *Rates and Mechanisms of Chemical Reactions* Benjamin
Sykes P. *The Search for Organic Reaction Pathways* Longman

2.053L
Biological and Agricultural Chemistry — S1+S2 L2T4

Prerequisite: 2.002B. Excluded: 2.023L, 2.033L, 2.043L.

As for 2.023L but in more detail and depth.

Textbooks

No set texts. A list of reference books is provided by the School.

2.063A
Advanced Molecular Spectroscopy — S1 or S2 L2T4

Prerequisite: 2.013A.

Theory: Born-Oppenheimer approximation; theory of transition probabilities; group theory; normal mode analysis.

Spectra: rotational, vibrational and electronic structure in molecular spectra, including microwave, infrared, Raman, UV-visible and photo-electron spectra. Kinetic spectroscopy. Lasers.

Textbook

Dixon R. N. *Spectroscopy and Structure* Methuen

School of Metallurgy

Undergraduate Study

4.911
Materials Science — L1T½

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

Textbook

Barrett C. R., Nix W. D. & Tetleman K. *The Principles of Engineering Materials* Prentice-Hall

4.951
Materials Technology — L2T2

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

School of Mechanical and Industrial Engineering

Undergraduate Study

5.010
Engineering A — SSL4T2

Prerequisite: None.

Engineering Mechanics I: Two and three dimensional force systems, composition and resolution of forces, laws of equilibrium. Statics of rigid bars, pin-jointed 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.

Introduction to Engineering Design: Engineering method, problem identification, creative thinking, mathematical modelling, computer aided design, materials and processes, communication of ideas, the place of engineering in society.

Introduction to Materials Science: The structure and properties of the main types of engineering materials, with emphasis on the way in which properties may be controlled by controlling structure.

Textbooks

Gordon J. E. *The New Science of Strong Materials, or Why You Don't Fall Through the Floor* Penguin
Merian J. L. *Statics* Wiley
Scientific American. *Materials* Freeman
Svensson N. L. *Introduction to Engineering Design* NSWUP
Walshaw A. C. *SI Units in Worked Examples* Longman

5.030
Engineering C

Engineering Drawing: Fundamental concepts of descriptive geometry, including reference systems, representation of point, line and plane; fundamental problems of position and 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.
and either
Introduction to Chemical Engineering (Compulsory for Chemical Engineering students): Routes to and end uses of industrial chemicals. Likely new industrial chemicals. A survey of several Australian chemical industries for the point of view of their historical and economic importance. Examination of the unit operations involved in the industry and the raw materials, equipment and services used. Environmental aspects of the chemical industry.
or
Introduction to Metallurgical Engineering: For subject description and textbook see under 4.002.
or
Production Technology: Description and appraisal of the processes classified as: forming from liquid or solid, material removal, material joining. Machines. Analysis of the primary functions of the machine tools and an appraisal of their limitations. Principles of operation of common machine tools and illustrations of their use.

Textbooks

De Garmo E. P. *Materials and Processes in Manufacturing* Macmillan
Robertson R. G. *Descriptive Geometry* Pitman
Thomson R. *Exercises in Graphic Communication* Nelson

School of Mathematics

Undergraduate Study

10.001
Mathematics I — L4T2

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

Preliminary Reading List

Allendoerfer C. B. & Oakley C. O. *Principles of Mathematics* McGraw-Hill
Bell E. T. *Men of Mathematics* 2 vols Pelican
Courant R. & Robbins, H. *What is Mathematics* OUP
Polya G. *How to Solve It* Doubleday Anchor
Sawyer W. W. *A Concrete Approach to Abstract Algebra* Freeman
Sawyer W. W. *Prelude to Mathematics* Pelican

Textbooks

Blatt J. M. *Basic Fortran IV Programming (Miditran Version)* Computer Systems (Aust.)
Shields P. C. *Elementary Linear Algebra* 2nd ed Worth
Thomas G. B. *Calculus and Analytic Geometry* 4th ed Addison-Wesley

10.011
Higher Mathematics I — L4T2

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

Preliminary Reading List

As for 10.001 plus:
Arnold B. H. *Intuitive Concepts in Elementary Topology* Prentice-Hall
David F. N. *Games, Gods and Gambling* Griffin
Felix L. *The Modern Aspect of Mathematics* Science
Huff D. *How to Lie with Statistics* Gollancz
Reid C. *From Zero to Infinity* Routledge

Textbooks

Blatt J. M. *Basic Fortran IV Programming (Miditran Version)* Computer Systems (Aust.)
Spivak M. *Calculus* Benjamin

10.021
Mathematics IT — L4T2

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

Textbooks

Blatt J. M. *Basic Fortran IV Programming (Miditran Version)* Computer Systems (Aust.)
Greening M. G. *First Year General Mathematics* NSWUP
Saltz D. *A Short Calculus* Goodyear

Mathematics II

Consists of 10.111A, 10.111B and 10.211A.

10.111A

Pure Mathematics II—Linear Algebra L1½T½

Vector Spaces: inner products, linear operators, spectral theory, quadratic forms. Linear Programming: convex sets and polyhedra, feasible solutions, optimality, duality.

Textbook

Tropper A. M. *Linear Algebra* Nelson*

10.111B

Pure Mathematics II—Analysis L1½T½

Real analysis: partial differentiation, multiple integrals. Analysis of real valued functions of one and several variables. Complex analysis; analytic functions, Taylor and Laurent series, integrals, Cauchy's theorem, residues, evaluation of certain real integrals, maximum modulus principles.

Textbooks

Session 1

Kolman B. & Trench W. F. *Elementary Multivariable Calculus* Academic Press

Session 2

Churchill R. V. *Complex Variables and Applications* ISE McGraw-Hill

10.211A

Applied Mathematics II—Mathematical Methods L1½T½

Review of functions of two and three variables, divergence, gradient, curl; line, surface, and volume integrals; Green's and Stokes' theorems. Special functions, including gamma and Bessel functions. Differential equations and boundary value problems, including vibrating string and vibrating circular membrane; Fourier series.

Textbooks

Blatt J. M. *Basic Fortran IV Programming (Miditran Version)* Computer Systems (Aust.)

Sneddon I. N. *Fourier Series* Routledge

Spiegel M. R. *Theory and Problems of Vector Analysis* Schaum

Spiegel M. R. *Advanced Mathematics for Scientists and Engineers* Schaum

School of Psychology

Undergraduate Study

12.001

Psychology I L3T2

The content and methods of psychology as a behavioural science, with special emphasis on **1.** the biological and social bases of behaviour **2.** learning, and **3.** individual differences. Includes training in methods of psychological enquiry, and the use of elementary statistical procedures.

Part A—Theory

Textbooks

CRM *Psychology Today: An Introduction* 3rd ed CRM Books

or

Hilgard E. R., Atkinson R. C. & Atkinson R. L. *Introduction to Psychology* 6th ed Harcourt, Brace & Jovanovich

Lumsden J. *Elementary Statistical Method* WAUP

Selected *Scientific American reprints*, as advised by School

School of Accountancy

Undergraduate Study

14.001

Introduction to Accounting

Introduction to accounting with particular reference to hospitals and health service institutions. Basic accounting concepts, including questions of classification, measurement and communication of financial data. Analysis and interpretation of accounting data. Governmental budgeting and accounting systems. Federal-State financial relations and their implications in relation to the financing process of Australian hospitals. Role of state treasuries, health departments and commissions. Introduction to institutional fund accounting. Introductory treatment of management accounting in hospitals and health services institutions.

Textbooks

Carrington A. S., Battersby G. G. & Howitt G. *Accounting—An Information System* Whitcombe & Tombs

Levy V. M. *Financial Management of Hospitals* Law Book†

Levy V. M. *Public Financial Administration* Law Book

14.023

Accounting for Health Administration

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

Carrington A. S., Battersby G. G. & Howitt G. *Accounting—An Information System* Whitcombe & Tombs

Levy V. M. *Financial Management of Hospitals* Law Book†

* Paperback.

† Principal textbook.

School of Health Administration

Undergraduate Study

16.001
Management I

Major theories and schools of management. Identification and examination of major organizational variables, including relationships between the organization and its environment, the planning process, formal and informal structures, authority relationships, technology, human resources, role performance and theory, co-ordination and communication, evaluation and control.

Textbooks

Huse E. F. & Bowditch J. L. *Behavior in Organizations: A Systems Approach to Managing* Addison-Wesley
Huse E. F. et al *Readings on Behaviour in Organizations* Addison-Wesley

16.002
Management II

Operations research methodology and techniques as applied to health services. Typical competition, queuing, inventory, allocation, search and scheduling problems faced by health care administrators. An introduction to computers and health services.

Textbooks

Australia. *Report of the Computer Services Planning Committee on the Provision of Computing Facilities and Systems for Health Services in the ACT* AGPS
Race D. *Electronic Data Processing in Victorian Hospitals* Hospitals and Charities Commission Melbourne

16.003
Management III

Extensions of the material of Management I and II into the specific operation of health services. Examines concepts of health and discusses ecosystematic and other approaches to the managerial functions in the health service and hospital settings with attention to organization structures and technology, formal and informal relationships, co-ordination and control.

Textbook

Grant C. *Hospital Management* Churchill-Livingstone

16.101
Comparative Health Care Systems

A comparative study of American, English and other selected health services in relation to: public health services; personal health services; hospital services, comparing the roles of government and private enterprise; health manpower; financing; legislation; regionalization; organizational developments.

Textbooks

Fry J. *Medicine in Three Societies* MTP
Somers A. R. *Health Care in Transition: Directions for the Future* Hospital Research and Educational Trust

16.201
Law I

Legal theory and elementary jurisprudence; the rules of statutory interpretation and the doctrine of precedent in theory and practice. An introduction to the Australian Constitution, an analysis of section 51, paragraph XXIIIA and the implications of section 96 for the relations of the Australian Government and the States. An introduction to the law of contract with emphasis on bailments. Employers' liability and the law of tort, workers' compensation and the tort of negligent advice.

Textbooks

Compensation and Rehabilitation in Australia: Report of the National Committee of Inquiry Aust Govt Pub Serv
Derham D. P., Maher F. K. H. & Waller P. L. *An Introduction to Law* 2nd ed Law Book Co
Shtein B. & Lindgren K. *An Introduction to Business Law* 2nd ed Law Book Co

16.202
Law II

The Australian tort system; the concept of foreseeability; competing theories of damages apportionment. The problems of informed consent and the tort of trespass to the person. The law in all Australian jurisdictions relating to illegal operations and sterilization operations. The theory and practice of vicarious liability; the control test and the organizational test. The liabilities of the hospital as an occupier of premises, the various duties to persons entering thereupon. A short course on industrial law and the access of health services organizations to the various industrial tribunals. The legal status of trade unions. The law and psychiatry, the McNagten Rules and the defence of automatism. The various Mental Health Acts and their interpretation by the Courts.

Textbooks

Compensation and Rehabilitation in Australia: Report of the National Committee of Inquiry Aust Govt Pub Serv
Fleming J. G. *The Law of Torts* 4th ed Law Book Co
O'Dea R. *Industrial Relations in Australia* 2nd ed West

16.301
Political Science

The study of politics, with special reference to Australian political institutions and administrative practices. Topics include: concepts and theories of politics; Australian political institutions and the party system; The constitution and intergovernmental financial and legal relations; public administration with special reference to the Commonwealth and New South Wales public services.

Textbooks

Blau P. M. *Bureaucracy in Modern Society* Random House
Dahl R. A. *Modern Political Analysis* 2nd ed Prentice-Hall
Miller J. D. B. & Jinks B. *Australian Government and Politics: an Introductory Survey* 4th ed
Rorke J. ed. *Politics at State Level* University of Sydney
Spann R. N. ed. *Public Administration in Australia* 3rd ed Govt Printer

† Principal textbook.

16.302
Social Administration

A historical overview of the pattern of development affecting social welfare policy in Australia. The circumstances of settlement and its influences; convicts and emancipation; immigration and the land question; education; trade unions and the labour movement; charity and government welfare provision; development of social services; the welfare state; universal and selective services; poverty; economic growth and social growth democratic control of welfare policy.

Textbooks

Crowley F. K. ed. *A New History of Australia* Heinemann
Rennison G. A. *We Live Among Strangers* M.U.P.
Titmuss R. M. *Commitment to Welfare* Allen & Unwin

16.501
Economics (Health Administration)

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

Topics include: consumer demand, production and cost analysis, market equilibrium, pricing of factors of production, social accounting, income determination, money and financial institutions, international trade and payments, economic fluctuations, inflation and growth; and Australian economic institutions, including trade unions, the arbitration system, the Reserve Bank, the Industries Assistance Commission. The economics of health, social welfare and population.

Textbooks

Culyer A. J. *The Economics of Social Policy* Martin Robinson
Samuelson P. A. Hancock K. & Wallace R. *Economics: Second Australian Edition* McGraw-Hill

16.601
Behavioural Science I

Basic concepts of sociology, psychology and anthropology. The emphasis is on an understanding of social processes and how society and the individual interact and affect one another. A section of the course deals with the development of students' skills in communication. The course is directed towards demonstrating that the various sciences dealing with human behaviour are inter-related, and therefore all topics are seen from a multidisciplinary point of view.

Textbooks

Berger P. L. *Invitation to Sociology* Penguin
Berger P. L. & Berger B. *Sociology: A Biographical Approach* NY Basic Books
Faraday Ann. *Dream Power* Pan
James M. & Jongeward D. *Born to Win* Addison-Wesley
Psychology Today: An Introduction 2nd ed CRM Books
Worsley P. *Introducing Sociology* Penguin

16.602
Behavioural Science II

One branch of behavioural science, namely the sociology of health. Students consider the social role of medicine in our society, the nature of patient-healer relationships, the hospital as a social system, the processes of becoming a patient, illness as a social role, aspects of social class and status as they affect relationships in the health care system, social consequences of medical diagnosis and labelling, medical politics, and the place in society and in the health system of such special groups as the physically and mentally handicapped, the aged. Students also examine the implications of behavioural science for management situations.

