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INTRODUCTION

Wollongong University College was established as a college of the University of New South Wales in 1961. It is located on 82 acres approximately two miles to the north of the City of Wollongong and some 50 miles south of Sydney. The layout of the College is shown on the rear inside cover of this handbook. Further buildings will be added during the 1973-75 triennium in accordance with a master plan which envisages a future student population of 10,000.

At present, the University College provides undergraduate and postgraduate degrees in Applied Science, Arts, Commerce, Engineering, Science and a diploma course in Education. There is an academic staff of more than 100 which will expand in line with developments at the College. Currently, the College has one School and eighteen Departments organised in six Divisions which correspond broadly to Faculties. The College is expected to have about 1,600 students in 1973 and 2,000 by 1975. On 1st January, 1975, the College will become an autonomous university.

Information on the University of New South Wales Act, and the regulations and the by-laws of the University, is available in the University of New South Wales Calendar.
# CALENDAR OF DATES

## Session 1
- March 5 to May 12
- **May Recess:** May 13 to May 20
- May 21 to June 16
- **Midyear Recess:** June 17 to July 22

## Session 2
- July 23 to August 11
- **August Recess:** August 12 to August 26
- August 27 to November 10

### January
- **Tuesday 23:** Deferred examinations commence
- **Monday 29:** Australia Day—Public Holiday

### February
- **Thursday 8:** Deferred examinations end
- **Enrolment of new students**
- **Friday 9:** Enrolment of new students
- **Monday 12:** Enrolment of new students
- **Thursday 22:** Enrolment of new students
- **Monday 26:** Enrolment of re-enrolling students
- **Tuesday 27:** Enrolment of re-enrolling students
- **Wednesday 28:** Enrolment of re-enrolling students

### March
- **Monday 5:** Session 1 lectures commence

### April
- **Friday 20:** Easter Holidays commence
- **Wednesday 25:** Anzac Day—Public Holiday

### May
- **Friday 4:** Graduation Ceremony
- **Sunday 13:** May recess commences
- **Sunday 20:** May recess ends

### June
- **Monday 4:** Queen's Birthday—Public Holiday
- **Sunday 17:** Mid-year recess begins
- **Tuesday 19:** Mid-year examinations begin

### July
- **Tuesday 3:** Mid-year examinations end
- **Sunday 22:** Mid-year recess ends
- **Monday 23:** Session 2 lectures commence

### August
- **Sunday 12:** August recess begins
- **Sunday 28:** August recess ends

### October
- **Monday 1:** Eight Hour Day—Public Holiday

### November
- **Saturday 10:** Session 2 ends
- **Tuesday 13:** Annual examinations begin

### December
- **Tuesday 4:** Annual examinations end

First session 1974 commences 4th March.
MEMBERS OF COLLEGE COUNCIL

Chairman: Mr. D. E. Parry,
Joint Managing Director,
Southern Engineering Services Pty. Ltd.

Mr. Edgar Beale,
Solicitor.

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Associated Developments,
The Broken Hill Proprietary Co. Ltd.

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Wollongong University College Students' Representative Council.

Dr. J. S. Hagan,
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Department of History,
Wollongong University College.

Professor B. Halpern,
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Head of Division of Biological and Chemical Science,
Wollongong University College.

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Mr. R. J. Pearson,
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Director,
South Coast Area,
Department of Education.

Ex Officio:

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Warden,
Wollongong University College.

Professor B. H. Smith,
Chairman,
Wollongong University College Board of Studies.

Professor A. H. Willis,
Pro-Vice-Chancellor,
The University of New South Wales.
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* The School of Civil, Mechanical and Mining Engineering is comprised of the Departments of Structural Engineering, Systems Engineering and Thermal Engineering.
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L. J. Taylor, MEd PhD Calif.

TUTOR
C. G. Cupit, BA Syd.

THE UNION

SECRETARY/ MANAGER
I. L. Dunn, LLB Lond., psa, pfc
COLLEGE LIBRARY

All staff and students are encouraged to use the College Library and material can be borrowed by using a union card (student) or a library card (staff). A list of Library rules is available if required. Suggestions are welcomed.

The Library has the responsibility of providing material for all courses in the College curriculum and carries information in books, periodicals and microforms. It has a growing reference collection and endeavours to provide for needs outside curricular and research requirements.

Stage I of the Library complex accommodates 280 readers, has photocopying facilities, a periodicals display area and a group study room.

Hours of opening are usually 9 a.m.-10 p.m. Monday to Thursday and 9 a.m.-5 p.m. on Friday and Saturday. Variations in hours are displayed on a notice board.

Graduates of other universities are free to use the Library, and other users, particularly qualified personnel from local commerce and industry, are welcome to use facilities available.

COLLEGE UNION

The Union, which provides opportunities for the development of social and intellectual intercourse between members, is situated at the southern boundary of the campus. It was opened in 1965 and Stage II additions were completed in 1970. The premises now comprise four common rooms and refectory plus associated offices and kitchen. A coffee bar and hot meal service is provided and there is also a Union shop. The Union building also accommodates a branch of the University Co-operative Bookshop Limited and an agency of the Commercial Bank of Australia.

Membership is compulsory for all students; staff may elect to become members. The affairs of the Union are controlled by a Board of Management and, in day to day matters, by its executive officer, the Secretary/Manager.

STUDENTS' REPRESENTATIVE COUNCIL

The Students’ Representative Council is a body elected by and from the students to promote student welfare and interests. Payment of the SRC fee is compulsory for all students.

“Tertangala” — the Journal of the Wollongong University College Students’ Representative Council is published monthly during the academic year.
CLUBS AND SOCIETIES

All students are encouraged to participate in the activities of at least one of the various student clubs and societies. These clubs aim to promote the physical, social and educational development of students through their leisure time activities. The following clubs are recognised at this College:

- Arts Faculty Association
- Commerce Society
- Cricket Club
- Drama Society
- Engineering Society
- Geological Society
- Liberal Club
- Literary Society
- Men's Hockey Club
- Metallurgical Society
- Outdoors Club
- Rugby Union Club
- Science Faculty Association
- Squash Club
- Film Group
- Students for the A.L.P.
- Table Tennis Club
- Tennis Club
- Trainee Teachers' Association
- Women's Basketball Club
- Women's Hockey Club
- W.U.C. Christian Union
- W.U.C. Golf Club
- W.U.C. International Rules
- Basketball Club
- W.U.C. Soccer Club

SPORTING FACILITIES

The College has constructed a sporting oval at the northeastern end of its campus to provide facilities for the playing of various sports. Hockey fields and tennis courts are also available. Although facilities for other sports are not yet available on campus, the College Sports Association actively supports competition and social teams in most major sports, including cricket, rugby union, men's and women's international rules basketball, soccer, hockey, tennis, squash, golf and table tennis. Other sporting equipment, such as canoes, bushwalking gear, rock climbing equipment and weight lifting apparatus are available to appropriate sporting clubs or Sports Association members.

CHAPLAINCY SERVICE

A Chaplaincy Service is provided within the College for the benefit of students and staff by four Christian Churches.

The Service offers fellowship, personal counselling and guidance, and leadership in biblical and doctrinal studies and in worship. The Chaplains maintain close liaison with student religious societies. The Chaplains may be contacted at their private addresses or through the College Secretary.

**Anglican:** Appointment yet to be made.  
St. Michael's Rectory, Market Street, Wollongong, 2500. Tel. 2 1167.

**Methodist:** Rev. J. S. Scott, 36 Fisher Street, West Wollongong, 2500. Tel. 2 2119.

**Presbyterian:** Rev. D. R. Parker, The Manse, 27 Pass Avenue, Thirroul, 2515. Tel. 67 1444.
RADIO COURSES

The University’s radio station, VL2UV, which broadcasts on a frequency of 1750 kHz, began operating in 1961. The University also has its own post-graduate television network, VITU, which transmits on a frequency in the u.h.f. band of 667 MHz. Domestic radios may be adapted readily to receive VL2UV. Special TV receivers are necessary to operate in the u.h.f. band, and at present it is not possible for programmes from the University television station to be received in the home. Students enrolling in radio and television courses receive printed notes which are essential for an understanding of the lectures. Seminars conducted in conjunction with these courses give students an opportunity to discuss the lectures and any difficulties they may have had with the material.

Students in Wollongong may take advantage of this service by means of tape-recorded correspondence courses, which are offered to country students at extension centres or wherever a group of students exists. The programmes are recorded on twin track 5" reels of standard magnetic tape and can be played on most tape recorders. Over forty courses are available in this way, and in country areas, groups of as few as three students may participate at fees comparable to those paid by students in metropolitan areas. Many enrolments have been accepted from students in other States and overseas.

The emphasis of radio courses is on postgraduate and refresher courses for professional people, in subjects ranging from Medicine and Pharmacy, to Business and Operations Research, courses in Science and Mathematics directed to secondary schoolteachers and courses to school-leaving students who are proceeding to an undergraduate course at a university.

Further information may be obtained from the Division of Postgraduate Extension Studies, University of New South Wales, P.O. Box 1, Kensington, N.S.W. 2033.

UNISEARCH LIMITED

Unisearch Ltd. was established in April, 1959, by the Council of the University for the purpose of furthering one of the major objects of the University as set out in the Act of Incorporation, viz. “to aid by research and other suitable means the advancement, development and practical application of science to industry and commerce”.

Unisearch actively seeks to assist Australian industry in the solution of its research and developmental problems. It provides testing services in a wide variety of industrial fields, and is responsible for the exploitation of patents of inventions arising
out of the work of the University. The Company has had considerable success in solving production problems brought to it by industrial organisations in all Australian States and in assisting in the establishment of new industrial processes.

All enquiries should be addressed to Unisearch Ltd. (Wollongong Branch), Wollongong University College, Wollongong, N.S.W. 2500. Telephone: 27301.

RESIDENTIAL COLLEGE

International House is a residential college at Wollongong affiliated with the University of New South Wales. Accommodation is available for 156 students, both male and female, and for resident tutors. Facilities include a large common room, dining room, tutorial rooms, music, television, tutorial library and kiosk.

International House welcomes the participation of non-resident students in the sharing of college facilities. Intending students should write to:—The Warden, International House, Post Office Box 1799, Wollongong, 2500. Telephone: 299015.

ACCOMMODATION

The College assists students in finding private board and other forms of accommodation. Enquiries should be directed to the Secretary’s Office.

EMPLOYMENT

Information concerning casual employment is displayed on College notice boards, and circulated to Departments. The Commonwealth Employment Service gives assistance where possible to students seeking vacation employment.

Students seeking vocational guidance and advice on career opportunities should contact the College Secretary.

COUNSELLING SERVICE

A counselling service is provided to help students and prospective students, with educational, vocational and personal problems.

For further information, contact the College Secretary.

STUDENTS’ TRAVELLING CONCESSION PASSES

The various transport authorities provide fare concessions for certain classes of students.

Application forms for these concessions may be obtained from the Student Enquiries desk in the Office Block.
Train:
(a) Periodical tickets are available during term time to full-time students not in employment nor in receipt of any remuneration.
(b) Vacation travel concessions are available to students qualifying under (a) above.

Aircraft:
Concession fares for travel overseas, inter-state and intra-state are available under the conditions ruling for the various operating companies.

STUDENT IDENTIFICATION CARDS

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

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

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

A student who loses his identification card must notify the College Secretary as soon as possible. Forms for this purpose are available from Student Enquiries desk in the Office Block.

New students will be issued with Student Identification Cards as soon as possible after fee payment. In the meantime, the fees receipt form should be carried during attendance at the College and shown on request. If the identification card is not received within three weeks of fee payment the College Secretary should be notified.

LOST PROPERTY

All enquiries concerning lost property should be made to the College Office.
General Information and Regulations
GENERAL CONDUCT

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

Smoking is not permitted during lectures, in examination rooms or in the College Library. Gambling is also forbidden.

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

ATTENDANCE AT CLASSES

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

In the case of illness or of absence for some other unavoidable cause a student may be excused by the College Secretary from non-attendance at classes for a period of not more than one month, or on the recommendation of the Head of the appropriate Division for any longer period.

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

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

Where a student has failed a subject at the annual examinations in any year and re-enrolls in the same course in the following year, he must include in his programme of studies for that year the subject in which he has failed. This requirement will not be applicable if the subject is not offered the following year; is not a compulsory component of a particular course; or if there is some other cause, which is acceptable to the Professorial Board, for not immediately repeating the failed subject.

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

INDEBTEDNESS TO THE UNIVERSITY

Any student who is indebted to the University and who fails to make a satisfactory settlement of his indebtedness upon receipt of due notice ceases to be entitled to membership and privileges of the University. Such student is not permitted to attend classes or examinations, or to be granted any official credentials.

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

CHANGES IN COURSE PROGRAMMES AND WITHDRAWAL FROM SUBJECTS

Students seeking approval to substitute one subject for another, add one or more subjects to their programme or discontinue part of their programme must make application to the College Secretary on a form available from the Student Enquiries desk in the Office Block.

Any addition or substitution of subjects after the 30th March will be accepted only with the express approval of the College Secretary on the recommendation of the appropriate Head of Department, and approval will be given in exceptional circumstances only.

In the case of students wishing to terminate their enrolment the application must be lodged at the Student Enquiries desk in the Office Block. The College Secretary will inform students of the decision. Fees will be adjusted where necessary (refer to p. 42).

Approval of withdrawal from subjects is not automatic, each application being determined after considering the circumstances advanced as justifying withdrawal.

It is emphasized that:

(1) withdrawal from a subject, tuition in which extends over the academic year, at any time after the May recess;
(2) withdrawal from a subject, tuition in which extends over only one session, at any time after one month from the commencement of the subject; or
(3) failure to sit for the examinations in any subject in which the student has enrolled,
shall be regarded as failure to satisfy the examiners in the subject, unless written approval to withdraw without failure has been obtained from the College Secretary.

ANNUAL EXAMINATIONS

Annual examinations may take place at the end of the first or second session. Timetables showing time and place at which individual examinations will be held are posted on the central notice boards. Mis-reading of the timetable is not an acceptable
excuse for failure to attend an examination. Examination results are posted to the session addresses of students. No results will be given by telephone.

Examination results may be reviewed for a fee of $9 a subject, which is refundable in the event of an error being discovered. Applications for review must be submitted on the appropriate form, together with the necessary fee by the date indicated on the notification of results.

In the assessment of a student’s progress in University courses, consideration is given to written work, work in laboratory and class exercises, and to any sessional or other tests given throughout the year, as well as to the annual examination results.

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 College Secretary not later than seven days after the date of the examination.

A student who believes that his performance at an examination 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 College Secretary 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 College Secretary 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 may apply to the College Secretary for special provision when examinations are taken. The student may be required to support his request with medical evidence.

**Rules and Procedure for the Conduct of Examinations**

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

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

(c) No bag, writing paper, blotting paper, manuscript or book, other than a specified aid, is to be brought into the examination room.
(d) No candidate shall be admitted to an examination after thirty minutes from the time of commencement of the examination.

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

(f) 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.

(g) 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.

(h) Smoking is not permitted during the course of examinations.

(i) 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.

DEFERRED EXAMINATIONS

Most departments at the College do not offer deferred examinations except in medical and compassionate cases. Provision, however, exists for the award of deferred examinations in courses where progression is by subject.

TERMINATING PASSES

The award of the grade of terminating pass will prohibit a student progressing to the next subject in a sequence for which the subject in which the terminating pass is awarded, is a prerequisite.

APPLICATION FOR ADMISSION TO A DEGREE OR DIPLOMA

Applications for admission to a degree or diploma of the University must be made on the appropriate form by 12th January. Applicants should ensure that they have completed all requirements for the degree or diploma, including industrial training where necessary.

RESTRICTION 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. These rules apply retrospectively from 1st January, 1971.
(1) (i) A student shall show cause why he should be allowed to repeat a subject in which he has failed more than once. (Failure in a deferred examination as well as in the annual examination counts, for the purpose of this regulation, as one failure.) Where such subject is prescribed as a part of the student's course he shall be required to show cause why he should be allowed to continue the course.

Notwithstanding the provisions of Clause 1 (i)—

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

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

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

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

<table>
<thead>
<tr>
<th>Number of years in course</th>
<th>Total time allowed from first enrolment to completion (years)</th>
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<tbody>
<tr>
<td>3</td>
<td>5</td>
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<td>4</td>
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<td>11</td>
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<td>8</td>
<td>12</td>
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</tbody>
</table>

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

No part-time student shall, without showing cause, be permitted to continue a course unless all subjects of the first two stages of his course are completed by the end of his fourth year of attendance and all subjects of the third and

* Different time limits apply to part-time Arts students at Wollongong University College.
fourth stages of his course by the end of his seventh year of attendance.

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

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

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

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

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

(8) A student who has failed, under the provisions of Clause (6) of these rules, to show cause acceptable to the College Re-enrolment Committee why he should be permitted to continue in his course, and who has subsequently been permitted to re-enrol in that course or to transfer to another course, shall also be required to show cause, notwithstanding any other provisions in these rules, why he should be permitted to continue in that course if he is unsuccessful in the annual examinations immediately following the first year of resumption or transfer of enrolment as the case may be.

(9) Any student who is excluded from attendance in any course or subject under the provisions of these rules may appeal to an Appeal Committee constituted by Council for this purpose. The decision of the Appeal Committee shall be final.
(10) The notification to any student of a decision by the College Re-enrolment Committee to exclude the student from attendance in any course or subject shall indicate that the student may appeal against the decision to an Appeal Committee. In lodging such appeal the student shall ensure that a complete statement is furnished of all grounds on which the appeal is based and shall indicate whether or not the student wishes to appear in person before the Appeal Committee.

In considering an appeal the Appeal Committee, on the basis of the student's academic record and the stated grounds of appeal, shall decide:

(i) whether there are grounds which justify the Committee seeing the student in person, or

(ii) whether there is sufficient information available to the Committee to allow decision without seeing the student in person

and so proceed to determine the application accordingly.

RE-ADMISSION AFTER EXCLUSION

Applications for re-admission after exclusion must be lodged with the College Secretary not later than 30th June of the year prior to that for which re-admission is sought. An application should include evidence of appropriate study in the subjects (or equivalents) on account of which the applicant was excluded. In addition, evidence that the circumstances which were deemed to operate against satisfactory performance at the time of exclusion are no longer operative or are reduced in intensity, should be furnished. An applicant may be required to take the annual examinations in the relevant subjects as qualifying examinations in which case re-admission does not imply exemption from the subject. Late applications cannot be considered where, in the opinion of the University, insufficient time will be available for the student to prepare himself for any qualifying examinations which may be required.

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

Persons who intend applying for re-admission to the University at a future date may seek advice as to ways in which they may enhance their prospects of qualifying for re-admission. Enquiries should be made from the College Secretary.

RULES OF PROGRESSION

Progression in Full-time Courses where Progression is by the Year

1. No full-time student (except those in the Science course or in Arts, Commerce or Engineering) will be permitted to attend lectures or sit for examination in any subject in any year until he
has passed in all subjects of the previous year, unless special permission has been granted by the faculty in which he is enrolled.

2. A student who fails to qualify to progress to the next year of the course where progression is by years may be granted, by the Head of the Department conducting the course, exemption from further attendance and examination in any subject in which he has achieved a pass at a satisfactory standard. Such student may repeat those subjects required to complete the year by attendance at either day or evening classes.

3. Any student who elects to transfer to the related part-time course is not eligible to be considered for additional deferred examinations at the time of transfer and may not qualify for progression to the next year of the full-time course merely by completing the part-time equivalents of the subjects in which he has failed.

4. In general, students who fail in full-time courses, and who transfer to part-time courses, shall not be re-admitted with standing to the full-time course until they have graduated from the part-time course.

Progression in the Faculty of Engineering

Progression in all undergraduate courses in the Faculty of Engineering is now permitted by subject. However:

(1) Course programmes will continue to be stated and timetabled by year or stage and it cannot be guaranteed that non-standard programmes can be completed in the minimum number of years.

(2) Students must satisfy the rules governing re-enrolment: in particular, these require all subjects of the first year to be completed by the end of two years of full-time (or four years of part-time) study.

(3) Before enrolling in any subject a student must have satisfied the relevant prerequisite and co-requisite requirements. This will usually necessitate a student completing or attempting all subjects of a particular year or stage before proceeding to a subject in the next part of a course. Further details are available from the appropriate Department.

(4) Only in exceptional circumstances will a student be permitted to enrol in subjects extending over more than two years of the course or for more than twenty-eight hours of course work per week if a full-time student or fourteen hours per week if a part-time student. Students repeating subjects are required to choose a programme which limits their hours of course work to twenty-two per week if a full-time student, and to eleven per week if a part-time student, unless they have the express permission of the Head of the Department to exceed these hours.
GENERAL INFORMATION AND REGULATIONS

(5) Notwithstanding the above, before a student can enrol in any non-standard programme, such programme must meet with the approval of the Head of Department. A non-standard programme is one which involves enrolment in subjects from more than one year or stage, or comprises subjects which do not normally constitute a particular year's course work.

Admission with Advanced Standing

Any person who makes application to register as a candidate for any degree or other award granted by the University may be admitted to the course of study leading to such degree or award with such standing on the basis of previous attainments as may be determined by the Professorial Board provided that:

(i) the Board shall not grant such standing under these rules as is inconsistent with the rules governing progression to such degree or award as are operative at the time the application is determined;

(ii) where a student transfers from another University such student shall not in general be granted standing in this University which is superior to that which he would enjoy in the University from which he transfers;

(iii) the standing granted by the Board in the case of any application based on any degree/s or other award/s already held by the applicant, shall not be such as will permit the applicant to qualify for the degree or award for which he seeks to register without completing the courses of instruction and passing the examinations in at least those subjects comprising the latter half of the course, save that where such a programme of studies would involve the applicant repeating courses of instruction in which the Board deems the applicant to have already qualified, the Board may prescribe an alternative programme of studies in lieu thereof;

(iv) the standing granted by the Board in the case of any application based on partial completion of the requirements for any degree or other award of another institution shall not be such as will permit the applicant to qualify for the degree or award for which he seeks to register by satisfactory completion of a programme of study deemed by the Board to be less than that required of a student in full-time attendance in the final year of the course in which the applicant seeks to register;

(v) the standing granted by the Board in the case of any application based on the partial completion of the requirements for any degree or other award of the University may be such as to give full credit in the course to which the applicant seeks to transfer for work done in the course from which the student transfers.
Where the identity between the requirements for any award of the University already held and that of any other award of the University is such that the requirements outstanding for the second award are less than half the requirements of that award, then a student who merely completes such outstanding requirements shall not thereby be entitled to receive the second award but shall be entitled to receive a statement over the hand of the Registrar in appropriate terms.

CHANGE OF ADDRESS

Students are requested to notify the College Secretary in writing of any change in their address as soon as possible. Failure to do this could lead to important correspondence or course information not reaching the student. The College cannot accept responsibility if official communications fail to reach a student who has not notified the College Secretary of a change of address.

OWNERSHIP OF STUDENTS' WORK

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 students as part of their courses, or submitted for any award or competition conducted by the University.

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.

APPLICATION OF RULES

General

Any student who requires information on the application of these rules or any service which the College offers, may make enquiries from the College Secretary.

Appeals

Section 5(c) of Chapter III of the By-laws provides that “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”.

28
Undergraduate Admission and Enrolment Procedure, Fees, Scholarships and Prizes
REQUIREMENTS FOR ADMISSION

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

In addition to complying with these conditions candidates must be selected before being permitted to enrol in a course. In 1973 it will be necessary for the University to limit the number of students enrolling in all undergraduate courses.

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

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

All enquiries regarding admission and enrolment should be directed to the College Secretary.

Section A

GENERAL MATRICULATION AND ADMISSION REQUIREMENTS

1. A candidate may qualify for matriculation by attaining in recognised matriculation subjects at one New South Wales Higher School Certificate Examination or at one University of Sydney Matriculation Examination a level of performance determined by the Professorial Board from time to time.

2. The level of performance required to qualify for matriculation shall be
   (a) passes in at least five recognised matriculation subjects, one of which shall be English and three of which shall be at Level 2 or higher; and
   (b) the attainment of an aggregate of marks, as specified by the Professorial Board, in not more than five recognised matriculation subjects, such marks being co-ordinated in a manner approved by the Board.