Textbooks

DeBono E. *Lateral Thinking in Management* McGraw-Hill
Goffman E. *Stigma* Pelican
Jay A. *Management and Machiavelli* Penguin
Leach G. *The Biocrats* Penguin
Mechanic D. *Medical Sociology: A Selective View* Free Press
Mechanic D. *Public Expectations & Health Care* Wiley
Robinson D. *Patients, Practitioners and Medical Care* Heinemann

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

Kazmier L. J. *Statistical Analysis for Business and Economics* McGraw-Hill
Kilpatrick S. J. *Statistical Principles in Health Care Information* Uni. Park Press
Pollard A. H. et al *Demographic Techniques* Pergamon
Yamane T. *Statistics: An Introductory Analysis* 3rd ed Harper & Row

16.801
The Australian Health Care System

Historical introduction; the present pattern of health care delivery; environmental health services; institutional care; community health services for special groups; specialised and supporting services; health service personnel; health service finance; critique of the Australian health care system.

Textbooks

Dewdney J. C. H. *Australian Health Services* Wiley
Sax S. *Medical Care in the Melting Pot* A & R

16.921
Health Care Planning I

The concept, determinants and assessment of community health. Application of the epidemiological approach to the identification and definition of community health problems. The processes of improving community health; problem identification, definition and analysis; determination of priorities; specifications of objectives; development of plans; plan evaluation; plan adoption; implementation of program, evaluation and revision. The planning and evaluation of personal health and environmental control programs. Political and economic considerations in planning health services. Manpower planning. Location, co-ordination and integration of health care services and facilities. Evaluation of community health service agencies and activities. Application of decision theory, systems analysis and operations research techniques to community health planning.

Textbooks

Donebedian A. *A Guide to Medical Care Administration—Medical Care Appraisal* APHA
Grundy F. & Reinke W. A. *Health Practice Research* WHO
Myers B. *A Guide to Medical Care Administration—Concepts & Principles* APHA
Reinke W. A. ed *Health Planning: Qualitative Aspects and Quantitative Techniques* Johns Hopkins University

16.922
Health Care Planning II

The planning and design process; composition and responsibilities of planning teams; briefing, proposal and approval of design projects; history of hospital design; planning for change and growth; national, regional and local planning requirements; location and siting of health care facilities; organizational requirements of hospital layout; supply and communication requirements; environmental design and safety; ergonomics of hospital equipment; hospital building structures and engineering services; building and equipment maintenance; modernization and efficiency; building contract management; cost planning; commissioning, evaluation of buildings in use.

Textbooks

Baynes K. ed *Hospital Research and Briefing Problems* King Edward's Hospital Fund, London 1971
Great Britain, Department of Health & Social Security. *Capricode (Hospital Building Procedure Notes)* DHSS 1971
Holroyd W. A. H. ed *Hospital Traffic & Supply Problems.* King Edward's Hospital Fund 1968
Llewelyn-Davies R & Macauley H. M. C. *Hospital Planning and Administration* WHO

16.923
Health Care Planning III

Planning, design and evaluation for particular functions in health care facilities; nursing units, patient's room and equipment design; general and special nursing units; diagnostic and treatment facilities; outpatients and emergency services; health centres and GP surgeries; administrative, educational and residential accommodation; supply departments and works services.

Textbooks

Baynes K. ed *Hospital Research and Briefing Problems.* King Edward's Hospital Fund, London 1971
Holroyd W. A. H. ed *Hospital Traffic and Supply Problems.* King Edward's Hospital Fund 1968
Llewelyn-Davies R. & Macauley H. M. C. *Hospital Planning and Administration* WHO

Graduate Study

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. Data drawn from the health planning field are used to illustrate these methods.

Textbooks

Kazmier L. J. *Statistical Analysis for Business and Economics* McGraw-Hill
Kilpatrick S. J. *Statistical Principles in Health Care Information* Uni. Park Press
Yamane T. *Statistics, An Introductory Analysis* 3rd ed Harper & Row

16.902G
Health Services Statistics II

The application of statistical methods to health planning and administration problems and other problems of direct relevance to the health care field. Introduction to operations research (inventory 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.

Textbooks

Benjamin B. *Health and Vital Statistics* Allen & Unwin
Griffith J. R. *Quantitative Techniques for Hospital Planning and Control* Heath Lexington Books
Luck G. M., Luckman J., Smith B. W. & Stringer J. *Patients, Hospitals and Operational Research* Tavistock
Pollard A. H. et al *Demographic Techniques* Pergamon

16.904G
Australian Health Care System

The historical, demographic and epidemiological background to the provision of health care in Australia. The role of the Australian and State governments, regional organizations and other instrumentalities in the provision of health and hospital services. Health services as one sub-system of a personal services sector, linkages with other sub-systems, eg Education, Social Welfare. Financial and economic aspects of the provision of health care. Problems currently besetting the Australian health care system.

Textbooks

Dewdney J. C. H. *Australian Health Services* Wiley
Sax S. *Medical Care in the Melting Pot: An Australian Review* A & R

16.905G
Health Services Accounting

Basic theory and concept in relation to hospital and health services accounting. The inter-relationships 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

Analysis of the hospital in terms of function, structure, systems, goals, values, professionalism, staffing, co-ordination and innovation, education and research. Assessment of planning and managerial inputs of key groups, including analysis of these processes in action.

16.909G
Community Health Planning

Factors determining the planning, provision and integration of community health care: environmental health services, provision for the aged, the physically handicapped and the mentally handicapped; occupational hygiene programs; preventive and screening services, health education. The planning of health centres and their relation to other community health services. The impact of regionalization on community based services. The evaluation of community health programs.

16.910G
Comparative Hospital 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.

16.930G
Introduction to Health Planning

The major concepts of health planning, including policy environment; methods; implementation and evaluation of the planning process and of plans.
Topics include: planning structures and organization for planning; determination of goals and objectives; problem identification and analysis; collection, interpretation and assessment of evidence; influences of the spatial and social environment; formulation and evaluation of plans; the adoption and implementation of programs, including advocacy and public relations; program evaluation and the revision of plans.

16.931G
Introduction to Organization Theory

Critical evaluation of existing organization patterns in the health care field. The major schools of management thought (eg classical, human relations, contingency theory) through an analysis of the work of representative writers. An analysis of leadership, change and conflict in organization.

16.932G
Introduction to Behavioural Science

General concepts in behavioural science from anthropology, psychology and sociology. Study of societies and social institutions, cultures; processes of motivation, learning, development of attitudes.

16.933G
Health Services Law I

The theories of jurisprudence, with emphasis on the sociological school. Law and morality, the Hart-Devlin debate. Statutory interpretation, the judicial approaches, constitutional interpretation. The nature of federation; the exclusive and concurrent powers of the Australian Parliament. Section 51, paragraph XXIIIA of the Constitution; Federal and State financial relations, Section 96 of the Constitution: The law of contract; employers' liability and workers' compensation: the tort of negligent advice.

16.934G
Health Services Law II

The law of tort; the foreseeability test, the Woodhouse Report. A detailed study of the National Compensation Act. The concept of medical negligence. The liability of occupiers. The law relating to mental health; the medical acts, the Coroner's Act. The law relating to organ transplantation. The industrial powers of the Australian Parliament and the State legislatures; trade union law; the position of hospital employees in the industrial relations field.

16.935G
Health Economics I

The problems and tools of economic analysis as applied to resource allocation, evaluation and planning in health services. Covers: the basic concepts and methods of economic analysis, decision making, supply and demand, pricing, shadow-pricing and non-price methods of allocation, welfare analysis, economic planning of health services, and health investment analysis.

16.936G
Physical Planning and Design

The course is a combination of group project work, individual assignments and general discussion. Concepts of planning; design processes and methods; national, regional and urban planning issues; local building and space planning techniques; planning for growth and change. Planning procedures for health facilities; establishing need, content, and cost; evaluating options and formulating policies; investigation, decision-making and documentation methods. Information sources, services and systems. Building project management; ergonomic aspects of equipment and engineering installations; building and plant maintenance. Evaluation of buildings in use. Design of physical environment—lighting, noise control, thermal comfort, ventilation systems, infection control, weather protection, fire safety. Planning and design for particular functions: clinical care, logistics systems, management services, education and research, 'hotel' care services.

16.937G
Health Services Research and Evaluation

Mehods and techniques used in research and evaluative studies of the health services. Topics include: the design and administration of research projects; the preparation of research protocols; health survey methods, including data analysis and statistical computer programs; report preparation and presentation; the methodology of evaluation, structure, process and outcome measures of health system performance; integrated statistical systems for evaluative studies. Each student is expected to design a research project. The textbooks are supplemented by a selection of recent articles presenting the results of health services research studies.

16.938G
Seminar in Health Policy

A discussion of contemporary health policy issues including the politics of health care. Seminar topics include: principles of policy formation and analysis; Federal-State health responsibilities; the regionalised administration of health services; the role of pressure groups in the health field; ideological issues in health care finance and provision; financial incentives in the provision of health services; the integration of health and

welfare services; the future role of the country hospital and the development of rural health services; the role of the consumer in the provision of health care.
No text books are prescribed. A reading list of recent journal articles on health policy is made available at the beginning of the session.

16.940G
Medical Care Organization

Specific aspects of the organization of medical care. Systems concepts and techniques are applied to medical technology, hospital staff structures and control mechanisms. Topics include: the administration and review of clinical work, participation of medical staff in planning and development of facilities and services, the integration of the functions of health care personnel in both the administration and delivery of services, and accreditation of hospitals and other health service institutions.

16.941G
Epidemiology

Principles and methods of epidemiologic investigation of both infectious and non-infectious diseases including descriptive, analytic and experimental epidemiology. The distribution and dynamic behaviour of disease in the population; data collection; collation and analysis; a consideration of screening surveys; longitudinal and case-control studies, etc. The uses of epidemiology in planning and evaluation.

16.942G
Medical Sociology

The relationship between health and the social system. Impact of illness on the person, family, social group, industry and the community as a whole. The process of becoming a patient; cultural attitudes to illness and death. Stigmatization of certain illnesses; practitioner-patient relationships; professionals in the health field. The rights and obligations of consumers of health care; social implications of medical progress.

16.943G
Interpersonal Communications in Organizations

A theoretical and practical course which aims to increase students' understanding of, and capacity to deal with, communication problems in organizations. The course teaches students to improve their own communications skills by a series of communications exercises and role-plays, and covers the theories of transactional analysis and the encounter movement. Students are able to chart their progress with a check-list developed for the course.

16.944G
Health Economics II

Builds on the basic analysis of Health Economics I with greater emphasis on planning. Topics include: demand and utilization analysis and prediction, cost-benefit analysis and project evaluation, costs and models of health delivery units, optimum size and location, inflation control, regional planning models and rationalization, financing systems and incentives for efficiency.

16.945G
Health Manpower

Issues and concepts of manpower planning, career differentiation, manpower supply, personnel preparation and education, regulation of health personnel.

16.946G
Health Information Systems

Introduction to computers, input/output mechanisms, processing systems. Issues of privacy and confidentiality, systems study and costs of computers. Application of computers to the health services. Health and hospital information systems.

16.960G
Organization and Management for Health Personnel Education

Aims to introduce educators of health personnel to issues in and concepts of management. The major concepts and models outlined by the principal contributors to management thought as those concepts may be applied to work situations. Certain common problem areas of organizations such as problems of co-ordination and interorganizational relations. Students are also expected to develop skills sufficient to isolate dysfunctional areas of organizations and to propose strategies for improvement.

16.992G
Project

28 hours.

16.993G
Project

42 hours.

16.994G
Project

56 hours.

These electives permit students to obtain credit for approved research projects.

Department of Industrial Arts

Undergraduate Study

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

Australian Council of the Arts *Bauhaus* Visual Arts Board, Australian Council of the Arts, 1975
Childe G. *What Happened in History* Pelican
Henderson P. *William Morris, His Life, Work and Friends* Thames & Hudson
Marks R. & Buckminster-Fuller R. *The Dymaxion World of Buckminster-Fuller* Anchor Books*
Pevsner Sir N. *Pioneers of Modern Design* Pelican
Pye D. *The Nature of Design* Studio Vista
Read H. E. *Art and Industry* 5th ed Faber

21.012
Industrial Arts II

The principles of three-dimensional design and design analysis. Product design—visual fundamentals and visual presentation in two and three dimensions—functional and psychological aspects of product design. 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

Archer L. B. *Systematic Methods for Designers.* Council of Industrial Design UK
Gledon S. *Mechanisation Takes Command* OUP
Jones J. C. *Design Methods* Wiley Interscience
Langford M. J. *Basic Photography* Focal Press
Leach B. *A Potter's Book* Faber†
McMeekin I. J. *Notes for Potters in Australia* Vol 1 NSWUP†
Mumford L. *Technics and Civilization* Harbinger Paperback Harcourt, Brace & World
Parmelee C. W. *Ceramic Glazes* Industrial Publications†
Pelto P. J. *Anthropological Research* Harper & Row
Pye D. *The Nature and Art of Workmanship* C.U.P.
Pye D. *The Nature of Design* Studio Vista
Hommel R. P. *China at Work* Day
Hudson K. *Industrial Archaeology* Uni Paperbacks
Jones J. C. & Thornley D. G. *Conference on Design Methods* Pergamon
Leach B. H. *A Potter's Portfolio* Lund Humphries†
Nelson G. *Problems of Design* Whitney
Pevsner N. *Pioneers of Modern Design* Pelican
Untracht O. *Enamelling on Metal* Greenberg

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

Banham R. *Theory and design in the first machine age* Praeger
Critchlow K. *Order in Space* Thames & Hudson
Itten J. *Design & Form* Reinhold
Langford M. J. *Basic Photography* Focal Press
Papanek V. *Design for the Real World* Paladin*
Pelto P. J. *Anthropological Research* Harper & Row
Sommer R. *Design Awareness* Holt, Rinehart & Winston
Walker C. R. *Technology, Industry and Man—the Age of Acceleration* McGraw-Hill

21.201
Freehand Drawing

Teaches the students 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.

Topics 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

Gill R. W. *Rendering with Pen and Ink* (The Thames and Hudson Manual of) Thames & Hudson
Gombrich E. H. *The Story of Art* Phaidon
Ozenpant A. *Foundations of Modern Art* Dover†

21.211
Drawing and Design

Advanced problems in graphics and tectonic design. Assignments are carried out in the studio, but tutorials are given where necessary.

Textbook

Rule J. T. & Coons S. A. *Graphics* McGraw-Hill

21.902
Seminar

21.903
Project

* Paperback.
† For students specializing in Ceramics.