3. The following subjects, and such other subjects as may be approved by the Professorial Board from time to time, shall be recognised matriculation subjects:—

   English                Greek                Chinese
   Mathematics           Latin                Japanese
   Science               French               Hebrew
   Agriculture           German               Dutch
   Modern History        Italian              Art
   Ancient History       Bahasa Indonesia     Music
   Geography             Spanish              Industrial Arts
   Economics             Russian
4. A candidate who has qualified to matriculate in accordance with the provisions of Clauses 1, 2 and 3 may be admitted to a particular Faculty, course or subject provided that:—
   (a) his qualification includes a pass at the level indicated in the subject or subjects specified in Schedule A as Faculty, course or subject prerequisites; or
   (b) the requirements regarding these particular Faculty, course or subject prerequisites as specified in Schedule A, have been met at a separate Higher School Certificate or University of Sydney Matriculation Examination.

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

NOTE:
1. For the purposes of clause 2(a), Mathematics and Science both passed at first level or second level full course shall together count as three subjects.
2. For the purposes of clause 2(b), Mathematics and Science taken either singly or together at first level or second level full course shall each count as one and one half subjects.
## SCHEDULE A — PREREQUISITES

<table>
<thead>
<tr>
<th>FACULTY OR COURSE</th>
<th>FACULTY OR COURSE PREREQUISITES</th>
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<tbody>
<tr>
<td><strong>Applied Science</strong>&lt;br&gt;(excl. Applied Geography, and&lt;br&gt;Wool and Pastoral Sciences courses)</td>
<td>(a) Science at Level 2S or higher&lt;br&gt;AND&lt;br&gt;(b) either Mathematics at Level 2F or higher&lt;br&gt;OR&lt;br&gt;Mathematics at Level 2S, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board.</td>
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<tr>
<td>Biological Sciences</td>
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<td>Engineering</td>
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<td>Industrial Arts course</td>
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<td>Medicine</td>
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<tr>
<td><strong>Military Studies</strong>&lt;br&gt;(Engineering course and Applied Science course)</td>
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<tr>
<td>Science</td>
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<tr>
<td>Bachelor of Science (Education)</td>
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<tr>
<td><strong>Architecture</strong>&lt;br&gt;Applied Geography, and Wool and Pastoral Sciences courses&lt;br&gt;(Faculty of Applied Science)</td>
<td>(a) Science at Level 2S or higher&lt;br&gt;AND&lt;br&gt;(b) Mathematics at Level 2S or higher</td>
</tr>
<tr>
<td><strong>Arts</strong>&lt;br&gt;Social Work Degree course</td>
<td>English at Level 2 or higher</td>
</tr>
<tr>
<td>Commerce</td>
<td>(a) Mathematics at Level 2S or higher&lt;br&gt;AND&lt;br&gt;(b) either English at Level 2 or higher&lt;br&gt;OR&lt;br&gt;English at Level 3, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board.</td>
</tr>
<tr>
<td><strong>Law</strong>&lt;br&gt;Combined Jurisprudence/Law&lt;br&gt;Combined Arts/Law&lt;br&gt;Combined Commerce/Law</td>
<td>Nil&lt;br&gt;Nil&lt;br&gt;As for Arts&lt;br&gt;As for Commerce&lt;br&gt;&lt;br&gt;English at Level 2 or higher&lt;br&gt;OR&lt;br&gt;English at Level 3, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board, and provided that a candidate so qualified shall not enrol in a course of English literature.</td>
</tr>
<tr>
<td><strong>Military Studies</strong>&lt;br&gt;(Arts course)</td>
<td>English at Level 2 or higher&lt;br&gt;OR&lt;br&gt;English at Level 3, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board, and provided that a candidate so qualified shall not enrol in a course of English literature.</td>
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### SUBJECT PREREQUISITES

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<thead>
<tr>
<th>SUBJECT</th>
<th>SUBJECT PREREQUISITES</th>
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<tbody>
<tr>
<td>Higher Physics I*</td>
<td>As for Faculty of Science</td>
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<tr>
<td>Physics I</td>
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<td>Physics IC*</td>
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<tr>
<td>Chemistry I</td>
<td>Science at Level 2S or higher</td>
</tr>
<tr>
<td>General and Human Biology</td>
<td></td>
</tr>
<tr>
<td>Geology I</td>
<td></td>
</tr>
<tr>
<td>Geoscience I*</td>
<td></td>
</tr>
<tr>
<td>Higher Mathematics I*</td>
<td>Mathematics at Level 2F or higher</td>
</tr>
</tbody>
</table>
| Mathematics I | Either Mathematics at Level 2F or higher
| | OR
| | Mathematics at Level 2S, provided that the candidate's performance in the subject and
| | his general level of attainment are at standards acceptable to the Professorial Board. |
| Mathematics IT* | Mathematics at Level 2S or higher |
| Economics I (at Wollongong University College) | Mathematics at Level 2S |
| Economics II | As for Faculty of Commerce |
| English I | English at Level 2 or higher |
| History I | |
| French I* | French at Level 2 or higher |
| Russian I* | Russian at Level 2 or higher |
| German I* | German at Level 2 or higher |
| Spanish I* | Spanish at Level 2 or higher |
| Russian IZ* | |
| German IZ* | |
| Spanish IZ* | A foreign language, other than that in which enrolment is sought, at Level 2 or higher. |

* Not available at the College in 1973.
Section B
SUPPLEMENTARY PROVISIONS FOR MATRICULATION

1. Notwithstanding the provisions of Section A above, candidates may be accepted as "matriculated students" of the University under the following conditions subject to the approval of the Professorial Board:

(a) Any person who holds a diploma from the New South Wales Department of Technical Education, or any other Technical College which may from time to time be recognised by the University, may be admitted to the University as a "matriculated student" with such status as the Board may determine, provided that, in the opinion of the Board, the applicant's qualifications are sufficient for matriculation to the Faculty nominated.

(b) The Board may admit as a "matriculated student" in any Faculty with such status as the Board may determine in the circumstances:
   (i) A graduate of any approved University.
   (ii) An applicant who presents a certificate from a University showing that he has a satisfactory record and is qualified for entrance to that University, provided that in the opinion of the Board there is an acceptable correspondence between the qualifying conditions relied upon by the applicant and conditions laid down for matriculation to the nominated Faculty of the University of New South Wales.

(c) (i) Any person who has completed the first year of the course at the Royal Military College of Australia and submits a certificate from the Commandant to that effect may be admitted as a "matriculated student" of the University.
   (ii) Any person who has completed a full course of at least three years' prescribed study at the Royal Military College of Australia and produces a certificate from the Commandant to that effect may be admitted as a "matriculated student" of the University with such status as the Board may determine.

(d) Any person who has completed satisfactorily the passing out examination of the Royal Australian Naval College and submits a certificate from the Commanding Officer may be admitted as a "matriculated student" of the University.

(e) (i) Any person who has completed the first year of the course at the Royal Australian Air Force College and submits a certificate from the Commandant to that effect, may be admitted as a "matriculated student" of the University.
(ii) Any person who has completed two years of the course at the Royal Australian Air Force College and submits a certificate from the Commandant to that effect, may be admitted as a "matriculated student" of the University with such status as the Board may determine.

(f) An applicant who presents a certificate from another University showing that he is qualified for entrance to that University and setting out the grounds of such qualification, provided that in the opinion of the Professorial Board there is an acceptable correspondence between the qualifying conditions relied upon by the applicant and the conditions laid down for matriculation to the nominated Faculty of the University of New South Wales.

2. (a) The Professorial Board may in special cases, including cases concerning persons of other than Australian education, declare any person qualified to enter a Faculty as a "provisionally matriculated student" although he has not complied with the requirements set out above, and in so doing may prescribe the completion of certain requirements before confirming the person's standing as a "matriculated student". Students who satisfactorily complete these requirements will be permitted to count the courses so passed as qualifying for degree purposes.*

(b) Persons over the age of twenty-five years may be admitted to provisional matriculation status provided that—

(i) they have satisfactorily completed an approved course of systematic study extending over at least three years after passing the School Certificate Examination, or

(ii) they satisfy the Professorial Board that they have reached a standard of education sufficient to enable them profitably to pursue the first year of the proposed course.

(c) Any applicant for provisional status may be required to take such examination as the Professorial Board may prescribe before such status is granted.

3. The Professorial Board may at its discretion permit a person, who does not satisfy the requirements for admission, to attend lectures in a subject or subjects at the University, on payment of the prescribed fees provided that such person shall not necessarily have the privileges of "matriculated students" and shall not be eligible to proceed to a degree.

* The Professorial Board has determined that normally confirmation of standing as a "matriculated student" will require the successful completion of not less than half the normal programme in the first year of enrolment.
ENROLMENT AND RE-ENROLMENT PROCEDURE

The enrolment procedure in 1973 for the different classes of undergraduate students is as follows:

FIRST ENROLMENTS

(a) New South Wales residents already qualified for admission and persons who are applying for enrolment on the basis of qualifications gained or about to be gained outside New South Wales must lodge an application for enrolment with the Metropolitan Universities Admissions Centre, 13-15 Wentworth Avenue, Sydney (P.O. Box 7049 G.P.O., Sydney) by 27th October, 1972, for entry in 1973.

It is expected that the same timing will apply for entry in 1974; however, intending applicants should check with the Metropolitan Universities Admissions Centre.

(b) New South Wales residents qualifying for admission by the 1972 New South Wales Higher School Certificate Examination or the 1973 Sydney University Matriculation Examination and those who have attended a University in New South Wales in 1972 must apply for enrolment to the Metropolitan Universities Admissions Centre, 13-15 Wentworth Avenue, Sydney (P.O. Box 7049 G.P.O., Sydney) by 19th January, 1973, for entry in 1973.

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

First year repeat students

First year students who failed more than half their programme at the 1972 Annual Examinations and who were not granted any deferred examinations will NOT follow the above procedure. They are required to "show cause" why they should be allowed to continue in the course, and should await instructions in writing from the College Secretary as to the procedure.

RE-ENROLMENTS

All students enrolling other than for the first time and not included above should re-enrol by lodging a provisional re-enrolment form by 3rd November, 1972, and attending the College to complete re-enrolment, including the payment of fees, according to the following schedule:

Arts, Commerce—Monday, 26th February, 1973
Engineering, Metallurgy, Science—Tuesday, 27th February, 1973
UNDERGRADUATE ADMISSION AND ENROLMENT PROCEDURE. 
FEES, SCHOLARSHIPS AND PHIZES

All courses (if unable to attend earlier)—Wednesday, 28th February, 1973.

Students who are unable to attend the College to complete re-enrolment on the days prescribed above should contact the College Secretary for approval to re-enrol at a later date.

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

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

COURSE TRANSFERS

Students who are currently enrolled at the College and who wish to transfer to another first year course (including Stages I and II of the part-time courses) at the College should apply through the Metropolitan Universities Admissions Centre in the same manner as is required of new applicants.

Students wishing to transfer to later years (i.e. excluding the year/stage referred to above) of another course at the College, should complete the “Application to Transfer Course” form which is available from the Student Enquiries desk in the Office Block, or should make a written application to the College Secretary. Such applications for course transfers should be lodged with the College Secretary by Friday, 19th January, 1973.

Students whose applications to transfer are successful are required to comply with the enrolment procedures for the year/stage of the new course in which they expect to enrol. Unless otherwise instructed they must present the letter granting approval of the transfer to the enrolling officer.

Students who have not received advice regarding their application to transfer before the date on which they are required to enrol should check with the College Secretary.

RESUMPTION OF COURSES

Students who have been granted leave of absence for 1972 should contact the College Secretary by 19th January, 1973, for information on enrolment procedures.

All other students seeking to resume their studies after an absence of twelve months or more are required to apply for re-admission through the Metropolitan Universities Admissions Centre by 27th October, 1972.

Students re-enrolling in this way will normally be required to satisfy conditions pertaining to the course at the time of re-enrolment. This condition applies also to students who have been re-admitted to a course after exclusion under the rules restricting students re-enrolling.
MISCELLANEOUS SUBJECT ENROLMENTS

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

Application forms can be obtained by written application to the College Secretary or by collecting them personally from the Student Enquiries desk in the Office Block. Application forms should be received by the College Secretary by 19th January, 1973.

Final Dates for Completion of Enrolment

No enrolments will be accepted from new students after the end of the second week of session 1 (16th March, 1973) except with the express approval of the College Secretary and the Head of the Department concerned; no later year enrolments will be accepted after 30th March, 1973 without the express approval of the College Secretary which will be given in exceptional circumstances only.