Graduate Study

21.501G
Industrial Design

This area of the course is drawn from the existing body of knowledge concerning industrial design. In particular, it emphasizes design principles and the main functions, skills and responsibilities of the designer for industry. The subject matter is communicated through lectures, tutorials and practical assignments, the aims of which are to give the students a broad view of design in an industrial society, an aesthetic conviction and sensibility and the skills and methods required for the practice of industrial design.

Historical, social and aesthetic bases of industrial design.
Design Methodology.
Design Principles.
Signs, Symbols and Communication.
Ergonomics.
Professional, Commercial and Industrial Practice.
Design Media.

21.511G
Design Projects

A continuous series of design exercises and projects, graduated in scale and difficulty and with varying emphasis on particular aspects of design technology.

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

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

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

21.501G Industrial Design
21.511G Design Projects

Textbooks

Britt S. H. ed *Consumer Behaviour and the Behavioural Sciences* Wiley
Gist R. R. *Marketing and Society* Holt, Rinehart & Winston
Jones J. C. *Design Methods* Wiley Interscience

21.521G
Seminar

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

21.531G
Creative Art (Elective)

Biological Sciences

Undergraduate Study

17.011
Biology of Mankind L2T4

Mankind evolving—primate evolution; background of early man. Evolution of technological man—biological problems associated with communication and tool-making; development of man as a hunting predator.

Development of utilization of natural resources—development of man as a pastoralist and farmer; animal and plant domestication. Evolution of urban man, culture, society—reproductive biology and genetics of man; population growth, fluctuation, control; natural history of disease, background of medical and industrial microbiology.

Effects of modern society—biology of social stress; effect of society in contemporary environments, planning and control.

Textbooks

Abercrombie M. et al *A Dictionary of Biology* Penguin
Boughey A. S. *Man and the Environment* 2nd ed MacMillan
Cavalli-Sforza L. L. *Elements of Human Genetics* Addison-Wesley

17.021
Comparative Functional Biology L2T4

Maintenance of the organism: gas exchange systems in plants and animals; transport inside organisms; uptake, digestions, absorption; enzymes structure and function; photosynthesis: process and structural relationships; metabolic systems, energy yields and pathways.

Developing organisms — sexual reproduction in plants and animals, general life cycle patterns; cell development and differentiation in flowering plants and mammals.

Control and co-ordination in organisms—organisms and water, uptake and effects; control mechanisms, urinary systems and kidney structure and function; stimuli and responses—plant hormones, hormones in vertebrate animals; muscle activity and muscle structure, eye structure and vision mechanism; ear structure and hearing mechanism; nerves, central nervous system, nerve action, brain structure and functioning.

Textbooks

Abercrombie M. et al *A Dictionary of Biology* Penguin
Roberts M. B. V. *Biology: A functional approach* Nelson

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.

Applied Geology

Undergraduate Study

25.501
Geology I

25.5010

Physical Geology: The origins, structure and main surface features of the earth; geological cycle: processes of erosion, transportation, sedimentation and lithification. Surface and subsurface water. Weathering, lakes, rivers, glacial phenomena. Vulcanism, earthquakes, orogenesis and epeirogenesis, integrated theory of plate tectonics and continental drift.

Crystallography and Mineralogy: Crystal symmetry, systems, forms, habit, twinning. Occurrence, form and physical properties of minerals. Mineral classification. Descriptive mineralogy. Principal rock-forming minerals. Basic structures of silicate minerals.

Petrology: Field occurrence, lithological characteristics and structural relationships of igneous, sedimentary and metamorphic rocks. 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. Applied stereoscopic projection. Identification and description of common minerals and rocks in hand specimen. Recognition and description of examples of important fossil groups. Supplemented by four field tutorials, attendance at which is compulsory.

Textbooks

Bickford M. E. et al *Geology Today* CBM Books
Black R. M. *Elements of Palaeontology* C.U.P.
Rutley F. *Elements of Mineralogy* Read F. H. ed Murby
Tyrrell G. W. *The Principles of Petrology* Methuen

Students who do NOT wish to proceed beyond Second Year in Geology may select any of the following units:

25.5021 Stratigraphy and Palaeontology

25.5022 Mineralogy and Igneous Petrology

25.5033 Environmental Geology and Sedimentology

25.5036 Geological Oceanography

25.502
Geology II

Consists of two units: 25.5021, 25.5022.

25.5021 Stratigraphy and Palaeontology

Stratigraphy: Flow regime and bedding forms, including flume experiments, sedimentary structures. Modern and ancient environments of deposition: fluvial, deltaic coastal, shelf, slope and deep sea environments. The facies concept. Stratigraphic principles. Fold Belts, geosynclines and their interpretation by plate tectonics models. Stratigraphic and structural development of a fold belt (Lachlan Fold Belt) and an intracratonic basin (Sydney Basin).

Palaeontology: Morphology and stratigraphic distribution of the Protozoa, Porifera, Coelenterata, Bryozoa, Brachiopoda and Mollusca. Practical examination of representative fossils from each phyla.

Textbooks

Stratigraphy
Blatt H., Middleton G. & Murray R. *Origin of Sedimentary Rocks* Prentice-Hall
Brown D. A., Campbell K. S. W. & Crook K. A. W. *Geological Evolution of Australia and New Zealand* Pergamon
Dunbar C. O. & Rodgers J. *Principles of Stratigraphy* Wiley
Palaeontology
Moore, R. C., Lalicker C. G. & Fischer A. G. *Invertebrate Fossils* McGraw-Hill

25.5022

Mineralogy and Igneous Petrology: Principles of optical crystallography and the use of the polarizing microscope. Chemical and physical properties of the main groups of minerals. Occurrence, genesis and classification of igneous rocks. Magmatic crystallization and differentiation. Simple binary and ternary systems.

Practical: Mesoscopic and microscopic examination of rock forming and ore minerals and igneous rocks.

Textbooks

Bloss F. D. *An Introduction to the Methods of Optical Crystallography* Holt, Rinehart & Winston
Heinrich E. W. *Microscopic Identification of Minerals* McGraw-Hill
Turner F. J. & Verhoogen J. *Igneous and Metamorphic Petrology* McGraw-Hill

25.503
Geology III

Three units to be selected from the six units: 25.5031, 25.5032, 25.5033, 25.5034, 25.5035, 25.5036.

25.5031 Metamorphic Petrology, Structural Geology and Photogeology

Metamorphic Petrology: Origin and classification of metamorphic rocks. ACF and AKF diagrams and metamorphic facies.

Practical: Mesoscopic and microscopic examination of metamorphic rocks.

Textbooks

As for 25.5022.

Structural Geology: Origin, classification and description of structures in sedimentary, igneous, and metamorphic rocks. The stereographic projection of structural elements, and analysis of simple fracture and fold systems. Tectonics.

Textbooks

Ragan D. M. *Structural Geology — An Introduction to Geometrical Techniques* 2nd ed Wiley
Spencer E. W. *Introduction to the Structure of the Earth* McGraw-Hill

Photogeology: The use of air photos for geological and geomorphological evaluation of land. Techniques and principles of photo interpretation, multiband photography; landform genesis and photo interpretation of folds, faults, joints, bedding, limestone, intrusive ingneous rocks, volcanics, alluvial fans and terraces, slopes, landslides, coastal arid and tropical landforms; relations between geology, drainage, soil and vegetation; ore body expression, gossans, colouration halos.

Textbook
Von Bandat H. F. *Aerogeology* Gulf Pub.

25.5032 Economic Geology and Global Geophysics

Economic Geology: Principles and theories of ore formation. Magmatic, hydrothermal, submarine exhalative, ore and vulcanicity. Ore deposits and modern global tectonics. Biogenic processes, sedimentary ore deposits. Alluvial and residual deposits. Description of specific deposits illustrating various types of deposits.

Laboratory: Hand specimen study of ores and associated features; introductory mineragraphy.

Textbooks
Park C. F. & MacDiarmid R. A. *Ore Deposits* 2nd ed Freeman
Stanton R. L. *Ore Petrology* McGraw-Hill

Global Geophysics: The physics, shape, structure and constitution of the earth: seismology, gravity, geology, geothermy, geomagnetism, palaeomagnetism, geo-electricity and geochronology. Geotectonics and geodynamics: geophysical expression and relation to geology and geochemistry.

Textbook
Bott M. H. P. *The Interior of the Earth* Arnold

25.5033 Environmental Geology and Sedimentology

Environmental Geology: Geological resource distribution and the relation to urban development. The ecosystem and its geological constraints; conflicts between mining development and conservation, energy sources and their role in pollution. The estuarine and coastal environments, their ecology and the modifications caused by common pollutants. Extensive field activity and laboratory work form an important part of this course.

Textbook
Detwyler T. R. *Man's Impact on the Environment* McGraw-Hill

Sedimentology: Sampling populations and sampling procedures. Measurements of grain characteristics: size, shape, fabric and packing. Expression of measured data; fundamental statistical parameters and their significance in geology. Field tutorial project.

Textbook
Folk R. L. *Petrology of Sedimentary Rocks* Texas UP

25.5034 Surficial Geology and Vertebrate Palaeontology

Surficial Geology: Processes: weathering and landforms, mass movement, gully and sheet erosion. Fluvial processes and drainage development. Aeolian, glacial, periglacial and coastal processes. Neotectonics.
Soil and surficial sediment evaluation: pedological processes, gilgai formation. Soil fabric analysis at all scales. Principles of surficial stratigraphy.
Map analysis and preparation: contour patterns of landforms; geological and geomorphic interpretation of topographic maps. Soil classification, soil map preparation, lithogeomorphic maps. Problems of mapping Quaternary geology.
Quaternary geology: methods of dating, sea level change, glacial sequences, surficial geology of non-glaciated areas of Australia —especially the Riverina Plain. Quaternary sequences in Canada and Europe.

Textbooks
Hunt C. B. *Geology of Soils, their Evolution, Classification and Uses* Freeman
Thornbury W. D. *Principles of Geomorphology* Wiley 2nd ed*

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.

Textbooks
Colbert E. H. *Evolution of the Vertebrates* Wiley
Von Koenigswald G. H. R. *The Evolution of Man* Michigan Univ.

25.5035 Basin Analysis and Stratigraphy

Basin Analysis: Basin evolution. Analysis of sedimetary and palaeoecological systems in fluvial deltaic, nearshore and deep-water environments. Structural systems formed by tensional, compressional and strike-slip tectonics. Geochemistry of hydrocarbons and formation fluids. Factors critical to occurrence of oil, gas and coal. Typical Australian and overseas occurrences. Techniques of exploration, assessment and development of reserves.

Textbooks
As for 25.5031 Structural Geology and 25.5021 Stratigraphy *plus:*
Ager D. Y. *Principles of Palaeoecology* McGraw-Hill

Stratigraphy: Theoretical stratigraphy, including stratigraphic classification, reference points and stratotypes, correlation by fossil zones and physical methods. Continental margins, mobile zones, with a detailed study of the New England Fold Belt. Comparison between mobile zones and intracratonic basins. Intracratonic basins of Western and South Australia and effects of the dispersal of Gondwanaland. Mesozoic to recent sedimentation in Papua New Guinea. Stratigraphic and structural development of Aulacogenes.

Textbooks
As for 25.5021 Stratigraphy and Palaeontology *plus:*
Krumbein W. C. & Sloss L. L. *Stratigraphy and Sedimentation* 2nd ed Freeman

25.5036

Geological Oceanography: The form and nature of ocean basins; the origin, transport and distribution of suspended matter, igneous and sedimentary rocks of the ocean floor and their distribution; the significance of oceanic igneous rocks, palaeontology, stratigraphical history and correlation of marine sedimentary rocks; magnetism and palaeomagnetism, tectonics of ocean basins.

Textbook
Gross M. G. *Oceanography* Prentice-Hall

25.504
Geology IV (two units)

Consists of two units: 25.5041 and 25.5042.

25.5041 Project

A laboratory or field research project in some aspects of geology related to the individual interests.

25.5042

One third year unit.

* Paperback.

School of Geography

Undergraduate Study

Level I Units

27.801
Introduction to Physical Geography

The mechanism of the physical environment, with particular exemplification within the Sydney region. Geologic controls of landform development; fluvial, slope and coastal processes and landforms; cyclic and equilibrium approaches to landform studies. The global radiation budget and atmospheric circulation; weather and climatic controls in the Sydney region. The hydrologic cycle. Processes and factors of soil formation and the mature soil profile. Controls of vegetation in the Sydney region. The ecosystem.
Laboratory classes include: study and use of geologic and topographic maps and air photographs; use of climatic data and the weather map; soil profile description.

Textbook
Van Riper J. E. *Man's Physical World* McGraw-Hill

27.802
Introduction to Human Geography

Problems of data, scale, distance and economic development are the main themes. Development of human geography: traditions, approaches and basic problems, the human and natural environment. Spatial interaction, including patterns of movement, gravity concept and diffusion. Pattern and structure of human activity: effect of level of economic development, man/land relationships and social and cultural factors on agriculture, manufacturing and tertiary services. Population: resources problem in context of economic development. Australian and South-East Asian examples are used where relevant.

Textbooks
Hammond R. & McCullagh P. S. *Quantitative Techniques in Geography* OUP
Hurst M. E. A. *Geography of Economic Behaviour* Duxbury Press*

School of Biochemistry

Undergraduate Study

41.101A
Chemistry of Biologically Important Molecules — L2T4

Prerequisites: 17.011, 2.001. Co-requisites: 41.101B.

The chemical properties of amino acids, peptides and proteins, carbohydrates, nucleic acids and lipids, porphyrins and the biological roles of these compounds. The nature and function of enzymes. Practical work to amplify the lecture course.

Textbooks
Montgomery R. & Swenson C. A. *Quantitative Problems In the Biological Sciences* Freeman
Stryer L. *Biochemistry* Freeman

41.101B
Metabolism — L2T4

Prerequisites: 17.011, 2.001. Co-requisites: 41.101A.

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

Textbooks
As for 41.101A.

41.101C
Control Mechanisms — L2T4

Prerequisites: 41.101A, 41.101B.

The relation between structure and function of enzymes, hormones, vitamins and membranes. Metabolic networks and control mechanisms. Practical work to amplify the lecture course.

Textbooks
As for 41.101A, *plus:*
White A., Handler R. & Smith E. L. *Principles of Biochemistry* 5th ed McGraw-Hill

41.102A
Biochemistry of Macromolecules and Cell Biochemistry — L3T0

Polysaccharides and glycoproteins, including bacterial cell walls. Chemistry and biology of polynucleotides. Methods of amino acid and nucleic acid sequence analysis. Protein structure and synthesis. Active centres of some proteins. Sub-unit organization of proteins. Membrane structure. Cellular degradation. Practical work to illustrate the lecture course and to provide experience in modern biochemical techniques.