FEES

Completion of Enrolment

All students are required to attend the appropriate enrolment centre during the prescribed enrolment period for authorisation of course programme. Failure to do so will incur a late fee of $8.

Fees should be paid during the prescribed enrolment period but will be accepted during the first two weeks of Session 1. (For late fees see below.) No student is regarded as having completed an enrolment until fees have been paid. Fees will not be accepted (i.e. enrolment cannot be completed) from new students after the end of the second week of Session 1 (16th March, 1973), and after 30th March from students who are re-enrolling except with the express approval of the College Secretary, which will be given in exceptional circumstances only.

Payment of Fees by Session

Students who are unable to pay their fees by the year may pay by the session, in which case they are required to pay the first session's course fees and other fees for the year, within the first two weeks of Session 1. Students paying under this arrangement will receive accounts from the University for Session 2 fees. These fees must be paid within the first two weeks of Session 2.
Non-receipt of an account from the University is not an acceptable reason for failure to pay fees within the prescribed time.

**Assisted Students**

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

**Extension of Time**

Any student who is unable to pay fees by the due date may apply in writing to the College Secretary for an extension of time. Such application must give year or stage, whether full-time or part-time, and the course in which the applicant wishes to enrol, state clearly and fully the reasons why payment cannot be made and the extension sought, and must be lodged before the date on which a late fee becomes payable. Normally the maximum extension of time for the payment of fees is until 30th March for fees due in Session 1 and for one month from the date on which a late fee becomes payable in Session 2.

Where an extension of time is granted to a first year student in Session 1, such student may only attend classes on the written authority of the College Secretary, but such authority will not normally be given in relation to any course where enrolments are restricted.

**Failure to Pay Fees**

Any student who is indebted to the University and who fails to make a satisfactory settlement of his indebtedness upon receipt of due notice ceases to be entitled to membership and privileges of the University. Such a student is not permitted to register for a further session, to attend classes or examinations, or to be granted any official credentials.

No student is eligible to attend the annual examinations in any subject where any portion of his course fees for the year is outstanding after the end of the fourth week of Session 2 (17th August, 1973).

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

*(Degree, Diploma and Conversion)*

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

(a) Courses in the Faculties of Applied Science, Biological Sciences, Engineering and Science, and courses in Industrial Arts

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

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

(i) Full-time Course Fee — more than 15 hours' attendance per week—$231 per session.

(ii) Part-time Course Fee—over 6 hours' and up to 15 hours' attendance per week—$115.50 per session.

(iii) Part-time Course Fee—6 hours' or less attendance per week—$57.50 per session.

(iv) Course Continuation Fee—A fee of $33 per annum (no session payment) is payable by:
   Category (a) students who have once been enrolled for a thesis and have only that requirement outstanding, or
   Category (b) students given special permission to take annual examinations without attendance at the University. (Students in this category are not required to pay the subscriptions to the College Union, the Students' Representative Council, the Sports Association and the Library fee.)

(b) Commerce Courses

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

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

(i) Full-time Course Fee—more than 11 hours' attendance per week—$192.50 per session.

(ii) Part-time Course Fee—over 4 hours' and up to 11 hours' attendance per week—$115.50 per session.

(iii) Part-time Course Fee—4 hours' or less attendance per week—$57.50 per session.

* Fees quoted in this schedule are current at the time of publication and may be amended by the Council without notice.
(iv) Course Continuation Fee—A fee of $33 per annum (no session payment) is payable by:

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

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

(c) Arts Courses*

(i) Pass—$115 per annum per subject or $57.50 per session per subject.

(ii) Honours—an additional $39 per annum per subject in which honours is taken in a student's second and third years and $154 per subject per annum in the fourth year.

(d) Miscellaneous Subjects

(i) Undergraduate subjects taken as "miscellaneous subjects" (i.e. not for a degree or diploma) or to qualify for registration as a candidate for a higher degree are assessed where they appear only in an Arts course (except where approved as the humanities component in another course) according to paragraph (c) "Arts courses", above. Where the honours section only of an Arts subject is taken the fee payable is $39 per annum per subject. Where a full subject at the honours level is taken, the fee payable is $154 per annum per subject. All other subjects taken as miscellaneous subjects are assessed according to paragraph (a) "Courses in the Faculties of Applied Science etc." above.

In cases where a student takes a programme of miscellaneous subjects from more than one of the categories referred to above the fees are assessed in accordance with paragraph (a) "Courses in the Faculties of Applied Science etc." above.

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

* Students transferring from the Arts course to a course other than Arts and claiming credit for subjects taken in the Arts course shall have their fees for these subjects re-assessed retrospectively to conform to those payable for the course to which they transfer.
UNDERGRADUATE ADMISSION AND ENROLMENT PROCEDURE, FEES, SCHOLARSHIPS AND PRIZES

Other Fees
In addition to the course fees set out above all registered undergraduates will be required to pay—

Matriculation Fee (payable at commencement of course) $9
Library Fee—annual fee $16
College Union—entrance fee $20

Student Activities Fees
  College Union—annual subscription $30
  Sports Association—annual subscription $6
  Students’ Representative Council—annual subscription $6
  Miscellaneous Fee—annual fee $2

Graduation or Diploma fee (payable at completion of course) $9

Depending on the course being taken, students may also be required to pay a Chemistry Kit Hiring Charge—$4 per kit. Additional charge for breakages and losses in excess of $1 may be required.

Special Examination Fees
Deferred examination—$7 for each subject.
Examinations conducted under special circumstances—$9 for each subject.
Review of examination result—$9 for each subject.

Late Fees
SEASON 1 — First Enrolments
  Fees paid on the late enrolment session and before commencement of Session 1 $8
  Fee paid during the 1st and 2nd weeks of Session 1 $16
  Fees paid after the commencement of the 3rd week of Session 1 with the express approval of the College Secretary and Head of the Department concerned $33

SEASON 1 — Re-enrolments
  Failure to attend enrolment centre during enrolment week $8
  Fees paid after the commencement of the 3rd week of Session 1 to 30th March $16
  Fees paid after 30th March where accepted with the express approval of the College Secretary $33

SEASON 2 — All Enrolments
  Fees paid in 3rd and 4th weeks of Session 2 $16
  Fees paid thereafter $33
Withdrawal

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

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

3. Where a student terminates for acceptable reasons a course of study within 30 days of the commencement of first session a refund of fees paid, less a sum of $33, may be made in respect of all fees except the College Union Entrance and membership fees, the Students' Representative Council fee and the Sports Association fee, in regard to which fees refunds may be made as shown hereunder.

4. Where a student terminates for acceptable reasons a course of study: (1) after the lapse of 30 days and before the lapse of half the first session, one half of each of the course fee, the library fee and the miscellaneous student activities fee may be refunded; (2) before the lapse of half the second session one half of the session's course fee may be refunded.

5. Where a student terminates a course of study after half a session has elapsed, no refund may be made in respect of that session's fees.

6. No portion of the Matriculation fee is refundable on withdrawal.

7. On notice of withdrawal a partial refund of the Student Activities Fees is made on the following basis:
   - College Union—$7.50 in respect of each half session.
   - Students' Representative Council—where notice is given prior to the end of the fifth week of Session 1, $3, thereafter no refund.
   - Sports Association—where notice is given prior to 30th April a full refund is made, thereafter no refund.

8. Where initial registration is made at commencement of second session in any year and the student subsequently withdraws, a refund of fees based on the above rules may be made.

Cashier's Hours

The Cashier's office is open for the payment of fees from 9.30 a.m. to 1 p.m., and from 2 p.m. to 4.30 p.m., Monday to Friday. The Cashier's office may be open for additional periods during the first two weeks of session. Details of these additional times may be obtained from notices posted at the College before the commencement of each session.
SCHOLARSHIPS

A separate application must be lodged for each category of scholarship listed below.

In addition to those scholarships made available by the University and other bodies as set out below, a number of industrial organizations and Government Departments sponsor students at the University. These students generally have their University fees paid by the employer and are employed at cadet rates of pay during their course.

Certain scholarships and cadetships are tenable only at this College. In this category the Australian Iron and Steel Pty. Ltd. provides a number of awards.

Further particulars about these and other scholarships, cadetships and bursaries may be obtained from the College Secretary.

Commonwealth University Scholarships

Students enrolling in first degree courses at the University are eligible. Benefits include payment of all tuition fees and other compulsory fees, and living allowances (these latter being subject to a means test). The closing date for applications is 30th September of the year immediately preceding that for which the scholarship is desired. Applications for renewal of scholarship must be made before 31st October each year. Full particulars and application forms may be obtained from the Regional Director, N.S.W. Staff Office, Department of Education and Science, La Salle Building, 70 Castlereagh Street, Sydney, 2000 (Telephone 2-0323).

University Scholarships

The University annually awards up to fifteen scholarships tenable in degree courses to students who have matriculated at the Higher School Certificate Examination; ten scholarships to students who have completed Certificate Courses (Department of Technical Education); ten scholarships to students who have completed Trade Courses (Department of Technical Education); and ten scholarships to part-time students who have taken the Diploma Entrance course of the Department of Technical Education. The scholarships are tenable in any faculty and exempt the holder from payment of course fees during the currency of the scholarship. Scholarships will be awarded in order of merit on Higher School Certificate Examination results. They may be held only by persons who do not hold another award. Applications for these scholarships, on forms obtainable from the College Secretary, must be lodged with him within seven days of the publication of the award of Commonwealth University Scholarships.

Mining Scholarships

The Joint Coal Board offers scholarships to male students who desire to enter the full-time degree courses in Mining Engineering and Applied Geology. The value of the scholarships
ranges from $600 to $1100 per annum (including allowance for books and instruments). These scholarships will be awarded on the understanding that applicants will normally hold a Commonwealth University Scholarship which covers the cost of University fees. However, applicants without Commonwealth University Scholarships may be given consideration. While scholarship holders are not under bond it is expected that they will obtain employment in coal mining or a related industry on graduation. Applications on forms obtainable from school principals or from the Secretary, Joint Coal Board, Box 3842, G.P.O. Sydney, must be lodged with the Board’s Secretary not later than seven days after the publication of the award of Commonwealth University Scholarships.

C.S.R. Scholarship in Commerce

The Colonial Sugar Refining Co. Ltd. offers one scholarship each year to students enrolling in courses leading to the degree of Bachelor of Commerce specialising in Economics, Accountancy, Statistics, Applied Psychology or Industrial Relations. The scholarship holder will study full-time at the University during the first and fourth years of tenure; during the second and third years the scholar will be employed by the Company and enrol as a part-time student, being allowed some time off from work to attend day classes. The value of the scholarship is $1200 per annum when studying full-time, and during the years of part-time employment with the Company the holder will be paid according to the Company’s basic salary scale. This award may be held concurrently with a Commonwealth University Scholarship. Applications should be lodged with the College Secretary within seven days of the publication of the award of Commonwealth University Scholarships.

Manufacturers’ Mutual Insurance Company Scholarship in Commerce

The Manufacturers’ Mutual Insurance Company offers a scholarship each year to the value of $200 per annum. The scholarship is available to students who desire to enter or are enrolled in one of the full-time courses in the Faculty of Commerce leading to the Degree of Bachelor of Commerce and specialising in either Economics, Accountancy, Statistics, Applied Psychology or Industrial Relations. The scholarship will normally be tenable for three years but may be extended for a fourth year to allow the holder to proceed to a degree with honours. The scholarship may be held concurrently with another scholarship.

Scholarships in Electrical Engineering

The Tyree Electrical Company Pty. Ltd. provides scholarships for students enrolling in the full-time courses in Electrical Engineering. The scholarships have a value ranging from $500 to $1,500 p.a. depending on the circumstances and progress of the successful applicants. They are normally tenable for four years but may be extended to a fifth year when the holder intends to qualify for the two degrees, Bachelor of Science and Bachelor
of Engineering. It may be held concurrently with any other scholarship. Applications should be lodged with the College Secretary within seven days of the publication of the award of Commonwealth University Scholarships.

**Regent Scholarship in Engineering for Women Undergraduates**

This scholarship, which is given by Mrs. G. O'Riordan and Mrs. J. Kouvelis, has a value of $200 per annum, and will be available to a female student who wishes to enrol for the degree of Bachelor of Engineering. The scholarship will normally be tenable for four years but may be extended to five if the holder wishes to qualify for the two degrees of Bachelor of Science and Bachelor of Engineering. It may be held concurrently with any other scholarship. Applications should be lodged within seven days of the publication of the award of Commonwealth University Scholarships.

**Ceramic Engineering Scholarships**

The Brick Manufacturers' Association of New South Wales and the State Brickworks of the New South Wales Department of Public Works each offer one undergraduate scholarship in ceramic engineering. Students who have completed the first year of the course may also apply. The value of the scholarships is $900 per annum, and applicants are expected to apply for a Commonwealth University Scholarship to cover course and other fees. Applications should be lodged with the College Secretary within seven days of the publication of the award of Commonwealth University Scholarships.

Harbison-A.C.I. Pty. Ltd. provides a scholarship to the value of $200 per annum to students who have completed at Wollongong University College an approved programme equivalent to the first two years of the Ceramic Engineering course, and who wish to enrol in the full-time course in Ceramic Engineering. The scholarship will normally be tenable for two years. Applications should be lodged with the College Secretary within fourteen days of the notification of the results of the second year examinations at the College.

The Australasian Vitreous Enamellers' Institute offers a scholarship, valued at $250 per annum, to students entering Year 1 of the Ceramic Engineering course or who have completed Year 1 of some other programme of equivalent academic standard. The scholarship will normally be tenable for four years and applicants are expected to apply for a Commonwealth Scholarship to cover course and University fees. Applications should be lodged with the College Secretary within seven days of the publication of the award of Commonwealth University Scholarships.

**The Clement Blazey Memorial Scholarships—Metallurgy**

Metal Manufactures Ltd. of Port Kembla, provide the Clement Blazey Memorial Scholarships for students enrolling in the full-time course in Metallurgy leading to the Degree of Bachelor of Science. Each scholarship has a value of between $200 to $800.
per annum payable to students as a living allowance. The scholarships will normally be tenable for four years and may be held concurrently with a Commonwealth University Scholarship. Applications should be lodged with the College Secretary within seven days of the publication of the award of Commonwealth University Scholarships.

**Australian Iron and Steel Pty. Ltd. Scholarships**

Australian Iron and Steel Pty. Ltd. provides scholarships for students wishing to enrol in full-time degree courses in Engineering, Metallurgy, Science, Chemistry, Commerce or Economics. The scholarships are valued at $500 per annum plus allowances where applicable. Applicants may hold Commonwealth University Scholarships, covering course and other fees.

In addition to scholarships, Australian Iron and Steel Pty. Ltd. provides traineeships and cadetships in the abovementioned courses.

Applications should be lodged with Australian Iron and Steel Pty. Ltd. (P.O. Box, Wollongong, N.S.W. 2500) before the end of November in the year preceding that for which a scholarship is sought.

**C.I.G.-E.M.F. Scholarships in Metallurgy**

The Commonwealth Industrial Gases Limited of Sydney has undertaken to provide scholarships for students wishing to enrol in the full-time course for the B.Sc. degree in Metallurgy. Each scholarship has a value of $500 per annum and may be tenable for a maximum of four years. Applicants are expected to apply for a Commonwealth University Scholarship to cover course and other university fees. Applications should be lodged with the College Secretary within seven days of the publication of the award of Commonwealth University Scholarships.

**Conzinc Riotinto Scholarships in Metallurgy and Mining Engineering**

Conzinc Riotinto provides each year two scholarships for students wishing to qualify for the Degree of Bachelor of Science in Metallurgy or Bachelor of Engineering in Mining Engineering. The scholarships are valued at $700 per annum, plus an extra $300 if the student is living away from home. Applicants may be students who have completed one year or more of an approved course. Applications should be lodged with the College Secretary within seven days of the notification of University of New South Wales examination results.

**Teachers' College Scholarships**

A limited number of Teachers' College Scholarships are available to allow students to undertake studies for a University degree, to be followed by a year devoted exclusively to training as a teacher. Benefits include the payment of University fees and a scholarship allowance.
Scholarship holders are expected to attend the University appropriate to the home address of their parents or legal guardian. The area appropriate to students whose training can be adequately undertaken at Wollongong University College is bounded by a line drawn through and including Helensburgh, Braidwood and Moruya.

Further information, application forms and the Teachers’ College Scholarship Handbook may be obtained from the Officer-in-Charge, Teacher Training Division, Department of Education and Science, Blackfriars Street, Chippendale, N.S.W., 2006.

**Bursaries Awarded by The Bursary Endowment Board**

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

Applications should be made to the Secretary, Bursary Endowment Board, P.O. Box R42 Royal Exchange, N.S.W. 2000.

**PRIZES**

*The Austin Keane Prize*

Awarded to the student who most excels in the subject Applied Mathematics III.

1971 A. J. Jakeman.

*The S. A. Senior Prize*

Awarded to the student who most excels in the subject Pure Mathematics III.

1971 W. L. Hogarth.

*The Australian Institute of Metals (Port Kembla Branch) Metallurgy Prize*

Awarded each year to the graduate who has shown the best general proficiency throughout the full course.

1971 L. Pengelly.

*The Peter Beckmann Memorial Prize*

Awarded for meritorious performance in third year Chemistry.


*The G. W. Daniels Memorial Prize*

Awarded to the student who most excels in the subject Chemistry II.

1971 K. Ozinga.
The Illawarra Group of the Institution of Engineers, Australia, Prize

Awarded to the final year student proceeding to an undergraduate degree in Engineering with the best academic record.

1971 D. A. Chessor.

(As from 1972 two prizes may be awarded by the Illawarra Group of the Institution of Engineers, Australia, one to the final year full-time student proceeding to an undergraduate degree in Engineering, the other, to the final stage part-time student proceeding to an undergraduate degree in Engineering.)

Darryl Condon Memorial Prize

Awarded to the student proceeding to an undergraduate degree in Metallurgy who most excels in the subject Metallurgy I.

1971 A. Thomas.

The Australia Institute of Mining and Metallurgy (Illawarra Branch) Geology Prize

Awarded to the student proceeding to an undergraduate degree in Science (in a Geology course) with the best academic record.

1971 B. L. Jakeman.

The Metallurgical Society Award

Awarded to the student who most excels in the subject Metallurgy IIA or Metallurgy II.

1971 R. Herald.
Undergraduate Courses
## UNDERGRADUATE COURSES

### FULL-TIME COURSES

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Course</th>
<th>Award</th>
<th>Duration-Years</th>
<th>Years offered In W'gong in 1973</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pass</td>
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</tr>
<tr>
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<td>Chemical Engineering</td>
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<tr>
<td></td>
<td>Food Technology</td>
<td>BSc</td>
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<td></td>
<td>Industrial Chemistry</td>
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<tr>
<td></td>
<td>(Education Option)</td>
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<td>Arts</td>
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<td>3*</td>
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<tr>
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<td>BSc</td>
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<td>Marketing</td>
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<td>Statistics</td>
<td>BCom</td>
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<tr>
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<td>Optometry</td>
<td>BOptom</td>
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* Not all three years of the pass course are offered in all disciplines.
† Honours courses are available in several of the Arts disciplines.
## UNDERGRADUATE COURSES

### PART-TIME COURSES

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Course</th>
<th>Award</th>
<th>Duration-Years</th>
<th>Stages available at W'gong in 1973</th>
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<td>Mechanical Engineering</td>
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<td>BSc(Tech)</td>
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<td></td>
</tr>
<tr>
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<td>2</td>
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</tbody>
</table>

* Not all five stages of the pass course are offered in all of the Arts disciplines.
† Honours courses are available in several of the Arts disciplines.
OUTLINES OF COURSE REQUIREMENTS — ARTS

PROGRAMMES FOR THE DEGREE OF BACHELOR OF ARTS*

One of five different programmes may be followed by a student reading for the degree. The first is the programme for the Pass Degree which consists of nine qualifying courses studied in particular sequences over a period of three years. The second is the programme for the General Honours Degree which may be taken by a student who, having completed with merit the programme for the Pass Degree (without proceeding to graduation), studies in an additional year Course III of each of two subjects previously studied only to Course II level. The third is the programme in Special Studies, which is designed to enable a student to undertake, over a period of four years, specialized study in one subject, although a certain number of courses of subsidiary subjects must also be taken. The fourth is the programme in Combined Special Studies which is designed to enable a student to undertake, over a period of four years, specialized study in two subjects with certain subsidiary courses. The fifth is the programme for the Part-time Pass Degree which is designed to take five years.

A student who is accepted for the Special Studies or Combined Special Studies programme will be regarded as a candidate for an Honours Degree.

The Rules governing the award of the degree are set out in the following pages and consist of:

Section A — Rules 1 to 11, which are applicable to all candidates for the degree.

Section B — Rules 12 and 13, which apply specifically to the programme leading to the Pass Degree.

Section C — Rules 14 to 19, which apply specifically to the programme leading to the General Honours degree.

Section D — Rules 20 to 26, which apply specifically to the Special Studies programme.

Section E — Rules 27 to 34, which apply specifically to the Combined Special Studies programme.

Section F — Rules 35 to 37, which relate to the recognition of courses completed outside the Faculty of Arts.

Section G — Rules 38 and 39, which are Saving Clauses.

Schedule A — which sets out the subjects available for study, the qualifying courses of each subject, and other information.

Schedule B — which sets out approved sequences of courses in Mathematics and Theory of Statistics.

* Students should note that some of the courses listed in the following regulations may not be available at the College.
RULES GOVERNING THE AWARD OF THE DEGREE OF
BACHELOR OF ARTS

SECTION A—Rules Applicable to all Candidates and to all
Programmes of Study

1. The degree of Bachelor of Arts may be conferred as a Pass
Degree or as a General Honours Degree or as an Honours
Degree in Special Studies or as an Honours Degree in Combined
Special Studies. There shall be three classes of Honours, namely,
Class I, Class II in two Divisions and Class III.

2. No person shall be permitted to enrol in any qualifying course
for the Degree of Bachelor of Arts at the same time as he is
enrolled for any other degree or diploma in this University or
elsewhere.

3. A person on whom the Pass Degree of Bachelor of Arts has
been conferred shall not be admitted to candidature for the
Honours Degree of Bachelor of Arts.

4. Where, in the following Clauses, reference is made to the
requirement that a candidate shall complete a course, the require­
ment shall be construed as meaning that the candidate shall
(a) attend such lectures, seminars and tutorials as may be pre­
scribed in that course;
(b) perform satisfactorily in such exercises, laboratory work,
essays and thesis (if any), as may be prescribed in that course
and undertake any prescribed reading relating to that course;
and
(c) pass the examination or examinations in that course.

5. A candidate for the degree of Bachelor of Arts shall complete
qualifying courses of subjects to the number, and in the
sequences, prescribed in the following Clauses. Unless otherwise
indicated, the subjects available for study, and the qualifying
courses of each subject are as set out in Schedule A to these
rules.

6. (a) A candidate shall pursue his studies as a full-time day
student and, during his first year of study, shall enrol in
at least three of the courses listed in Schedule A.*
(b) A candidate may not enrol in more than four courses in
any one year.
(c) A candidate may not enrol in Course II of a subject until
he has completed Course I of that subject.
(d) A candidate may not enrol in Course IIZ of a subject
until he has completed Course IZ of that subject.

* Note: Faculty has determined that, for the time being, students at
Wollongong University College, who are enrolled as part-time candi­
dates for the degree need not meet the requirements of Clauses 6(a)
and 12.
(e) A candidate may not enrol in Course IIIA of a subject until he has completed Course II or Course IIIZ of that subject.

(f) A candidate may not enrol in Course IIIB of a subject until he has completed Course II or Course IIIZ of that subject and has the approval of the Head of the School* concerned.

(g) A candidate may not enrol in Course IV of a subject until he has completed the appropriate Course IIIA or IIIB (or both) of that subject and has the approval of the Head of the School* concerned.