Textbooks
The Chemical Basis of Life: An Introduction to Molecular and Cell Biology Readings from Scientific American Freeman
White A., Handler R. & Smith E. L. *Principles of Biochemistry* 5th ed McGraw-Hill

41.102B
Metabolic Pathways and Control Mechanisms — L3T9

Haemoproteins and electron transport, photosynthesis, photophosphorylation and oxidative phosphorylation. The nature and function of co-enzymes. Interrelationships in mammalian intermediary metabolism. Biochemical control mechanisms, including hormones and allosteric interactions. Enzyme kinetics. Selected aspects of differentiation and development in higher organisms. Practical work to illustrate the lecture course and to provide experience in modern biochemical techniques.

Textbooks
As for 41.102A above.

* Paperback.

School of Botany

Undergraduate Study

43.101
Genetics — L2T4

Various aspects of molecular, organismal and population genetics, including: meiotic and non-meiotic recombination, genome variations, mutagens and mutation rates, cytoplasmic inheritance, gene function, genetic code, gene structure, collinearity of polynucleotide and polypeptide, control of gene action, genes and development, population genetics, genetics and improvement of plants and animals.

Textbook

Patt D. I. & Patt G. R. *An Introduction to Modern Genetics* Addison-Wesley

43.111
Flowering Plants

The vegetative and floral morphology and angiosperms with special reference to variations in morphology, evolutionary trends, elements of biological classification, nomenclature and identification of native plants. Field work is part of the course.

Textbooks

Beadle N. C. W., Evans O. D. & Carolin R. C. *Flora of the Sydney Region* Reed
Esau K. *The Anatomy of Seed Plants* Wiley
Principal reference book lists for the plant ecology section of this unit are supplied during the course.

43.121
Plant Physiology — L2T4

The physiology of the whole plant including a consideration of photosynthesis, inorganic nutrition, transport, translocation, physiology of growth and development, and plant growth substances and their application in agriculture.

Textbooks

Galston A. W. & Davies P. J. *Control Mechanisms in Plant Development* Prentice-Hall
Richardson M. *Translocation in Plants* Arnold
Sutcliffe J. *Plants and Water* Arnold
Whittingham C. P. *Photosynthesis* OUP

43.102
Advanced Genetics — L2T4

Cytogenetics and genetic control of chromosome pairing. Evolutionary genetics. Heritability estimates and selection. Some aspects of human genetics.

43.112
Plant Taxonomy — L2T4

Considers the assessment, analysis and presentation of data for classifying plants both at the specific and supra-specific level; the emphasis is on vascular plants. Students are required to attend field excursions all of which form an integral part of the course.

Textbooks*

Beadle N. C. W., Evans O. D. & Carolin R. C. *Flora of the Sydney Region* Reed
Cronquist A. *The Evolution and Classification of Flowering Plants* Nelson
Heywood V. H. *Plant Taxonomy* The Institute of Biology's Studies in Botany No. 5 Arnold
Jeffrey C. *An Introduction to Plant Taxonomy* Churchill
Jeffrey C. *Biological Nomenclatures* Arnold

43.122
Advanced Plant Physiology — L2T4

The physiology and biochemistry of germinating seeds and developing fruits is studied in depth. Laboratory projects may require attendance outside the hours set down in the timetable.

43.132
Fungi and Man — L2T4

Detailed structure and ultrastructure of hyphae, spores, vegetative fungal structures. Morphology and taxonomy of members of major taxonomic groups. Spore liberation, dispersal, deposition and germination. Morphogenesis. Cytology and genetics. Physiology and biochemistry of saprophytic species. Ecological considerations of fungi in specialized habitats. Evolution of a host-pathogen relationship. Physiology of parasitism. Survival mechanisms. Methods of control of plant pathogens.

Textbooks

Burnett J. H. *Fundamentals of Mycology* Arnold
Talbot P. H. *Principles of Fungal Taxonomy* Macmillan

43.142
Environmental Botany — L2T4

The marine, soil and atmospheric environments in which plants live and the interaction of plants with their environment. Emphasis is placed on the role of environmental sciences in food production. Students are required to attend up to three full-day Saturday field excursions as part of the practical course.

43.152
Plant Pathology

History of plant pathology; pathogenic organisms; symptoms of disease. Specific diseases caused by fungi, nematodes, bacteria and viruses. Host-pathogen relationships including stages of infection, evolution of host-pathogen relationships, adaptation for successful parasitism, resistance mechanisms and genetics of resistance. Control of diseases by the use of fungicides, nematicides, crop rotation and breeding for resistance.

Textbooks

No set texts.

*Students should consult lecturers in the subjects 43.112 and 43.122 before purchasing textbooks.

School of Microbiology

Undergraduate Study

44.101
Introductory Microbiology — SS L2T3

Prerequisites: 17.011, 17.021.

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 relationship between micro-organisms and their environment; ecological considerations. Interactions between micro-organisms and higher organisms.

Textbook
Brock T. D. *Biology of Micro-organisms* Prentice-Hall
or
Hawker L. E. & Linton A. H. eds *Micro-organisms: Function, Form and Environment* Arnold
or
Pelczar M. J. & Reid R. D. *Microbiology* 3rd ed McGraw-Hill
or
Stanier R. Y., Doudoroff M. & Adelberg E. A. *The Microbial World* 3rd ed Prentice-Hall
[Brock, or Pelczar & Reid, is the first choice if no more microbiology is to be taken.]

44.102
General Microbiology — SS L4T8

Prerequisites: 44.101, 41.101A, 41.101B.

Double unit, Level III.
Systems for the isolation, identification and taxonomic description of microorganisms; fine structure, cyto-chemistry, genetics of bacteria and viruses; metabolic requirements of micro-organisms; microorganisms and their environment; growth, inhibition and death; energy-yielding and biosynthesizing systems; genotypic and phenotypic control systems.

Textbooks
As for 44.101 if not taking other Microbiology units. Otherwise:
Hawker L. E. & Linton A. H. eds *Microorganisms: Function, Form and Environment* Arnold
Davis B. D., Dulbeco R., Eisen H. N., Ginsberg H. S. & Wood W. B. *Microbiology* Complete ed Harper & Row

44.122
Immunology — SS L2T4

Prerequisites: 17.011, 17.021, 41.101A, 41.101B.

Single unit, Level III.
Basic immunology and Immunological techniques. The interdisciplinary nature of the subject makes this unit suitable for students taking any major sequence in biological science and also for higher degree students who require a background training in immunology. The course includes phylogeny and ontogeny of the immune response; antigen and antibody structure; antigen-antibody reaction; immunochemistry; immunogenetics, clinical immunology; transplantation.

Textbook
Roitt I. *Essential Immunology* Blackwell Scientific Pub.

School of Zoology

Undergraduate Study

45.101
Biometry — L2T4

Prerequisites: 17.011, 17.021.

Statistical methods and their application to biological data, including: introduction to probability. The binomial, poisson, negative binomial, normal distributions; student's t, χ^2 and variance ratio tests of significance based on the above distributions; the analysis of variance of orthogonal and some non-orthogonal designs. Linear regression and correlation. Introduction to non-linear and multiple regression. Introductory factorial analysis. Introduction to experimental design. Non-parametric statistics, including tests based on χ^2, the Kruskal-Wallis test, Fisher's exact probability test and rank correlation methods.

45.201
Invertebrate Zoology — L2T4

Prerequisites: 17.011, 17.021.

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. This unit is offered in Session 2.

Textbooks
Meglitsch P. A. *Invertebrate Zoology* 2nd ed OUP
Sherman I. W. & Sherman V. G. *The Invertebrates: Function and Form. A Laboratory Guide* Collier-Macmillan

45.301
Vertebrate Zoology — L2T4

Prerequisites: As for 45.201 above.

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. This unit is offered in Sessions 1 and 2.

Textbooks
Hilbdebrand M. *Analysis of Vertebrate Structure* Wiley
Alexander R. McN. *The Chordates* C.U.P.

45.112
Marine Ecology

Prerequisites: 17.011 and 17.021 plus 45.201 or 25.022 or 2.002D. Co-requisite: 45.101.

A study of the metabolic, regulatory and reproductive activities of marine organisms with particular reference to the physical, chemical and biological environment in which they occur. Both field and laboratory practical work are included.
This unit is offered in Session 1, and consists of 2 hours' lecture and 4 hours' laboratory time per week.

Textbook
Tait, R. V. *Elements of Marine Ecology. An Introductory Course* 2nd ed Butterworths

45.122
Animal Behaviour

Prerequisites: 45.101, 45.201, 45.301.

An introduction to ethology, the biological study of behaviour. Physiological, ecological, developmental and evolutionary aspects of behaviour are examined as important elements of the study of causal factors underlying behaviour. Both field and laboratory work are included.
This unit is offered in Session 2, and consists of 2 hours' lecture and 4 hours' laboratory time per week.

Textbook

Manning A. *An Introduction to Animal Behaviour* 2nd ed Arnold

45.132
Comparative and Environmental Physiology L2T4

Prerequisites: 45.301, 41.101A, 41.101B.

The physiology of the various classes of vertebrate animals with particular emphasis on the adaptation of the animal to its environment. Includes: osmotic and ionic regulation, respiration and circulation, temperature regulation, nerve and muscle function, digestion and metabolism.

Textbooks

Gordon M. S. *Animal Function: Principles and Adaptations* 2nd ed Macmillan
Schmidt-Nielson K. *Animal Physiology: Adaptation and Environment* C.U.P.
Wessells N. K. *Vertebrate Structure and Functions.* Readings from Scientific American Freeman

45.142
Developmental and Reproductive Biology L2T4

Prerequisites: 45.201, 45.301.

A survey of reproductive mechanisms, reproductive histology, reproductive endocrinology and embryology, with particular reference to the comparative aspects in vertebrate species. A detailed treatment of marsupial and monotreme reproduction.

Textbooks

Gilchrist F. G. *A survey of Embryology* McGraw-Hill
Additional book to be advised at a later date.

45.202
Advanced Invertebrate Zoology L2T4

Prerequisite: 45.201.

A comparative approach to functional aspects of invertebrate biology. Metabolism, nervous and chemical co-ordination and locomotion and animal associations.

Textbook

Gardiner M. S. *The Biology of Invertebrates* McGraw-Hill

45.302
Vertebrate Zoogeography L2T4

Prerequisite: 45.301.

A geographic approach to the current distribution, abundance and types of vertebrate species in the Australian region. Particular emphasis is placed on the basic principles of speciation, the history of the Australian continent, vertebrate adaptations and changes in the distribution and abundance of the Australian vertebrate fauna under the influence of man.

Textbooks

No set texts. Use is made of the original literature and the principal references.

45.402
Insect Structure and Classification L2T4

Prerequisites: 45.201, 45.101.

A comparative study of the internal anatomy and external morphology of insects. Classification and bionomics of major groups and families. A collection of insects is to be made. Practical work to include dissections, a study of mouthparts, wing venations, segmentation, etc. Field excursions as arranged.
This unit is offered in Session 1 and consists of 2 hours' lecture and 4 hours' laboratory time per week.

Textbook

CSIRO. *The Insects of Australia.* MUP

45.412
Insect Physiology L2T4

Prerequisite: 45.402.

The 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.

45.422
Applied Entomology

Prerequisite: 45.412.

Fundamentals of insect control. Pest species and types of damage caused. Control by insecticides, physical and biological means. Insect toxicology. Insecticide resistance. Practical work to illustrate the above and also various aspects of bioassay in entomology. Field excursions as arranged.

Textbook

Woods A. *Pest Control: A Survey* McGraw-Hill

School of Sociology

Undergraduate Study

53.101
Sociology 1A

An introduction to sociology, with particular reference to the history and development of social thought. Students are required to read basic texts and to submit related written work.

53.102
Sociology 1B

The institutions, processes and belief systems of modern industrial society, with special emphasis on Australia; reading and written work related to basic texts; an introduction to research methods in the social sciences.

School of Librarianship

Graduate Study

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. Librarianship 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

Anglo-American Cataloguing Rules ALA
Ford S. *Acquisition of Library Materials* ALA
Foskett A. C. *The Subject Approach to Information* 2nd ed Bingley
Horner J. *Cataloguing* Assoc. of Asst. Librarians

55.123
Reference Service and Materials

1. 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. **2.** 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. **3.** Reference books not limited to a particular subject: publication methods, coverage, organization of content, studied in relation to purpose and use. **4.** 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* 7th ed Enoch Pratt Free Library

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

Pugh D. S., Hickson D. J. & Hinings C. R. *Writers on Organizations* 2nd ed Penguin

Subject Bibliography: The Humanities; The Social Sciences; Pure and Applied Sciences; Law; 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.

55.231
Subject Bibliography: The Humanities

55.236
Subject Bibliography: Law

Textbook

Campbell E. M. & McDougall D. *Legal Research: Materials and Methods* Law Book

55.232
Subject Bibliography: The Social Sciences

55.233
Subject Bibliography: Pure and Applied Sciences

55.238
Subject Bibliography: Government Publications

Textbook

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

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.

Textbooks
Artandi S. *An Introduction to Computers in Information Science* 2nd ed Scarecrow Press
Smith G. L. *Library Use of Computers* Special Libraries Association

55.371
Literature for Young People

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 comparative study of public library services with emphasis on special programs of service to adults, young adults and children; 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.

53.385
School Libraries I

The information environment of educators. Educational issues and their effect on libraries. The development of the role of the library in the school in relation to educational thought and practice. The provision, administration and organization of school library resources and services on national, state and local levels. The roles of school and public libraries and the community library concept.

Textbooks
Australia. Commonwealth Secondary School Libraries Committee *Standards for Secondary School Libraries*
Prostano E. T. & Prostano J. S. *The School Library Media Center* Libraries Unlimited

55.386
School Libraries II

Subject curriculum studies in relation to the selection of materials and library programs. Materials studies in relation to the range and type of materials and their application to curriculum subjects. The compilation of subject bibliographies. Media production and services in relation to subject curriculum studies. Methods of individual and group reader education and the teaching of library skills.