7. (a) Prerequisite Courses

A candidate may not enrol in any course listed in the left-hand column below unless he has completed the corresponding course listed as a prerequisite in the right-hand column:

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisite Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Mathematics II (either level)</td>
<td>Higher Mathematics I</td>
</tr>
<tr>
<td></td>
<td>or Mathematics I</td>
</tr>
<tr>
<td>Economic History III</td>
<td>Economics I</td>
</tr>
<tr>
<td>Industrial Relations I</td>
<td>Economics I</td>
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<td></td>
<td>or Economic History I</td>
</tr>
<tr>
<td>Physics II</td>
<td>Higher Mathematics I</td>
</tr>
<tr>
<td></td>
<td>or Mathematics I</td>
</tr>
<tr>
<td>Psychology IIIA</td>
<td>Psychology II (Advanced)</td>
</tr>
<tr>
<td></td>
<td>or Psychology II (Honours)</td>
</tr>
<tr>
<td>Pure Mathematics II (either level)</td>
<td>Higher Mathematics I</td>
</tr>
<tr>
<td></td>
<td>or Mathematics I</td>
</tr>
<tr>
<td>Theory of Statistics II (either level)</td>
<td>Higher Mathematics I</td>
</tr>
<tr>
<td></td>
<td>or Mathematics I</td>
</tr>
<tr>
<td></td>
<td>or Mathematics IT with a pass at credit level or better.</td>
</tr>
</tbody>
</table>

* At Wollongong University College, the Head of the Department.
(b) Co-requisite Courses
A candidate may not enrol in any course listed in the left-hand column below unless he enrols concurrently in (or has previously completed) the corresponding course listed as a co-requisite in the right-hand column:

<table>
<thead>
<tr>
<th>Course</th>
<th>Co-requisite Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Mathematics II (either level)</td>
<td>Pure Mathematics II (either level)</td>
</tr>
<tr>
<td>Theory of Statistics III (either level)</td>
<td>Pure Mathematics III or Mathematics III (either level)</td>
</tr>
</tbody>
</table>

8. (a) Course I or Course IZ of a subject, when completed, shall count as one qualifying course towards the degree.

(b) Course I of a subject followed by Course II of that subject, or Course IZ of a subject followed by Course IIZ of that subject, shall be two consecutive courses of that subject. When both courses have been completed, they shall count as two qualifying courses towards the degree and shall be an approved sequence of two courses.

(c) Course I of a subject followed by Course II of that subject followed by Course IIIA or IIIB of that subject, or Course IZ of a subject followed by Course IIZ of that subject followed by Course IIIA or IIIB of that subject, shall be three consecutive courses of that subject. When the three courses have been completed, they shall count as three qualifying courses towards the degree and shall be an approved sequence of three courses.

(d) Course I of a subject followed by Course II of that subject followed by Courses IIIA and IIIB of that subject, or Course IZ of a subject followed by Course IIZ of that subject followed by Courses IIIA and IIIB of that subject, shall be a special major sequence of four courses of that subject. When the four courses have been completed, they shall count as four qualifying courses towards the degree and shall be an approved special major sequence of four courses.

9. The following courses shall be regarded as consecutive courses of a subject and, when completed, shall count as two or three, as the case may be, qualifying courses towards the degree and shall be regarded as an approved sequence of two or three, as the case may be, courses:
### UNDERGRADUATE COURSES

<table>
<thead>
<tr>
<th>First course in sequence</th>
<th>Second course in sequence</th>
<th>Third course in sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Higher Mathematics I</td>
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</tr>
<tr>
<td>or Mathematics I</td>
<td>Theory of Statistics II</td>
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</tr>
<tr>
<td>or Mathematics IT with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a pass at Credit level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or better</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Theory of Statistics II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Higher Mathematics I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or Mathematics I</td>
<td>Theory of Statistics II</td>
<td></td>
</tr>
<tr>
<td>(d) Economics I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>or Economic History I</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. A course may not be counted more than once for the purpose of forming an approved sequence of courses.

11. A candidate who wishes to study Mathematics or Theory of Statistics beyond the Course I level shall follow one of the approved sequences set out in Schedule B or consult the School* of Mathematics concerning alternatives.

### SECTION B—Rules Relating to the Programme for the Degree of Bachelor of Arts—Pass Degree

12. A candidate shall complete over a period of not fewer than three years nor more than five years† nine qualifying courses of subjects chosen from those listed in Schedule A.

13. The nine qualifying courses so chosen shall comply with the following conditions:—

They shall consist of:

(a) an approved sequence of three courses of one subject and an approved sequence of two courses of each of three other subjects;

or

(b) an approved sequence of three courses of each of two subjects, an approved sequence of two courses of one other subject and Course I of one other subject;

or

* At Wollongong University College, the Department of Mathematics should be consulted.

† Different time limits apply to part-time students.
(c) an approved sequence of three courses of each of two subjects and Course I of each of three other subjects;

or

(d) an approved special major sequence of four courses of one subject, an approved sequence of two courses of each of two other subjects and Course I of one other subject;

or

(e) an approved special major sequence of four courses of one subject, an approved sequence of three courses of one other subject and an approved sequence of two courses of one other subject;

or

(f) an approved special major sequence of four courses of one subject, an approved sequence of three courses of one other subject and Course I of each of two other subjects.

SECTION C—Rules Relating to the Programme for the Degree of Bachelor of Arts—General Honours Degree

14. A student seeking Honours shall complete eleven qualifying courses of subjects over a period of not fewer than four years nor more than five years. The eleven qualifying courses shall be chosen from Schedule A and shall be completed in accordance with Clauses 15 to 18.

15. (a) Nine of the eleven courses shall be completed in such a way as to fulfil the requirements for the Pass degree in accordance with Clauses 12 and 13. If the student has obtained a pass at Credit level or better in at least five of the nine courses by which he qualified for the Pass degree, he may apply to Faculty for formal recognition as a candidate for Honours.

(b) The remaining two of the eleven courses shall be completed in the Honours year and shall comprise Course IIIA or IIIB of each of two subjects of which only Courses I and II (or Courses IZ and IIZ) have so far been completed and each of these two courses shall be completed with a pass at Credit level or better.

16. A candidate in his Honours year may be required to take both the Pass and Honours syllabuses in the Course IIIA or IIIB of either or both of the two Honours year subjects. Alternatively, he may be required to take additional studies in either or both of the two Honours year subjects.

17. A student seeking recognition as a candidate for Honours, who has fulfilled the requirements for the Pass degree in accordance with Clause 13 (a), (b), (c), (e) or (f) and who has obtained a pass at Credit level or better in at least five of the nine courses so completed, may, with Faculty approval, complete Course II (or Course IIZ) of one or two (as the case may be) subjects of which
only Course I (or Course IZ) has so far been completed. He may then apply to Faculty for formal recognition as a candidate for Honours and shall then proceed in accordance with the provisions of Clauses 15(b) and 16.

18. The award of Honours and grade of Honours shall be based upon a consideration of the full record of a candidate and, where Honours in any grade are awarded, they shall be listed as General Honours and not as Honours in a particular School or Schools.*

19. Where a candidate for Honours has failed to meet the necessary standards of competence in his Honours year, no further examination shall be granted but the student may proceed to graduation with a Pass Degree, the requirements for which shall already have been met.

SECTION D—Rules Relating to the Programme for the Degree of Bachelor of Arts in Special Studies—Honours Degree

20. The degree of Bachelor of Arts in Special Studies shall be awarded at Honours level only and a recognised candidate for Honours shall complete nine qualifying courses of subjects in four years of study. The nine qualifying courses, which shall include Course IV of the subject for Special Studies, shall be chosen from Schedule A and shall be completed in accordance with the provisions of Clauses 21 to 24. There shall be no re-examination in Course IV of the subject for Special Studies.

21. A student seeking recognition as a candidate for Honours shall choose one subject from Schedule A as his subject for Special Studies.

22. If a student obtains in his first year of study a pass at Credit level or better in Course I or Course IZ of the subject for Special Studies, he may apply to the appropriate Head of School for formal recognition as a candidate for Honours.

23. A candidate for Honours shall complete the nine prescribed qualifying courses in accordance with the following:—

(a) Course I (or Course IZ) of the subject for Special Studies shall be completed in the first year of study; Course II (or Course II Z) shall be completed in the second year of study; Courses IIIA and IIIB shall be completed in the third year of study; and Course IV shall be completed in the fourth year of study. Candidates shall complete Courses II (or IIZ), IIIA and IIIB in both Pass and Honours syllabuses.

* At Wollongong University College, there are departments instead of schools.

† At Wollongong University College, the Head of the Department.
(b) In addition, a candidate, by the end of his second year of study, shall be required to have completed four subsidiary courses which shall include an approved sequence of two courses.

(c) Subject to these Rules, the Head of the School* of the subject for Special Studies may prescribe the subjects of which the four subsidiary courses shall be completed as required by sub-Clause (b) of this Clause.

24. A candidate must obtain a pass at Credit level or better in the examinations of all courses of his Special Studies subject.

25. In special circumstances a candidate for the Honours degree who does not fulfil the requirements of Clauses 20 to 24 or who seeks to withdraw from the Special Studies programme may be considered by Faculty for the award of the Pass Degree of Bachelor of Arts provided that he has completed at least eight courses in the Special Studies programme (including Courses IIIA and IIB of the subject for Special Studies) and has obtained a pass at Credit level or better in at least two of them beyond the first year level.

26. A candidate who at any stage fails to meet the necessary standards of competence and who does not fall within the provisions of Clause 25 may be required by Faculty to transfer to the programme for the Pass Degree and shall then comply with Clauses 12 and 13 to be eligible for the award of the Pass Degree. Alternatively, Faculty may prescribe an additional course or courses the completion of which shall render the student eligible for the award of the Pass Degree.

SECTION E—Rules Relating to the Programme for the Degree of Bachelor of Arts in Combined Special Studies—Honours Degree

27. The degree of Bachelor of Arts in Combined Special Studies shall be awarded at the Honours level only and a recognised candidate for Honours shall complete nine qualifying courses of subjects in four years of study. The nine qualifying courses shall comprise eight of those listed in Schedule A plus a special Course IV which shall be concerned with study at an Honours level of two appropriate subjects and all nine courses, shall be completed in accordance with the provisions of Clauses 28 to 32. There shall be no re-examination in the special Course IV.

28. A student seeking recognition as a candidate for Honours shall choose as his subjects for Combined Special Studies two from Schedule A provided that the combination of subjects so chosen is approved by the Heads of the Schools* concerned.

29. If a student obtains in his first year of study a pass at Credit level or better in Course I or Course IZ of each of the subjects for

* At Wollongong University College, the Head of the Department.
Combined Special Studies, he may apply to the appropriate Heads of Schools* for formal recognition as a candidate for Honours.

30. A candidate for Honours shall complete the nine prescribed qualifying courses in accordance with the following:—

(a) Course I (or Course IZ) of each of the subjects for Combined Special Studies shall be completed in the first year of study; Course II (or Course IIZ) of each of these subjects shall be completed in the second year of study; Course IIIA (or, in any special case, Course IIIB) of each of these subjects shall be completed in the third year of study; and a special Course IV relating to these two subjects and comprising studies jointly prescribed by the Heads of the Schools* concerned shall be completed in the fourth year of study. Candidates shall complete Courses II (or IIZ) and IIIA (or IIIB) in both Pass and Honours syllabuses.

(b) In addition, a candidate by the end of his second year of study shall be required to have completed two subsidiary courses of subjects chosen from Schedule A.

(c) Subject to these Rules, the Heads of the Schools* of the subjects for Combined Special Studies may prescribe the courses specified in sub-Clause (b) of this Clause.

31. Where a Course IIIB of one of the subjects for Combined Special Studies involves a Pass as well as an Honours component, that Course may, with the approval of the Head of the School* concerned, be substituted for a Course IIIA in satisfying the relevant requirement of sub-Clause (a) of Clause 30.

32. A candidate must obtain a pass at Credit level or better in the examinations of all courses of both his subjects of Combined Special Studies and in the Special Course IV.

33. In special circumstances a candidate for the Honours degree who does not fulfil the requirements of Clauses 27 to 32 or who seeks to withdraw from the Combined Special Studies programme may be considered by Faculty for the award of the Pass Degree of Bachelor of Arts provided that he has completed at least eight courses in the Combined Special Studies programme (including the Course III of each of the subjects for Combined Special Studies) and has obtained a pass at Credit level or better in at least two of them beyond the first year level.

34. A candidate who at any stage fails to meet the necessary standards of competence and who does not fall within the provisions of Clause 33 may be required by Faculty to transfer to the programme for the Pass Degree and shall then comply with Clauses 12 and 13 to be eligible for the award of the Pass Degree. Alternatively, Faculty may prescribe an additional course or courses the completion of which shall render the student eligible for the award of the Pass Degree.

* At Wollongong University College, the Head of the Department.
 SECTION F—Rules Relating to the Recognition of Courses Completed Outside the Faculty of Arts

35. Subject to the provisions of Clause 37,

(a) A graduate or undergraduate in another Faculty of this University may be granted advanced standing in a programme in the Faculty of Arts with credit for not more than four of the courses listed in Schedule A which have already been completed in the other Faculty. Where credit is granted, under these provisions, for courses forming a major sequence of three, the candidate shall be required to complete, inter alia, an approved sequence of three courses or an approved special major sequence of four courses in the Faculty before becoming eligible for the award of the degree.

(b) A candidate who, before enrolment in the Faculty, has completed a course or courses at another University may, at the discretion of Faculty, be granted credit towards the degree of Bachelor of Arts for not more than four such courses, provided that credit shall not be granted for Course III of a subject.

36. Subject to the provisions of Clause 37, a candidate in attendance at the University of New South Wales may, in special circumstances, be permitted by Faculty to complete concurrently at another University not more than three courses and to count such courses as partially fulfilling the requirements for the Degree, provided that permission shall not be granted to count courses which are taken externally at the other University or which are available in the University of New South Wales.

37. An applicant seeking to take advantage of any of the provisions of Clauses 35 or 36 shall first submit in writing to Faculty a statement setting out a list of the courses for which he seeks credit or which he wishes to complete at the other University, and a list of the remaining courses that he proposes to complete within the Faculty in order to qualify for the degree. Faculty shall then determine the course or courses, if any, for which credit is to be granted or the course or courses which the applicant may complete at the other University and count towards the degree, and shall also determine the remainder of the applicant's programme within the Faculty.

SECTION G—Saving Clauses

38. Upon sufficient cause being shown, Faculty may, in a particular case or cases*, vary the requirements of any of the preceding clauses for the award of the degree of Bachelor of Arts provided that any proposed variation to Clauses 22, 23, 24, 28, 29, 30 or 32,

* Note: Faculty has determined that, for the time being, students at Wollongong University College who are enrolled as part-time candidates for the degree need not meet the requirements of Clause 6(a).
shall be initiated by a report to the Faculty from the Head or Heads of Schools* concerned recommending the proposed variation.

39. For any student who was enrolled as a candidate in the Faculty before 1st January, 1967, Faculty may, in exceptional circumstances, determine a programme in accordance with these Rules to be followed after 1st January, 1967, in order that the student may satisfy the requirements for the degree.

* At Wollongong University College, the Head of the Department.
SCHEDULE A—COURSES AVAILABLE FOR BACHELOR OF ARTS

Courses qualifying for the degree of Bachelor of Arts are listed below. Subject to their availability, and class timetables permitting, these courses may be taken on either a full-time or a part-time basis.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Qualifying Course</th>
<th>Compulsory Hours Per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</td>
<td>Chemistry I</td>
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<tr>
<td></td>
<td>Chemistry II</td>
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<tr>
<td>Economics†</td>
<td>Economics I (Arts)</td>
<td>6</td>
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<tr>
<td></td>
<td>Economics II (Arts)</td>
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</tr>
<tr>
<td></td>
<td>Economics II (Honours Arts)</td>
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<tr>
<td></td>
<td>Economics IIIA (Arts)</td>
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<tr>
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<td>Economics IIIA (Honours Arts)</td>
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<tr>
<td></td>
<td>Economics IIIB (Arts)</td>
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<tr>
<td></td>
<td>Economics IIIB (Honours Arts)</td>
<td>9</td>
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<tr>
<td></td>
<td>Economics IV (Honours Arts)</td>
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<tr>
<td>English</td>
<td>English I</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>English II</td>
<td>6</td>
</tr>
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<td>English II (Honours)</td>
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<tr>
<td></td>
<td>English III</td>
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<td>English III (Honours)</td>
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<tr>
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<td>English IV (Honours)</td>
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<tr>
<td>General Biology</td>
<td>General and Human Biology</td>
<td>6</td>
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<tr>
<td>Geography</td>
<td>Geography I</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Geography II</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Geography IIIA</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Geography IIIB</td>
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<td></td>
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<td></td>
<td>Geography IIID</td>
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<tr>
<td></td>
<td>Geography IIIIA (Honours)</td>
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<td></td>
<td>Geography IIIB (Honours)</td>
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<td>Geography IV (Honours)</td>
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<tr>
<td>Geology</td>
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<td>6</td>
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<tr>
<td></td>
<td>Geology II</td>
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<td>History</td>
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<tr>
<td></td>
<td>History II</td>
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</tr>
<tr>
<td></td>
<td>History IIIA</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>History IIIB</td>
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</tr>
<tr>
<td>History and Philosophy of Science</td>
<td>History and Philosophy of Science I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>History and Philosophy of Science II</td>
<td>3</td>
</tr>
</tbody>
</table>

* Students may choose any 3 of the 4 units offered.
† For details of courses qualifying for the degree at Wollongong see page 63.
UNDERGRADUATE COURSES

<table>
<thead>
<tr>
<th>Subject</th>
<th>Qualifying Course</th>
<th>Compulsory Hours Per Week</th>
</tr>
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<tbody>
<tr>
<td>Mathematics*</td>
<td>Mathematics I</td>
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<td>Mathematics IIA†</td>
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<td></td>
<td>Mathematics IIB†</td>
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<td></td>
<td>Mathematics IIA (Honours)†</td>
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<tr>
<td></td>
<td>Mathematics IIIA†</td>
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<tr>
<td></td>
<td>Applied Mathematics IIIA†</td>
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</tr>
<tr>
<td></td>
<td>Mathematics IIIA (Honours)†</td>
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</tr>
<tr>
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<td>Mathematics IIIB (Honours)†</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Mathematics IV (Honours)</td>
<td>10</td>
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<tr>
<td>Physics</td>
<td>Physics I</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Physics II</td>
<td>9</td>
</tr>
<tr>
<td>Psychology</td>
<td>Psychology I</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Psychology II</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Psychology II (Honours)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Psychology III</td>
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</tr>
<tr>
<td></td>
<td>Psychology III (Honours)</td>
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</tr>
<tr>
<td></td>
<td>Psychology IV (Honours)</td>
<td>4</td>
</tr>
</tbody>
</table>

* Students intending to proceed to Honours should consult the Head of the Department.

† These subjects to be formed from units offered to Science students subject only to the restriction of pre- and co-requisites.

SCHEDULE B—COURSE SEQUENCES IN MATHEMATICS AND THEORY OF STATISTICS

For details students should refer to the relevant section of the University of New South Wales Calendar.

OUTLINES OF COURSE REQUIREMENTS — ECONOMICS AND COMMERCE

Students planning to study Accountancy, Applied Psychology or Economics as their major subject may enrol in the Bachelor of Commerce degree course.

Those specialising in Economics or Applied Psychology may alternatively enrol in a Bachelor of Arts degree course.

The Bachelor of Commerce course is designed for students who plan a career in industry, commerce or government. It is the basis of a wide range of careers in management, finance, research and teaching, including professional accountancy.

Students enrolled for the Bachelor of Arts degree courses may study the same subjects in Economics and Psychology as the Bachelor of Commerce students but for the Optional Commerce subjects they substitute Arts subjects.

Full-time students follow one of the programmes set out below.

Part-time students take a programme which permits the completion of each full-time year’s work, as set out below, in two stages spread over two years.
BACHELOR OF ARTS—ECONOMICS

In terms of the rules governing the award of the pass degree of Bachelor of Arts an approved sequence for the degree consists of Economics I (Arts), Economics II (Arts), Economics IIIA (Arts) and Economics IIIB (Arts). Details are shown below.

FIRST YEAR: Economics I (Arts), consisting of Economics I and II and Statistical Methods I and II plus any remaining Arts requirements.*

SECOND YEAR: Economics II (Arts), consisting of Microeconomics III and IV and Macroeconomics III and IV plus any remaining Arts requirements.*

THIRD YEAR: Economics IIIA (Arts), consisting of International Economics and Economic Policy plus any remaining Arts requirements.*

or Economics IIIA (Arts) and Economics IIIB (Arts), consisting of two group II Economics subjects not elsewhere included.† plus any remaining Arts requirements.*

BACHELOR OF COMMERCE—ECONOMICS

FIRST YEAR: Economics I and II Accounting and Financial Management IA and IB Statistical Methods I and II Options I† and II†

SECOND YEAR: Microeconomics III and IV Macroeconomics III and IV Quantitative Methods III and IV Options III† and IV†

THIRD YEAR: International Economics Economic Policy Two Group II Economics Subjects (not elsewhere included)‡ Options V† and VI†

* Refer to the rules governing the award of the degree of Bachelor of Arts, page 52.
† See list of Optional Economics Subjects on the following page. Note that for B.A. candidates, subject to the approval of the Head of the Department, Quantitative Methods III and IV may be accepted in lieu of Group II subjects.
‡ Note: Here and in all other references to courses in Economics a subject requires one session and double-session Arts prescriptions are to be counted as two subjects. Two 1½ hours General Studies prescriptions count as one subject.
Choice of Options in Commerce

Options I to VI for the BCom degree must include two subjects selected from those offered by the Divisions of Social Science and Literature and Language (including the Department of General Studies), and two Commerce subjects unless the student elects instead to complete an approved 6 subject sequence in an Arts subject other than Economics.

The Commerce subjects included in Options I to VI may be chosen from Groups I and II below.

Optional Economics Subjects

Group I
All subjects offered by the Divisions of Social Science and Literature and Language and all approved subjects offered by the Division of Commerce and not elsewhere included.
Mathematics I, II and III

Group II
Comparative Economic Systems
Economic Development
Industrial Economics
Mathematical Economics
Natural Resource Economics
Operations Research
Regional Economics
Transport Economics

HONOURS DEGREE IN ECONOMICS

Students may be admitted to the Honours degree course in either Commerce or Arts at the beginning of their third full-time session or after completing the first two subjects in Economics in a full-time or part-time course. Admission will depend on academic performance.

Bachelor of Arts Honours Degree (Economics)

Students enrolled for the BA Degree with Honours in Economics will be required to complete the sequence of subjects in Economics (including Statistics and Quantitative Methods for Economics) which is mandatory for the BCom Honours degree, but for the Economics Options and the subjects in Accountancy which are compulsory for all BCom students, they will substitute Arts subjects.

FIRST YEAR: As for the Pass degree

* See prerequisites for subjects in Economics and Accountancy.
SECOND YEAR: Economics II Honours (Arts), consisting of—
  Microeconomics III and IV
  Macroeconomics III and IV
  Quantitative Methods III and IV
  plus any remaining Arts requirements.*

THIRD YEAR: Economics IIIA Honours (Arts), consisting of—
  International Economics Honours
  Economic Policy Honours
Economics IIIB Honours (Arts), consisting of—
  Three Group III Economics subjects not elsewhere included
  plus any remaining Arts requirements.*
Thesis

FOURTH YEAR: Economics IV Honours (Arts)
  Advanced Economic Analysis I, II, III, IV, V, VI
  and completion of Thesis

Note: In addition to this sequence of subjects in Economics, which BA Honours students have in common with BCom Honours students, candidates do Arts subjects instead of the Accounting and additional subjects required for the BCom Honours degree in first and second session.

Bachelor of Commerce Honours Degree

FIRST YEAR: As for the Pass Degree
SECOND YEAR: Subjects as for Pass Degree students, but with special tutorials and assignments
THIRD YEAR: International Economics Honours
  Economic Policy Honours
  Three Group II Economics subjects not elsewhere included
  Thesis
FOURTH YEAR: Advanced Economic Analysis I, II, III, IV, V
  and VI and completion of thesis

Prerequisites for Subjects and Courses in Economics

1. Prerequisites for all courses in Economics:
   H.S.C. Mathematics—Level 2S or higher
   H.S.C. English—Level 2 or higher.†

* Refer to the rules governing the award of the degree of Bachelor of Arts, page 52.
† English at Level 3 is acceptable in cases in which the candidate’s performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board.
2. **Subject and progression prerequisites:**

   (i) Economics I is a prerequisite of Economics II, and the latter is a prerequisite for further study in Economics.

   (ii) The sequences of subjects in (a) Microeconomics, (b) Macroeconomics and (c) Statistical Methods and Quantitative Methods, as set out in this Handbook, must be observed (i.e. at each level in each of these three sequences of subjects, students must satisfy examiners’ requirements before proceeding to the next level).