55.712
Archives Theory and History

Archives theory studied historically. Public administration, administrative history and government records. The history of archives institutions. Archives legislation. Business, institutional and other non-governmental archives. Private papers, local history collections. Uses of archives for information and in research. The development and role of the archives profession. National and international archives associations; constitutions, programs, publications.

Textbook
Jenkinson H. *Manual of Archive Administration* 2nd ed Lund Humphries

55.713
Archives Administration

1. Relations between archive-creating bodies and archives institutions. Commercial and legal practice, forms and terminology relevant to the understanding of archives. The elements of records management.
2. Archives management: acquisition, arrangement and description, the publication of finding aids, the application of automation, microcopying. Conservation of materials. Repository planning.
3. The principles of administration and their application to archives institutions.
4. Service to users of archives, including questions of access and copyright. Publication of archives.

Textbooks
Schellenberg T. R. *Management of Archives* Columbia UP
Schellenberg T. R. *Modern Archives, Principles and Techniques* Chicago UP

55.714
Information Environment for Archivists

Information sources which supplement archives: academies, learned societies, institutions, including libraries, galleries and museums. Libraries of various types studied in relation to the needs of archivists; acquisition of materials by purchase, gift, exchange and legal deposit; organization of materials for use. Bibliographical description and national and international documentation standards. Documentary materials in non-book form and their use in research. Dissemination of texts and other types of record by reprography and in microform.

Master of Librarianship Subjects

55.801G
Library and Information Services Management A

Legislative and financial aspects of library provision. Libraries in the political process. Authority relationships and the nature of the library as a bureaucracy.

Siting and planning of libraries. Patterns of administrative organization in libraries. Position classification and personnel administration. The management of library finances.

55.803G
Library and Information Services Management B

The assessment of information needs of various groups and the design of appropriate services. The integration of libraries in information networks.

Applications of operations research and computer technology in library management and in the dissemination of information by other agencies. Evaluation of libraries and other information services.

55.805G
Issues in Librarianship

Contemporary issues in librarianship, including the provision of libraries and information by governments and by private enterprise; automation, information science and libraries; cataloguing, classification and bibliographical control; problems of publication growth and library size; libraries in the social environment.

55.807G
Research Methods in Librarianship

The nature, necessity and techniques of research in librarianship and contributions of information science; functions and techniques of statistical analysis; preparation of research proposals; state of the art of research in librarianship and the evaluation of research projects.

School of Education

Undergraduate Study

58.080
Education A

A composite subject with three main components of equal weight—Educational Psychology, Philosophy and Theory of Education, Sociology of Education.

Educational Psychology
Session 1: a general overview of significant aspects of human behaviour in educational settings. Topics: classroom discipline and behaviour modification; individual differences, cognitive growth and intelligence, socialization through the school, evaluation and the psychology of adolescence. *Session 2:* options offer an opportunity for in-depth study of some of these areas.

Textbooks

Craig R. C., Mehrens W. A. & Clarizio H. F. *Contemporary Educational Psychology: Concepts, Issues, Applications* Wiley
Clarizio H. F., Craig R. C. & Mehrens W. A. *Contemporary Issues in Educational Psychology* 2nd ed Allyn & Bacon

Philosophy of Education

The philosophical analysis of key concepts in educational debate and of the justifications offered for educational policies.

Sociology of Education

The role of education in Australian society with particular attention to Australian education systems, inequality and the role of the Department of Education and implications of sociology for educational aims. Adolescent groups, including deviants and cultural deprivation. Social structures in the secondary school and the school in the local community. A study of teacher groups, including role and professionalism.

58.081
Education B

Methods of teaching, comprising lecture-seminars and individual discussions with method lecturers. Choice of method components is related individually to students' undergraduate courses. Normally students choose two method areas, although under certain conditions some separate areas, such as English, Mathematics and Science, may count as equivalent to two. The following method areas are offered, and others such as Guidance or Health Education may be added from time to time to meet the changing needs of secondary teaching: Commerce, English (double), English (single), French, Geography, German, History, Library, Mathematics (double), Mathematics (single), Spanish, Slow Learner, Science (double), Science (single), Social Science.

The program in each method covers such items as: the nature and value of the subject; study of syllabuses with major attention to those of NSW; variations of lesson procedures and teaching techniques; development and use of audio visual aids; methods of assessment and related matters; planning and development of units of work with accompanying resource material.

Method Subjects

Commerce Method

English Method

Textbooks

Ashworth A. & Watson K eds *Towards a New English* Reed Education
Owens J. & Marland M. eds *The Practice of English Teaching* Blackie

French, German and Spanish Methods

Textbook

Rivers W. *Teaching Foreign Language Skills* Chicago UP

Geography/Social Studies Method

Textbook

Biddle D. S. & Shortle D. *Programming In Geography* Martindale Press

History Method

Textbook

Walshe R. D. & Little N. A. eds *Ways We Teach History* HTA of NSW

Library Method

Mathematics Method

Textbook

Johnson D. & Rising G. *Guidelines for Teaching Mathematics* Wadsworth

Slow Learner Method

Textbooks

Cartwright C. A. & Cartwright G. P. *Developing Observation Skills* McGraw-Hill
Flesch R. *Why Johnny Can't Read* Harper & Row
Worell J. & Nelson C. M. *Managing Instruction Problems* McGraw-Hill

Science Method (Double and Single Teaching Subjects)

Textbooks

Collette A. T. *Science Teaching in the Secondary School* Allyn & Bacon
Duffy D. G. et al *Teaching About Society* Rigby
Fenton E. ed *Teaching the New Social Studies in Secondary Schools* Holt, Rinehart & Winston

58.082
Education C

Teaching techniques and practice: micro-teaching, audio-visual instruction, selected activities, teaching practice and school visits.

Selected activities: each student is encouraged to nominate a project, or practical activity, to be completed either in a school or at the University.

Education Subjects in Science Education and Industrial Arts

58.071
Methods of Teaching IA (Industrial Arts Course)

The application of principles dealt with in Philosophy and Theory of Education, and in Educational Psychology, to the particular case of teaching in the Industrial Arts subject area. For example, the aims of Industrial arts teaching are analysed and the provision of effective learning experiences are discussed. Practical work, demonstrations by the teacher, audio-visual aids, programmed instruction and the planning of lessons to incorporate such learning experiences effectively. Classroom management and workshop organisation are also dealt with, as is the teaching of various skills.

School Experience. Students begin teaching practice in their third year. The school experience in that year is designed to give them a gradual introduction to teaching and this will be consolidated in their fourth year.

Textbooks

Ableson B. W. & Pateman A. J. *Metalworking* McGraw-Hill
Gibson, J. W. & Taylor T. W. *Experimental Materials Science* GTB Pub.
Gibson J. W. & Taylor T. W. *Experimental Materials Science —Teachers' Manual* GTB Pub
Leadbeatter B. R. & Keable J. E. *Australian Woodworking* Metric Edition McGraw-Hill
Wilber O. W. & Pendred C. P. *Industrial Arts in General Education* 3rd ed Int Text Book Co

58.072
Methods of Teaching IIA (Industrial Arts Course)

Curriculum development in Industrial Arts, further discussion of instructional procedures, evaluation of student achievement and the planning and management of facilities. The aims and objectives of Industrial Arts teaching are considered including reference to the influence of historical, social and technological factors upon them. The selection and sequencing of content is dealt with as a basis for programming. Principles of evaluation introduced in Educational Psychology are applied to the case of Industrial Arts and special techniques are considered. Instructional procedures discussed include questioning, explanation, exposition, group processes and the use of practical work. The planning and management of facilities include consideration of the Planning Unit and the Resource Centre in the Integrated Industrial Arts Complex.

Textbooks

Ableson B. W. & Pateman A. J. *Metalworking* McGraw-Hill
Friese J. F. & Williams W. A. *Course Making in Industrial Arts* Bennett
Gibson J. W. & Taylor T. W. *Experimental Materials Science* GTB Pub.
Gibson J. W. & Taylor T. W. *Experimental Materials Science —Teachers' Manual* GTB Pub.
Leadbeatter B. R. & Keable J. E. *Australian Woodworking* Metric Edition McGraw-Hill
Wilber O. W. & Pendred C. P. *Industrial Arts in General Education* Int. Text Book Co

58.512
Introduction to Education

The subject starts with an examination of the view commonly held by prospective teachers that their task in the classroom will be simply to teach specific subject matter. Some of the difficulties encountered in the communication of ideas to pupils are considered and a much broader view of the educational process is developed. Psychological, philosophical and sociological perspectives of the teaching-learning situation are discussed.

The subject serves as a basis for study in greater depth of educational psychology, philosophy and theory of education and sociology of education in succeeding years and shows the contribution of each to the practice of teaching. Lectures and seminars are closely related to a series of school visits extending throughout the year.

58.513
Education IA

Prerequisite: 58.512. Co-requisite: 58.523.

Educational Psychology

Areas considered in this year: Learning, motivation, child and adolescent development, group processes, personality and other psychological factors related to learning and instruction.

Textbook

Le Francois G. R. *Psychology for Teaching* Wadsworth

Philosophy and Theory of Education

Curriculum theory and curriculum development, theory in education with reference to educational objectives, and an analysis of values leading to a concept of education. Various concepts examined within the context of theory and values, such as: responsibility and punishment, indoctrination, equality, creativity.

Research Methods in Education

The theory and practice of research methods in education in both the parametric and non-parametric fields including: measures of central tendency and dispersion, graphical representation of data, normal curve theory reliability of difference between statistics, correlation, tests and examinations. Analysis of variance, regression and the nature of experiments.

Textbook

Guildford J. P. *Fundamental Statistics in Psychology and Education* 4th ed McGraw-Hill

Sociology of Education

An investigation of the role of education in Australian society with particular attention given to inequality, adolescent groups including a study of deviants and cultural deprivation. A sociological analysis of classroom groups including group interaction, reference group theory and role theory. An analysis of social structure in the secondary school and the school in the local community. A study of teacher groups with particular attention given to role and professionalism.

58.523
Education 1B

Prerequisites: 1.011 or 1.001 or 1.041 **and** *2.001, 17.011, 25.001, 58.512. Co-requisite: 58.513.*

Science Curriculum and Instruction

The application of principles dealt with in Educational Psychology and Philosophy and Theory of Education to the particular case of science teaching. For example, the curriculum strand deals with aims of science teaching and with planning and programming of course content and the influence of information about cognitive growth and conceptual patterns upon this. Again, the instruction strand deals with learning in science, e.g. teacher demonstrations, pupil practical work, the use of audiovisual aids, individualised instruction and lesson planning. The teaching of selected topics in Biology, Chemistry, Geology and Physics is commenced and this is developed further in the fourth year.

Textbooks

Collette A. T. *Science Teaching in the Secondary School* Allyn & Bacon

Tisher R. P. et al *Fundamental Issues in Science Education* Wiley

Teaching Practice

Students are placed in high schools for one half-day per week to obtain a gradual introduction to the teaching process.

58.514
Education IIA

Four options each of which occupy two hours per week of class time for one session. The options may be chosen from those given below. However, whether a given option is offered depends on the availability of staff in a given year and other options may be added from time to time.

Options in Educational Psychology

Educational Measurement: The purposes and methods of measurement available to the classroom teacher, including the use of standardized tests. The place of Guidance Counsellors in an evaluation program is considered.

Motivation in the Classroom: Observations of various forms of communication in the classroom suggestive of inner needs. Consideration is given to procedures to facilitate awareness of such motives and possible methods for satisfying or controlling them.

Textbooks

Russell I. L. *Motivation* Brown

Sperry L. ed. *Learning Performance and Individual Differences* Scott, Foresman

Personality: Structure and culture; normal and abnormal behaviour; adjustment and readjustment; attitudes and traits; analysis and measurement; a further look at empathy, role playing and sensitivity training in the classroom.

Options in Philosophy and Theory of Education

Ethical Theory and Moral Education

The educational implications of the major ethical theories: the structure of ethical theories; educational implications consistent with a given structure; and practical issues concerned with moral education.

Justification for Teaching: Examines certain broad aims of education and expectations of teachers in order to see how far they might be justified and how practically possible they might be. The stated aims of the Wyndham Scheme are then put to the theoretical and practical test. Finally students are asked to defend the teaching of certain subjects with special reference to science and industrial arts, by showing what benefits will be brought to their pupils. (This option does not duplicate material covered in curriculum and instruction strands.)

Methodology for Criticism:

1. Develops methods and techniques whereby meaningful discussion of educational issues can take place. 2. Critical discussion on issues such as: examinations, assessment, schooling, discipline, equality of opportunity, university degrees, authority, curricula, subjects, indoctrination.

Moral Education in the Schools: Such issues as: What is moral education? How best can it be brought about? Should schools be concerned with moral education? Do schools confuse moral with practical, prudential, religious and even aesthetic issues, and what might be the consequences and implications of this?

Social Philosophy and Education: Some of the main themes in social philosophy, including the social principles of democracy, freedom and authority, constraint, the individual and society, equality of opportunity. The social functions of the school, and the problems of the above concepts within the closed society of the school.

Philosophy of the Curriculum: How is knowledge involved in education? Are there structures of knowledge which could structure the curriculum? What are the connections between knowledge and skill and knowledge and understanding? What is meant by "integration of the curriculum"? What is at issue between the advocates of specialized versus general education? Should there be a compulsory curriculum? What is the importance of psychological and sociological considerations in the curriculum formation?

The Aims of Education in Theory and Practice: The theories of some influential educationists and some attempts to apply them. Progressive theories and schools, and the de-schooling movement.

Preliminary Reading

Dewey J. *The Child and the Curriculum, and the School and Society* Chicago UP
Berg L. *Risinghill. Death of a Comprehensive School* Penguin
Lawson M. D. & Petersen R. C. *Progressive Education—An Introduction* A & R
Reimer E. *School is Dead* Penguin

Philosophy of Science and the Teaching of Science: The first stage in a two-stage course. *Session 1:* Post-"classical" philosophy of science with an emphasis on the work of Kuhn, Lakatos and Feyerabend, and some elements of Karl Popper's work as a background. What is scientific activity? Evaluation of School Science courses and ways in which they can be improved. *Session 2:* The social dimensions of science and recent work on values, goals, purposes in scientific activity, encompassing wide ranging issues from rationality in science; religion and science; Are Marxism and Freudianism scientific enterprises? What bases are there for the "Science for the People" movement? What influences science in a capitalist society?

Science and Religion in Education: Comparison of religious beliefs with science, the place of science and religion in the school. Do science and religion conflict? Are religious beliefs like scientific beliefs? Are they rational? How can they be supported? Can faith replace reason? Is there a God? Can there be miracles? Has the teaching of religion a place in schools? Should a science teacher avoid disturbing religious belief? Has the teacher a right to argue for a religious or atheistic viewpoint? The problem of evil.

Options in Research Methods in Education

Educational Research II: Provides a basis in some depth for applied educational research. It forms a sequence with the research methods strand in 58.513 Education IA.

Options in Sociology of Education

Australian Education Systems—An Historical and Sociological Analysis: The historical development of Australian education. The sociological perspective is applied to investigate whether Australian education systems are meeting the needs of Australian society.

Society Today and Tomorrow: Implications for Education: Some major characteristics of and trends in society, such as urbanization, social change, bureaucratic organization, the counter culture, community vs. association, and work and leisure patterns, with special reference to the ecological situation and the significance of values and value transfer. Possible curriculum implications and some of the fundamental questions these social issues raise concerning the role education plays in society.

Socio-Cultural Influences on the Education of Adolescents: The application of the sociological perspective to the education of adolescents.

The Education of Disadvantaged Groups: The education of disadvantaged groups in Australia, in particular, women and migrants.

58.524
Education IIB

Curriculum theory and applications of the principles involved in curricula for secondary school science in Australia and overseas. The specification of objectives of instruction, the sequencing of content, and evaluation of learning outcomes in science in the secondary school. Instructional procedures, including group processes and individualized instruction. Recent research in science education. The teaching of chemistry, physics, geology and biology. Teaching experience in the secondary school.

Textbooks

Collette A. T. *Science Teaching in the Secondary School* Allyn & Bacon
Tisher R. P. et al *Fundamental Issues in Science Education* Wiley

Graduate Study

Master of Education Subjects

Miscellaneous Subjects

58.201G
Comparative Education

Methodology of comparative education, with particular reference to cultural perspectives. Selected educational problems in various advanced societies. Problems peculiar to underdeveloped countries.

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 Australian educational systems, both government and independent. Politics and economics of education. Aspects of social psychology relevant to educational administration.

58.204G
Educational Theory in the Twentieth Century

A critical appraisal of the work of theorists such as: Dewey, Buber, Berdyaev, Sartre, Homer Lane, A. S. Neill, Nunn, Hutchins Mannheim, Makarenko. Recent educational theories relating to the curriculum, such as those of Bruner and Hirst. Selected viewpoints on moral education. An analysis of the concept of theory in relation to educational writing.

58.206G
History of Education

1. History of Western Education. **2.** History of Australian Education. In each part there will be both a study of movements and cultures as well as of distinguished thinkers. Part **1** will provide a background for understanding **2.** 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.

58.212G
Mathematics Education

Theories of instruction, theories of cognitive growth and principles of curriculum development; the application of these theories and principles to aspects of a mathematics curriculum; an examination of new mathematics curricula in Australia and overseas in terms of the above theories and principles.

58.214G
Advanced Educational Research

The course provides a basis in some depth for applied educational research. Particular attention is given to longitudinal survey research, experimental and quasi-experimental designs in research, and the design and conduct of research projects.

Includes: theories, models and educational research, experimental and quasi-experimental designs, theory and methods of scaling, analysis of variance, analysis of covariance, multiple correlation and multiple regression analysis, non-parametric statistics used in educational research, applications of computers to data analysis with particular reference to the use of package programs.

In considering appropriate research procedures, stress is placed on the assumptions underlying the use of each procedure and methods of testing these assumptions.

58.215G
Social Sciences Education

The place of the various social science disciplines, including history in secondary education. Topics include philosophical and methodological issues as they relate to education, principles of curriculum development and examination of recent trends in secondary curricula in the various social studies subjects in Australia and overseas.

Philosophy of Education Subjects

58.250G
Introduction to Philosophy of Education

Educational issues such as the concept of education, educational institutions and authority, knowledge and the curriculum. In discussion of these issues, both philosophical techniques and the role of philosophy of education are examined.

58.251G
Ethical Theories and Moral Education

Major ethical theories as they relate to moral education, with reference to such notions as equality, freedom, authority, responsibility, democracy, rationality, autonomy, indoctrination, punishment. Assumptions underlying theories of moral development, such as those of Freud, Piaget, Kohlberg.

58.252G
The Nature of Theory and the Study of Education

An overview of theory structure, theory development and related philosophical issues, eg the nature of laws, types of explanation, confirmation and falsification of theories, theory and observation, the problem of induction. After broad structure is established, the detailed analysis of selected problems in the foundation disciplines — history, psychology and sociology — will be examined. Educational theory and its relation to scientific theory.

58.253G
Philosophy and the Curriculum

An examination of epistemological, logical, psychological and sociological considerations in curriculum construction. Topics selected from: **1.** Traditional Epistemology: knowledge, belief and evidence; knowledge, truth and certainty; knowing how and knowing that. **2.** Formal Logic and the Logic of a Form of Knowledge: necessary truth; rational judgment; facts; concepts. **3.** Psychological Considerations in Curriculum Development: interests; creativity; intelligence; needs; mental abilities; concepts of mind; behavioural objectives; affective objectives; stages of psychological development. **4.** Sociology of Knowledge and the Curriculum: historical considerations in the evolution of knowledge; knowledge and control; relativist and absolutist conceptions of knowledge. **5.** Current curriculum issues: integration of the curriculum; specialization vs. liberal education; humanities vs. sciences; the hidden curriculum; means and ends in curriculum development.

58.254G
The Philosophy of Mind and Educational Theory

A survey of theories of the nature of the mind, followed by discussion of specific issues chosen from among the following, together with the implications of various positions for educational theory: behaviourism, materialism and dualism; the Skinner/Chomsky debate; the explanation of action; the nature of concepts and conceptional development; knowledge of other minds; freedom of the will; minds and machines; rationality.

58.255G
Marxism and the Study of Education

1. Marxism examined as a social theory: its origins, history of development and central tenets, etc. Stress on ideology, the State, epistemology and Marxism considered in the context of recent philosophy of science.

2. Marxism as it bears on the practice and study of education: the function of schools in society; the role of higher education; assumptions about the nature of man and society in educational theory; epistemology and schooling practice; the "deschooling" debate.

Sociology of Education Subjects

58.300G
Education in Society

The status and functioning of educational institutions in industrial societies, with special reference to radical interpretations of the role of education in society. Selected sociological issues of particular relevance for understanding the role of education in society, including theories of society and values and society. Some characteristics of contemporary societies and of trends within them which are important in the discussion of educational aims.

58.301G
Sociology of Education A

Introduction to Sociology, with particular reference to the application of the sociological perspective to teaching and learning. Topics include: socialization, stratification in society, equality and inequality of educational opportunity, the role of women in education, school systems and minority groups such as migrants and aboriginals, and reference group theory applied to parent, teacher and student groups.

58.302G
Sociology of Education B

The principles and methodology of sociology. Theoretical perspectives of influential sociological writers are studied, with particular attention given to their impact on the study of educational institutions. Topics include a study of interaction and group processes in the classroom, sociology of the school and curriculum, teacher role, sociology in teacher training, social organizations in the school setting and bureaucracy and professionalization.

58.303G
Sociological Research Methods in Education

(Students selecting this subject may not also select Introduction to Research Methods in Educational Psychology.)

Introduction to the methods and principles of social research. The theoretical problems associated with social research projects suitable for thesis presentation; practical experience. Subject content includes: evaluation of related research articles, the design of interviews, introductory parametric and non-parametric social research methods, and research design.

Science Education Subjects

58.330G
General Issues in Science Education

Aims of science education; theories of cognitive growth and learning; principles of curriculum development and issues influencing curriculum development in science education; eg science and society, integration of the sciences, the nature of science and "scientific attitudes"; a survey of recent research in science education.

58.331G
The Development of Scientific Concepts

A consideration of the nature of concepts and conceptual structure in science and theories of cognitive development, followed by the implications of Piagetian, Brunerian and neo-Piagetian developmental models for secondary science education.

58.332G
Evaluation in Science Education

Aims, objectives and evaluation. Method of assessment for achievement, attitudes, interests, practical work, cognitive preferences. Survey of test instruments. Test construction. Course evaluation principles and examples.

58.333G
Primary Science Education

Aims of primary science education, the problem of integrating science with other subjects in the primary curriculum, and implications of the theories of Piaget, Bruner and Gagné for teaching science in the primary school. Examination of such elementary science curricula as Science-A Process Approach, Science Curriculum Improvement Study and Science 5-13.

58.334G
The Nature of Science and Science Education

The nature of science and its implications for science education. Aspects of scientific methodology, scientific concepts, aims in science and characteristics of scientists. Includes an examination of the nature of theories, the propagation and testing of theories, the characteristics of scientific communities, the personalities of scientists, scientific attitudes, the nature of observations, experiments, laws, definitions, explanations and predictions, and the role of "control" in science. The effectiveness of the historical case study, the scientific paper, the experiment, and the direct exposition of the nature of science in portraying the scientific enterprise.

58.335G
Curriculum Development in Science

Curriculum theory discussed and used in investigating recent curriculum development projects in science. Factors involved in curriculum planning, such as objectives, content selection, learning experiences, and evaluation; influences involved in providing impetus for change and in implementing new curricula. The recent projects investigated include A.S.E.P., B.S.C.S., C.H.E.M.S., I.S.C.S., P.P., S.C.I.S.P. and Nuffield Foundation Projects.

Educational Psychology Subjects

58.360G
Introduction to Educational Psychology

Psychological factors influencing the behaviour of teachers and learners. Various aspects of classroom and school organizational procedures analyzed with regard to their psychological importance in the teaching/learning process.

58.361G
Introduction to Child Growth and Development

An introductory theoretical and practical subject offering an understanding of cognitive, physical, social and emotional development in children. Better known theories of development and the importance of all this for the practising teacher.

58.362G
Child Growth and Development

An extension in depth of the analysis of development commenced in Introduction to Child Growth and Development. Course work concentration on the application of research and theory, including a child study. Fundamental assumption and methodology associated with the concept of development.

58.363G
Cognitive Development and Classroom Learning

Includes considerations of the theories of Bruner, Gagné, and Piaget. Implications of these theories for instructional sequence and design.

58.364G
Instructional Technology

Those variables which may be manipulated to optimize the instructional process. The instructional principles introduced in other subjects extended and developed to provide a psychological foundation for pre-planned instructional sequences. Includes considerations of programmed instructions and computer-assisted learning. A small project in the student's discipline area is required.

58.365G
Motivation and Attitudes in School Settings

Procedures to facilitate awareness of motives and possible methods for satisfying or controlling them. The relationship between fundamental motives and attitudes to both educational and social issues.

58.366G
History of Educational Psychology

Basic assumptions behind, and the origins and progressive development of, basic concepts in educational psychology and their impact upon education. Includes the major aspects of educational psychology and the influences upon it which remain relevant to the present day.

58.367G
Contemporary Issues in Educational Psychology

Analysis of the major issues which preoccupy educational psychologists in the world today. Wherever possible, it deals with the Australian contribution to those areas being considered.

58.368G
Psychology, History and Literature

How psychological research may give new insights in literary criticism and teaching and research in history and literature.

58.369G
Introduction to Research Methods in Educational Psychology

Fundamental principles of research design and reporting. The construction of instruments for measurement and some elementary statistical techniques.

58.370G
Further Research Methods in Educational Psychology

An extended and in-depth study of more advanced experimental design and statistical techniques as applied in the field of Educational Psychology. A practical orientation; students taking the subject are expected to design a major investigation in the field of Educational Psychology and to carry out some of the pilot work associated with it.

58.371G
Advanced Developmental Psychology in Educational Behavioural Settings

Students choose *one* of three intensive studies:
1. *Pre-School and Infant Development:* Major implications for education and further development of environmental and hereditary interactions up to the age of seven years.
2. *Development in the Primary School Child:* Major research findings and developmental theories as they affect the primary school child.
3. *Adolescents and Youth:* Major factors which influence development from the age of entry into secondary school until the acceptance of adult roles in society. Includes: study of students in tertiary institutions and late adolescents in work situations, as well as concentrating on young people of secondary school age.

58.372G
Learning Theory and Classroom Instruction

The history, the development and the contemporary application of major learning theories with emphasis on their effects on classroom instructional patterns and the insights they provide which might help modify future instructional patterns.

58.373G
Behaviour Modification in the Classroom and School Setting

The basic principles of conditioning and their application to the manipulation of learning behaviours in educational environments.

58.374G
Social Learning and Education

The principles of social learning and the implications of the major research findings as they affect educational procedures.

58.375G

Psychophysiology in the Classroom

A practical study of human reactions to standard interaction in the learning and teaching situation. Physiological changes on both learner and teacher under differing conditions of stress and motivation related to relevant psychological constructs such as attention and perception.

58.376G

The Education of Exceptional Children

Problems associated with learning difficulties, mental retardation, handicaps of both physical and psychological nature and special problems associated with the education of gifted children.

58.377G

Personality Development and Counselling Techniques in Education

Clinical methods and counselling procedures suitable to an educational setting. The student may concentrate on children at any of the stages of development: primary school age, secondary school age, tertiary institution.

58.378G

The Role of the School Psychologist

Vocational guidance techniques and problems, appropriate concepts of testing, and the place of psychology in the school curriculum.

School of History and Philosophy of Science

Undergraduate Study

62.001

History and Philosophy of Science I

The Origins of Modern Science

Session 1

An Introductory course dealing with the main developments in the history of science between 1300-1800. The main emphasis will be on the seventeenth century Scientific Revolution. The course will examine, among other things, the work of Copernicus, Kepler, Gilbert, Harvey, Galileo, Torricelli, Huygens and Newton. The decline of scholastic philosophy and the rise of a new mentality reflected in the writings of Bacon, Descartes and Galileo will be discussed in some detail. Cartesian and Newtonian physics and the establishment of a mechanistic world view will also be examined.

Textbooks

Butterfield H. *The Origins of Modern Science 1300-1800* Bell
Hall A. R. *The Scientific Revolution 1500-1800* Longman

The Social History of Science

Session 1

The study of the scientific enterprise in its social and cultural context. The course will deal with topics such as: the emergence of the scientific movement in Britain and Western Europe, the relations between the State and the community of science, the nature and functions of scientific societies and academies; the influence of technology on science and of science on technology; science and the State in the twentieth century with special reference to specific problems in the USA, Britain, Soviet Union, Germany, and the developing nations.

Textbook

Rose H. & Rose S. *Science and Society* Penguin

62.002

History and Philosophy of Science II

The Principles of the Philosophy of Science

Session 1

A general introduction to the philosophy of science. Following a preliminary examination of the nature of some of the common forms of argument employed in natural science and mathematics, several of the more central problems of the philosophy of science will be discussed, such as: the structure of scientific theories; the nature of scientific explanation and prediction; the status of scientific laws; confirmation and falsification; the function of models and analogies; the status of theoretical entities; paradigms; and the dynamics of scientific development and change. Historical case studies taken from the post-Newtonian period will be used to illustrate the philosophical issues.

Textbooks

Hanson N. R. *Observation and Explanation* Harper
Hempel C. G. *Philosophy of Natural Science* Prentice-Hall
Kuhn T. S. *The Structure of Scientific Revolutions* 2nd ed Chicago UP

Selected Topics in the Histories of the Sciences

Session 2

Students will choose *two* of the following Histories*:

1. *The History of Biology*

Main themes in the development of biology as a science, with emphasis upon the nineteenth century.

Textbook

Coleman W. *Biology in the Nineteenth Century* Wiley

2. *The History of Chemistry*

The establishment of the atomic theory. The evolution of the atomic theory is traced from the time of Dalton to that of Mendeleef, with a careful examination of the steps leading to the determination of atomic weights, the writing of chemical formulae, the establishment of the valencies of the elements, and the construction of the periodic table.

Textbook

Mellor D. P. *The Evolution of the Atomic Theory* Elsevier

3. *The History of Geology*

The history of geology in outline from antiquity to the present, with more detailed consideration of the following topics: the

* Not all of these topics are available in 1976. Students should consult the School office.

uniformitarian/catastrophist debate in the early nineteenth century; the birth of glacial geology; Kelvin and the age of the earth; the history of the hypothesis of continental drift from Wegener to the present; paradigmatic geology in the first half of the twentieth century; some new directions—geophysics, geochemistry, oceanography, tectonics, paleoecology, Quaternary geology and the evolution of the hominids, lunar geology, environmental geology.

Preliminary Reading

Fenton C. R. & Fenton M. A. *Giants of Geology* Dolphin

Textbooks

Adams F. D. *The Birth and Development of the Geological Sciences* Dover
Gillispie C. C. *Genesis and Geology* Harper

4. *The History of Physics*

A critical study of the origins and development of modern theories of space and time, and matter and radiation. The course will begin with the "two small dark clouds" on the horizon of classical physics, the null result of the Michelson-Morley experiment and the ultra-violet catastrophe highlighted in the Rayleigh-Jeans law, and will go on to consider the empirical and theoretical background to the major revolution in the conceptual evolution of physics, which finally resulted in the theories of relativity and quantum mechanics. The logical structures of these theories will be examined and some famous "paradoxes" will be discussed in order to demonstrate the incomplete nature of some orthodox interpretations of relativistic and quantum phenomena.

Selections from primary sources are issued by the School.

Textbooks

Einstein A. *Relativity, The Special and General Theory* University Paperbacks
Einstein A. & Infeld L. *The Evolution of Physics.* C.U.P.
Silva A. & Lochak G. *Quanta* World University Library

School of Social Work

Undergraduate Study

63.001
Australian Social Organization

After an examination of the demographic characteristics of Australia, a number of major organizational areas of Australian society are studied, for example, its organization with respect to industry and commerce, government, the law, religion, and the institutions of social welfare.
The subject calls for extensive reading, associated with regular classroom exercises.

Textbooks

Atkins R. & Graycar A. *Governing Australia* Wiley
Borrie W. D. *Population and Australia: National Population Inquiry Vols I & II* AGPS Canberra
Downing R. I. ed *The Australian Economy* Weidenfeld & Nicolson
Kewley T. H. *Social Security in Australia* S.U.P.
Rennison G. A. *We Live Among Strangers* M.U.P.
Sawer G. *Australian Government Today* M.U.P.
Wrong D. H. *Population and Society* Random House Paperback

Commonwealth Legislation

Health Insurance Act 1973
Family Law Act 1975
National Health Act 1953-1970 as amended
Social Services Act 1947-1970 as amended

New South Wales State Legislation

Adoption of Children Act 1965-1966 as amended
Child Welfare 1939-1964 as amended

63.412
Social Philosophy and Policy

Social policy and administration as a developing subject area overseas and in Australia. The relevance of philosophy.

The analysis of social norms and the underlying values which regulate behaviours in the modern welfare state: **1.** The diverse forms of norms, rules or behavioural prescriptions which exist in this kind of society, and methods of classifying these. **2.** The language and logic of rules. **3.** Societal values and ideologies (social, political, religious), and their relationship to behavioural prescriptions. **4.** The various principles and modes of justification used to support behavioural prescriptions—key social concepts like justice, rights, obligation, equality, democracy, legality, morality. **5.** The need for and limits of rationality. **6.** The values of social welfare. **7.** 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, radio, television and parliament.

Textbooks

Benn S. I. & Peters R. S. *Social Principles and the Democratic State* Allen & Unwin
Howard D. S. *Social Welfare: Values, Means and Ends* Random House
Wilson P. R. ed *Australian Social Issues of the 70's* Butterworths

63.421
Social Welfare Systems I

The major historical determinants of the pattern of development of social welfare systems in Australia. Overseas and local influences.

Textbooks

Cohen P. *Modern Social Theory* Heinneman
Mills C. W. *The Sociological Imagination* Pelican

63.422
Social Welfare Systems II

Organizational Analysis of Social Welfare Systems:
The relevance of organization theory for understanding social welfare systems. Five concepts of organizational level: International, national, community, agency, and professional. Dimensions of the system: goals, 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, civil and political rights. Each sub-system is studied in terms of its major organizational dimensions, as outlined above, and an attempt is made to evaluate the efficiency and effectiveness of each sub-system.

Textbooks

Kahn A. J. *Social Policy and Social Services* Random House
Kaim-Caudle P. R. *Comparative Social Policy and Social Security* C.U.P.
Kewley T. H. *Social Security in Australia* 2nd ed S.U.P.
Lewis M. T. *Values in Australian Income Security Policies—Report to Commission of Enquiry Into Poverty* AGPS, Canberra

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: **1.** The relationship between different levels of social organization; functional divisions on the one level of social organization and other linkage questions. **2.** 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. **3.** 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 judgment in relation to social welfare problems, policies and provision, not to teach social policy practice roles as such.

Textbook

Schorr A. L. ed *Children and Decent People* Allen & Unwin

63.511
Human Behaviour I

The process 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 (eg 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

Heraud B. J. *Sociology and Social Work* Pergamon
Hunt F. J. *Socialization in Australia* A&R
Krupinski J. & Stoller A. *The Family in Australia* Pergamon
Newman B. & Newman P. *Development Through Life* Dorsey Press

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, aetiology. Differences and similarities. Classroom learning is reinforced by observation of behaviour, under simulated and actual life conditions.

Textbooks

Batchelor. *Henderson and Gillespie's Textbook of Psychiatry* OUP
Cameron N. *Personality Development & Psychopathology: A Dynamic Approach* Houghton Mifflin
Clinard M. B. *Sociology of Deviant Behaviour* Holt, Rinehart & Winston
Cohen, A. K. *Deviance and Control* Prentice-Hall
Eskin F. *Medical Notes for Social Workers* John Wright
Fischer W. F. *Theories of Anxiety* Harper & Row
Goffman E. *Stigma: Notes on the Management of Spoiled Identity* Penguin

63.611A
Social Work Practice IA

Various forms of interpersonal communication with particular emphasis on its behavioural effects; the principles and techniques of interviewing. Emphasis on experiential learning, through role-playing and skill-practice exercises, video-tapes and tape-recordings, students learn preliminary skills in interpersonal helping.
A general systems model for social work practice is presented; within this framework students begin to develop the analytical, discriminative, and interactional skills necessary for its effective use over a range of intervention situations.

Textbooks

Day P. R. *Communication in Social Work* Pergamon
Kadushin A. *The Social Work Interview* Columbia UP
Pincus A. & Minahan A. *Social Work Practice: Model and Method* Peacock
Watzlawick P., Beavin J. H. & Jackson D. D. *Pragmatics of Human Communication* Norton

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. Emphasis is on work with a range of clients and of social problems, rather than on depth of experience. Aim is to begin to acquire, in an actual practice setting, skills and responsibility in interpersonal relations.
The duration of this first field placement is 42 working days (294 hours).

Textbooks

No set texts.

63.612A
Social Work Practice IIA

One stream deals in turn with further learning in social casework, social group work, community work, and social welfare administration.
A parallel stream considers: the professions in modern industrial societies. The professionalization of social work. The organization of the social work profession in Australia, the USA 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

Cox F. et al. *Strategies of Community Organisation* Peacock Ithaca
Foren R. & Bailey R. *Authority in Social Casework* Permagon
Johnson T. J. *Professions and Power* Macmillan
Kramer R. M. & Specht H. ed *Readings in Community Organization Practice* Prentice-Hall
Lees R. *Politics and Social Work* Routledge
Parad H. J. *Crisis Intervention* Family Service Association of America
Perlman R. & Gurin A. *Community Organisations and Social Planning* Wiley
Reid W. J. & Epstein L. *Task-Centred Casework* Columbia UP
Trecker H. *Social Group Work: Principles and Practice* 2nd ed Association Press

63.612B
Social Work Practice IIB

Usually as a member of a student unit located in a social work agency and supervised by a field instructor of the School, student has learning experiences which help him to acquire skills mainly in the casework method but with some introduction to group work and community organization. Stress is placed on gaining self-awareness, understanding of conscious use of self in interpersonal relationships, and skills in problem definition and interpersonal helping. In the course of this placement the student gains understanding and responsibility in job management.
The duration of this second field work placement is 45 days (315 hours).

63.613A
Social Work Practice IIIA

Divided into two major concurrent sections. The first section, taken by all students, deals with social welfare administration, followed by a study of social work practice delineated by field, such as the health field, family and child welfare, corrective services.
The second section, which uses a variety of educational methods, concentrates upon gaining professional competence in the following social work methods—social casework, social group work, community work, or social welfare administration. The last of these methods can only be taken as a major elective with the permission of the lecturer concerned.

Social Welfare Administration (General Stream)

Textbooks

Hunt J. W. *The Restless Organisation* Wiley
Katz D. & Kahn R. L. *The Social Psychology of Organisations* Wiley
Schatz H. A. *Social Work Administration* Council on Social Work Education

Social Welfare Administration Elective

Textbooks

Koontz H. & O'Donnell C. *Management: A Book of Readings* 3rd ed McGraw-Hill
Trecker H. B. *Social Work Administration—Principles and Practice* Association Press
Warham J. *An Introduction to Administration for Social Workers* Humanities Press

Community Work Elective

Textbooks

Brager G. & Specht H. *Community Organising* Columbia UP
Carter N. *Perspectives on Planning* Canadian Council on Social Development
Cox F. et al *Strategies of Community Organisation* Peacock
Echlein J. L. & Lauffer A. *Community Organizers and Social Planners* Council on Social Work Education Wiley
Kahn A. *Social Planning: Theory & Practice* Russell Sage Foundation
Kramer R. & Specht H. eds *Readings in Community Organization Practice* Prentice-Hall
Milson F. *Introduction to Community Work* Routledge
Perlman R. & Gurin A. *Community Organization and Social Planning* Council on Social Work Education Wiley

Casework Elective

Textbooks

Briar S. & Miller M. *Problems and Issues in Social Casework* Columbia UP
Roberts R. W. & Nee R. H. *Theories of Social Casework* Chicago UP
Strean N. S. ed *Social Casework: Theories in Action* Scarecrow Press Metuchen
Turner F. *Social Work Treatment* Free Press

Group Work Elective

Textbooks

Glasser P., Sarri R. & Vinter R. eds. *Individual Change Through Small Groups* Free Press
Johnson D. & Johnson F. *Joining Together: Group Theory and Group Skills* Prentice-Hall
Klein A. F. *Effective Group Work: An Introduction to Principle and Method* Associated Press
Rose S. *Treating Children in Groups: A Behavioural Approach* Jossey-Bass

63.613B
Social Work Practice IIIB

1. This placement is taken in one of a wide variety of agencies, some beyond the metropolitan area. These agencies represent a complete range of social work methods so that students may gain practice skills in one or more of the methods as presented in the preceding practice subject, Social Work Practice IIA. This placement also expects of students an increased level of autonomy in practice within the authority of their agency service. The duration of this placement is 40 days (280 hours).

2. Usually as a member of a student unit located in a social work agency and supervized by a field instructor of the School, the student has further learning experiences in the social work 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).

63.621
Social Work Research Methods I

The philosophical basis of scientific research. How social work research is carried out and completed research evaluated. Examples from the literature to demonstrate the utility and abuse of research methods.
Types of research in social work: historical and cross-cultural; literature review; use of available statistical data; experimental; quantitative-descriptive; exploratory; combinations and other.
Overview of steps in the research process, with particular reference to evaluative research; defining program and research objectives; involvement of the sponsor.
Research design; defining and operationalizing the independent and dependent variables; problems of reliability and validity.

Textbooks
Goldstein H. K. *Research Standards and Methods for Social Workers Rev* ed Whitehall
Suchman E. A. *Evaluative Research* Russell Sage
Tripodi T., Fellini P. & Meyer H. J. *The Assessment of Social Research* Peacock

63.622
Social Work Research Methods II

A continuation of the analysis of the research process which was begun in 63.621 Social Work Research Methods I.
Types of data collection, emphasizing the advantages and disadvantages of each: questionnaire: closed, open; Interview: in-depth, structured; projective tests; content analysis of the literature; observation; census type approaches.
Data analysis: selection and use of appropriate statistical parametric and non-parametric statistics; preparing tables for statistical analysis based on hypotheses; collating the study findings. Preparation of the research report. Value questions in social research.

Textbook
Lumsden J. *Elementary Statistical Method* WAUP

Graduate Study

63.801G
Advanced Social Work Practice I (Interpersonal Helping)

Existing and emerging Social Casework and Social Group Work theory. Various casework and group work models critically evaluated; emphasis on their local applicability.

63.816G
Advanced Social Work Practice I (Community Work)

Recent developments in advanced social work practice at the community level.

63.818G
Advanced Social Work Practice I (Administration)

Theory related to organizational processes: communication, decision-making, leadership, efficiency and effectiveness. Organizational goals. Bureaucratic organizations. Relationship of statutory welfare organizations with the political aims of Government. Role of Boards in voluntary social welfare organizations; relationship of administrator with Board. Service delivery and evaluation.

63.802G
Advanced Social Work Practice II (Interpersonal Helping)

Following 63.801G, examination of a range of appropriate strategies of intervention. Method application within client, worker and agency systems. Current controversial views about interpersonal helping with reference to problems of selection and integration.

63.817G
Advanced Social Work Practice II (Community Work)

Develops 63.816G, dealing with a further analysis of community work method and practitioner skills. Auspice for community work practice, its implication for practice methods; relevance to organizational goals and policy.

63.819G
Advanced Social Work Practice II (Administration)

Develops 63.818G and deals with the theory and practice skills related to the management task: planning, directing, organizing, staffing, controlling. Budgeting and finance in social welfare organizations. Methods of organizational analysis. Organizational change-process and strategies. Relationship of organizations with the environment: public, consumers, the welfare sector co-ordinating bodies and representation.

63.805G
Issues for the Social Work Profession

Contemporary issues facing the social work profession—its distribution within social welfare services, by professional methods, and geographically; its sex composition; problems of professional organization; international responsibilities; relationships with client and other population groups; relationships with other professions; relationships with other welfare personnel; the profession's priorities.

63.806G
Social and Behavioural Science

Recent and current developments in the social and behavioural sciences; psychodynamic theory, phenomenology, behaviourism, general systems theory, communication theory, small group theory, organizational theory, with relevance to social work practice.

63.807G
Social Policy Analysis

A comparative examination of the development of social policy and social administration as a subject area in Britain, Australia, the United States, and other countries. Boundary problems, characteristic concerns, social policy and economic policy, social policy and the social sciences, the movement towards more systematic analysis.

63.808G
Professional Interpersonal Competence

An examination of the various roles of the profession from the perspective of the interpersonal competence required. Various theories with possible application for increasing professional competence in personal interaction.

63.809G
Project

A study project undertaken by each candidate. The project is an original but limited investigation into some area of social welfare. Each candidate will have a project supervisor.

63.811G
Practice Theory and Social Welfare Administration

Implications for the structuring of social welfare services, of contemporary developments in methods of social work practice. Professional development and staff development; relative responsibilities. Professional supervision; structures and processes.

63.812G
Project Seminar

Candidates are expected to present formally the progress of their projects. This provides for discussion of projects between candidates and an opportunity to deal collectively with problems encountered.

63.814G
Social Planning

An analysis of social planning processes—task definition, policy formulation, programming, and evaluation and feedback. Australian and overseas examples. The location and scope of planning structures. A critical review of the stage of development of social planning theory.

63.815G
Social Work Research Methods

Uses and abuses in research in social work; types of research in social work; steps in the research process; defining program and research objectives; involving the sponsor in the research process; research design; defining and operationalizing the independent and dependent variables; problems of reliability and validity; types of data collection; data analysis; preparing the research report; value questions in social research.

School of Physiology

Undergraduate Study

73.011A
Principles of Physiology

Prerequisites: 17.011, 10.001, or 10.011 or 10.021, 2.001.

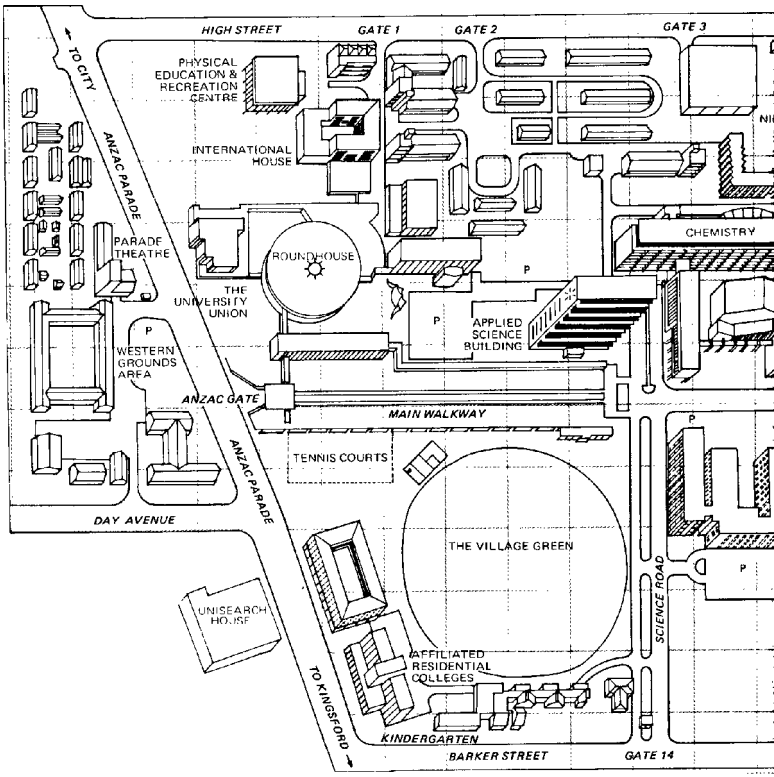
An introductory course in physiology. In some detail the basic problems of homeostasis encountered in man and animals. Function is considered at cellular and systemic levels, and examples are drawn from mammalian and invertebrate species.

Textbook

Vander A. J., Sherman J. H. & Luciano D. S. *Human Physiology* McGraw-Hill

73.012
Physiology II (Science Course)

An advanced course in the principles of physiology, centred on two major areas: circulation, respiration, membrane biophysics, neurophysiology, endocrinology and reproduction.



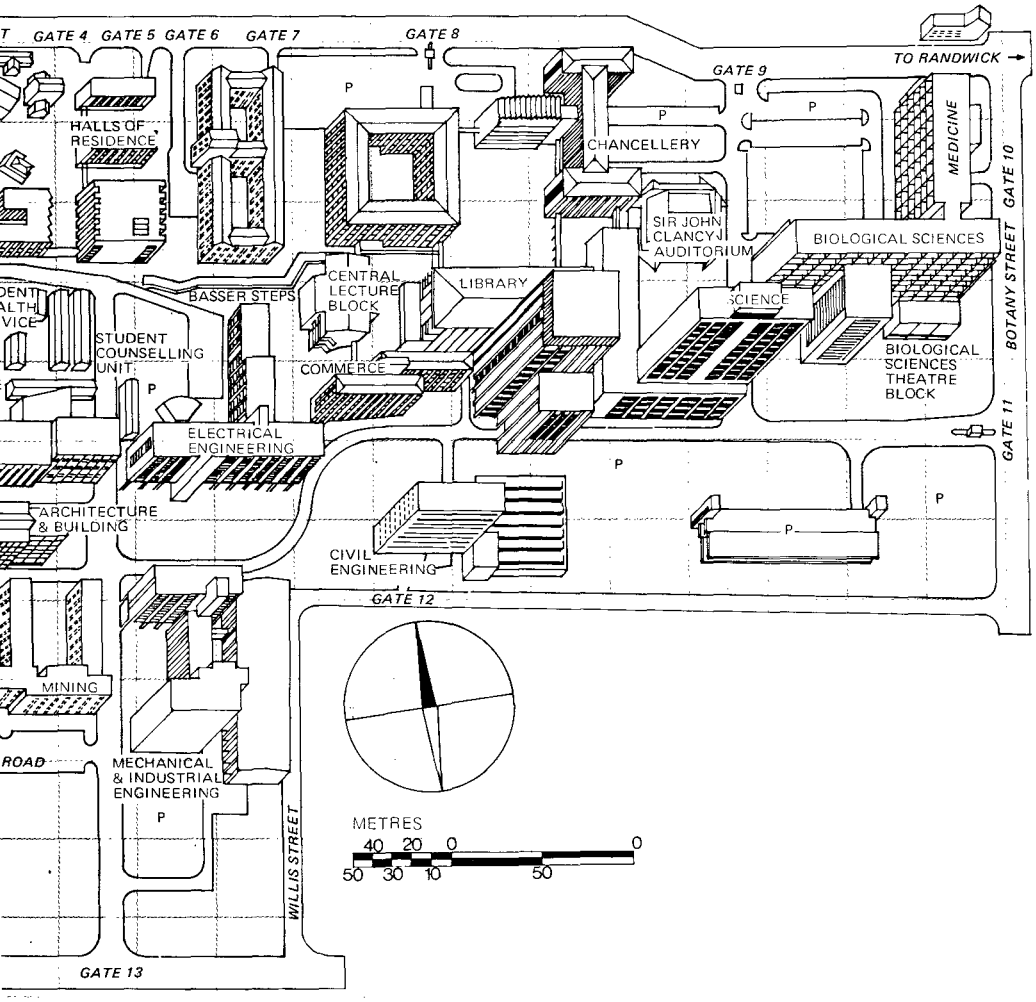
THE UNIVERSITY OF NEW SOUT

BUILDINGS

Applied Science F11
Architecture H15
Banks F22, F7
Basser College B18
Biological Sciences D26
Biological Sciences Extensions E25
Biomedical Lecture Theatres E27
Central Lecture Block E19
Central Store B13
Chancellery B/C 22
Child Minding Centre N8
Civil Engineering H20
Cracknell Sports Pavilion H8
Dalton (Chemistry) G12
Electrical Engineering G17
Electrical Engineering Lecture Theatre F17
Goldstein College B/C/D16
International House C7
John Goodsell (Commerce) F20
Keith Burrows Lecture Theatre H14
Kensington College C15/16/17
Library – Stage 2 F21/22
Main Building J/K13/14/15/16
Maintenance Workshop B13
Mechanical Engineering H17
Medicine (Administration) B27
Menzies Library E21/22
Metallurgy E8/9
Morven Brown (Arts) C/D19/20
New College (Anglican) K/L6
Newton Building J/K12
National Institute of Dramatic Art C15
Old Main Theatrette J14
Parade Theatre and Old Tote Theatre Company E3
Philip Baxter College D13/14/15
Physical Education and Recreation Centre B5/6
Robert Heffron (Chemistry) E12/13
Sciences Building F23/24
Science Lecture Theatre Block D23
Science Theatre F13
Shalom College (Jewish) M9/10
Sir John Clancy Auditorium D23/24
Sir Robert Webster (Textiles) G14/15
Squash Courts B7
Union (Roundhouse) – Stage I E/F 6/7
Union (Blockhouse) – Stage II F6/7
Union (Squarehouse) – Stage III D/E5
Union (Golf House) – Subsidiary A27
Unisearch House L5
University Regiment H3
Wallace Wurth School of Medicine C26
Warrane College (Roman Catholic) M6/7
Western Campus A-J 2/3, H/J 3/4
Wool and Pastoral Sciences B8

GENERAL

Accountancy C20
Admissions Office B22
Aeronautical Engineering J/K/L18
Anatomy C26
Applied Geology F11
Applied Physics J12
Applied Science (Faculty Office) F11
Appointments Office B22
Architecture (including Faculty Office) H15
Arts (Faculty Office) D20
Biochemistry D26
Biological Sciences (Faculty Office) D26
Biological Technology D26
Biomedical Library D27
Bookshop G17
Botany D26
Building H15
Cashier's Office B22
Centre for Medical Education Research and Development E24
Ceramic Engineering D12
Chemical Engineering F11
Chemical Technology F11
Chemistry E12/13, F/G12



WALES KENSINGTON CAMPUS

Civil Engineering H20
Clancy Auditorium D23/24
Closed Circuit Television Centre F20
Commerce (Faculty Office) F20
Community Medicine E25
Computer Centre F18
Drama D9
Economics F20
Education F2/3
Electrical Engineering G17
Engineering (Faculty Office) H17
English C20
Examinations and Student Records B22
Fees Office B22
Finance F20
Food Technology F11
French C21
Fuel Technology F11
General Studies C20
Geography F11
German C20
Graduate School of Business F20
Health Administration C23
History C20
History and Philosophy of Science C20
Human Genetics C26
Industrial Arts C2
Industrial Engineering H17
Institute of Administration G3
Institute of Languages G14
Institute of Rural Technology B9
Landscape Architecture H15
Law (Faculty Office) F23/24
Law Library F23/24
Librarianship B9/10
Library E21/22
Marketing F20
Mathematics F23/24
Mechanical Engineering H17
Medical Microbiology C26
Medicine (Faculty Office) B27
Metallurgy E8/9
Microbiology D26
Mining Engineering K16
Music B11
National Institute of Dramatic Art C15
Naval Architecture H17
Nuclear Engineering F18
Optometry J12
Pathology C26
Philosophy C20
Physics K13/14/15
Physics (Applied) J12
Physiology and Pharmacology C26
Political Science B/C19
Polymer Science C8
Postgraduate Committee in Medical Education B27
Postgraduate Extension Studies (Closed Circuit TV) F20
Postgraduate Extension Studies (Radio Station and Administration) F23/24
Psychology F23/24
Public Information C22
Russian D20
Science (Faculty Office) K14
Shalom College M9/10
Social Work F2/3
Sociology C21
Spanish and Latin American Studies D19
Student Amenities Office E16
Student Counselling Unit E16
Student Employment F15
Student Health Service E15
Students' Union E5
Superintendent (Patrol & Cleaning Services) F20
Surveying H20
Teachers' College Liaison Officer F16
Tertiary Education Assistance Centre E16
Textile Technology G14/15
Town Planning J/K16
University Union E/F6
Water Research Foundation H20
Wool and Pastoral Sciences B8
Zoology D26

This Handbook has been specially designed as a source of reference for you and will prove useful for consultation throughout the year.

For fuller details about the University—its organization, staff membership, description of disciplines, conditions for the award of degrees, scholarships, prizes, and so on, you should consult the Calendar.

Separate Handbooks are published for the Faculties of Applied Science, Architecture, Arts, Commerce, Engineering, Law, Medicine, Professional Studies, Science (including Biological Sciences) and the Board of Studies in General Education.

The Calendar and Handbooks are available from the Cashier's Office. The Calendar costs $3 (hard cover) and $2.50 (soft cover) (plus postage and packing, 90 cents). The Handbooks vary in cost. **Applied Science, Arts, Commerce** and **Science** are $1.50: **Architecture, Engineering, Law, Medicine** and **Professional Studies** are $1.00. Postage is 40c in each case. The exception is **General Studies**, which is free.