   (iii) All Economics subjects prescribed for the first four sessions are to be completed before enrolment in fifth and sixth session subjects, but in special cases permission may be given for students to undertake Quantitative Methods III and IV coterminously with fifth and sixth session subjects.

**BACHELOR OF COMMERCE—ACCOUNTING AND FINANCIAL MANAGEMENT**

**General Description**

The Department of Accountancy offers full-time and part-time courses leading to the degree of Bachelor of Commerce. These courses comprise a sequence of accounting and financial management subjects designed to provide a comprehensive understanding of the conceptual basis of accounting and the application of these ideas to the provision of management information systems and to the financial management and accountability of business and public enterprises. Concurrent studies in law provide a broad introduction to the legal environment of business. Required courses in economics, statistics and general studies are also included in the degree structure. A range of electives provides the opportunity to develop special areas of interest in accounting and associated fields, including more advanced treatment of computer applications in business. Throughout the courses the emphasis is upon mastery of ideas and stimulation of critical ability, to provide a foundation for personal and professional development. The course provides an appropriate preparation for entry into the accountancy profession, but the scope and orientation are much broader than for this purpose alone, and the course provides a particularly suitable education for careers in business and administration.

**Course Revision**

The Bachelor of Commerce course in Accountancy has been revised on a sessional basis, and subject to Professorial Board approval, the revised courses will be introduced in 1973. Some details have not been finalised at publication date, and will be communicated to students in a separate Accounting Course Revision brochure. Students are advised to consult this brochure before completing their enrolment or re-enrolment in 1973. Students already enrolled will transfer to the new course automatically with equivalent credit.
Professional Recognition of Accountancy Courses

The extent of recognition of the revised Commerce degree courses in Accountancy by professional organizations has yet to be determined, but it is expected to be similar to that accorded the old course. Arrangements for recognition in respect of the old course are as set out below:

*The Australian Society of Accountants* has accepted this University as an approved tertiary institution for the purpose of the Society's qualifying examination. Graduates who complete the Commerce (Accountancy) course including the subjects Auditing and Internal Control, Taxation Law and Practice, and Commercial Law II are exempted from the whole of the qualifying examination. Graduates completing this degree without these specified electives are required to pass a paper corresponding to each of those areas not covered by the degree course undertaken.

*The Institute of Chartered Accountants in Australia* will accept a graduate completing the Accountancy course for the Bachelor of Commerce degree as eligible, under the Institute's new admission requirements, to enter the "Institute year" leading to membership, provided he includes in his course the optional subjects Taxation Law and Practice and Commercial Law II.

*The Public Accountants' Registration Board of New South Wales* will exempt from its examinations graduates who complete the Commerce (Accountancy) course provided they include in their course the optional subjects Auditing and Internal Control, Taxation Law and Practice, and Commercial Law II.

*The Institute of Chartered Secretaries and Administrators* grants the maximum recognition permitted by its regulations: a graduate completing the Accountancy course for the degree of Bachelor of Commerce will be granted exemptions from eight of the thirteen subjects prescribed in the Institute's examination syllabus, provided he includes in his course the optional subjects Auditing and Internal Control, Taxation Law and Practice, and Commercial Law II.

Applications for registration, exemption or admission should be made direct to the professional bodies concerned.
Requirements for Degree

To complete the requirements for the Pass degree specialising in Accounting and Financial Management, a candidate shall pass the subjects as set out below:

BACHELOR OF COMMERCE—PASS DEGREE—FULL TIME COURSE IN ACCOUNTING AND FINANCIAL MANAGEMENT

YEAR I

Session 1: Accounting and Financial Management IA 4
Economics I 3
Statistical Methods I 3

or
Mathematics I 6
Special Option† 3

Session 2: Accounting and Financial Management IB 4
Economics II 3
Statistical Methods II 3

or
Mathematics I 6
Law in Society 3

YEAR II

Session 1: Accounting and Financial Management IIA 4
Economics III† 3
Information Systems 3
Option I 3

Session 2: Accounting and Financial Management IIB 4
Economics IV† 3
Business Finance 3
Option II 3

YEAR III

Session 1: Accounting and Financial Management IIIA 4
Option III 3
Option IV 3

Session 2: Accounting and Financial Management IIIIB 4
Option V 3
Option VI 3

* Laboratory sessions as required are additional to the prescribed hours.
† See separate Accounting Course Revision brochure for details of these subjects.
Options

Candidates shall choose Options I to VI in accordance with the following provisions:—

(i) *At least two Options* shall be chosen from:—
- Advanced Auditing
- Advanced Business Finance
- Advanced Information Systems
- Business Law I
- Business Law II
- Business Organization and Policy
- Industrial Law
- Taxation Law

Options in this group will be available in any year subject to sufficient enrolments and the availability of staff.

(ii) *Two Options* shall be selected from subjects, other than economics subjects, which are either:—

(a) offered by the Department of General Studies, in which case two one-session units are counted as one Option, or

(b) qualifying subjects for the degree of Bachelor of Arts. Where an Arts subject is of at least three hours' class contact per week studied for a whole year it shall count as two Options.

A subject taught by the Department of General Studies and the corresponding Arts subject may not both be counted towards the requirements for the degree, and no more than four units taught by the Department of General Studies may be counted towards the requirements for the degree.

(iii) Subject to provisions (i) and (ii) above, Options may also be chosen from any *approved* subjects taught in the University which require at least 1½ hours of class contact for two sessions or 3 hours of class contact for a session. Requests for the approval of subjects to count as Options should be directed to the Head of the Department of Accountancy. Apart from service courses for other Divisions, *all subjects offered by the Division of Commerce will be automatically approved*, save that no subject can be counted both as an Option and as a prescribed subject. (Where an Arts subject is of at least three hours' class contact per week studied for a whole year it shall count as two Options.)
Prerequisite Subjects

A candidate may not enrol in any subject listed in the left hand column below unless he has passed the corresponding subject listed as a prerequisite in the right hand column.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Prerequisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting &amp; Financial Management IB</td>
<td>Accounting &amp; Financial Management IA</td>
</tr>
<tr>
<td>Accounting &amp; Financial Management IIA</td>
<td>Accounting &amp; Financial Management IB</td>
</tr>
<tr>
<td>Accounting &amp; Financial Management IIB</td>
<td>Accounting &amp; Financial Management IB</td>
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<tr>
<td>Accounting &amp; Financial Management IIIA</td>
<td>Accounting &amp; Financial Management IIB</td>
</tr>
<tr>
<td>Accounting &amp; Financial Management IIIB</td>
<td>Accounting &amp; Financial Management IIA</td>
</tr>
<tr>
<td>Business Law I</td>
<td>Law in Society</td>
</tr>
<tr>
<td>Business Law II</td>
<td>Business Law I</td>
</tr>
<tr>
<td>Advanced Auditing</td>
<td>Accounting &amp; Financial Management IIB</td>
</tr>
<tr>
<td>Advanced Business Finance</td>
<td>Business Finance</td>
</tr>
<tr>
<td>Taxation Law</td>
<td>Business Law I</td>
</tr>
<tr>
<td>Industrial Law</td>
<td>Law in Society</td>
</tr>
<tr>
<td>Advanced Information Systems</td>
<td>Information Systems</td>
</tr>
<tr>
<td>Business Organisation and Policy</td>
<td>Accounting and Financial Management IIA</td>
</tr>
</tbody>
</table>

In exceptional circumstances the above requirements may be varied. Requests for variation should be directed to the Head of the Department of Accountancy.

For subjects offered by Departments other than the Department of Accountancy, subject prerequisites and rules of progression as prescribed by those Departments apply.

HONOURS DEGREE IN ACCOUNTING AND FINANCIAL MANAGEMENT

Although an Honours degree in Accounting and Financial Management will probably not be available in 1973, students who have completed first year and are interested in admission to an Honours degree course are advised to consult the Head of the Department of Accountancy.

BACHELOR OF COMMERCE—APPLIED PSYCHOLOGY

The Commerce course offering specialization in Applied Psychology is designed to provide training in Economics, together with a theoretical training in individual and group psychology and an introduction to the skills and techniques of psychological
assessment and data collection and analysis. The first subject in Psychology is aimed at giving the student a foundation of psychological theory and an appreciation of the application of scientific method to the social sciences. In later years of the course detailed study is made of personality development, psychological assessment and measurement techniques. Opportunity is given for special study of some selected areas of psychology such as social psychology, motivation, human factors in engineering, learning and psychometrics and counselling theory and techniques. Students are encouraged to undertake field work which can involve work in industrial settings.

YEAR 1: Psychology I (2 sessions)  
Accounting and Financial Management IA and IB  
Economics I and II  
Options I and II

YEAR 2: Psychology II (2 sessions)  
Macroeconomics III and IV  
Microeconomics III and IV  
Options III and IV

YEAR 3: Psychology III (2 sessions)  
International Economics  
Economic Policy  
Options V and VI

Note: The selection of Options, is subject to the same provisions as those set out above for the Economics major.

Details of Psychology I, II and III are set out below:—

**PSYCHOLOGY I**

<table>
<thead>
<tr>
<th>Offered in Session</th>
<th>Hours per week</th>
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<tbody>
<tr>
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<tr>
<td>Psychological Measurement I</td>
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<tr>
<td>Motivation and Dynamics</td>
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**PSYCHOLOGY II**

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<thead>
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<tr>
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<tr>
<td>Learning Theory</td>
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<td>Laboratory Method II</td>
<td>Full year</td>
</tr>
<tr>
<td>Psychological Testing</td>
<td>Full year</td>
</tr>
<tr>
<td>Research Design</td>
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**PSYCHOLOGY III**

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<td>Educational Psychology</td>
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<td>Experimental Psychology</td>
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<td>Social Psychology</td>
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Theses for Pass and Honours Degrees

Each student enrolled for an honours degree in the Division of Commerce must present a thesis in his final year of study. Subject to the approval of the Head of Division, pass students majoring in Economics may present a thesis as an advanced Economics Option. Approval will depend on the student's record and his research plan.

The topic of the thesis is to be selected by the student and submitted to the Head of the Division for approval. The Head of Division will nominate a member of staff as supervisor for each student writing a thesis.

The length of a thesis submitted for the pass degree should not exceed 6000 words, or 10,000 words for the honours degree.


The thesis must include a bibliography and an acknowledgement of all source material and be accompanied by an abstract of approximately 200 words. Two copies of the thesis, in double-spaced typescript on quarto paper, with a 1-inch left-hand margin, and suitably bound or stapled, must be submitted.

**Note:** Students who propose to write a thesis for submission in 1973 as a Group II option for a Pass degree in Economics must submit topics by the end of September in the previous year.

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**OUTLINES OF COURSE REQUIREMENTS — ENGINEERING**

The Engineering Departments offer full-time courses of 4 years' duration and part-time courses of 6 years' duration leading to the professional degrees of Bachelor of Engineering and Bachelor of Science (Engineering). These degrees are recognised by the Institution of Engineers, Australia, as giving complete exemption from the examinations required for admission to the grade of Member. Recognition by overseas engineering institutions varies in the different branches of engineering, but in most cases, substantial or complete recognition is accorded to these courses.

The first year of the full-time course is common to all courses and is equivalent to the first two stages of the part-time course, making it possible for students to transfer from one course to another at the end of their first year or second stage without loss of standing. Provision is made for direct transfer to or from corresponding courses at Kensington at the end of the first or second year.
A student completing the BSc(Eng.) degree course and wishing to qualify for the corresponding BE degree may transfer, providing he does not take out the BSc(Eng.) degree.

All course transfers are subject to the approval of the Head of the appropriate School or Department.

Courses leading to the BSc(Eng.) award are basically part-time and require the prescribed industrial experience to be gained concurrently with the course of study (a minimum of three years of suitable engineering experience is required). Students transferring from full-time courses must, therefore, also satisfy these industrial experience requirements before being admitted to the degree of BSc(Eng.).

SCHOOL OF CIVIL, MECHANICAL AND MINING ENGINEERING

The School provides two full-time and three part-time undergraduate courses leading to the award of professional degrees.

The full-time BE courses are offered in Civil Engineering and in Mechanical Engineering. The part-time BSc(Eng.) courses are offered in Civil Engineering, Mechanical Engineering and Mining Engineering. In addition, the first two years of the full-time BE course in Mining Engineering are offered, following which students must transfer to Kensington for completion of the course. The first two years of the Civil and Mechanical Engineering courses are acceptable for transfer to courses at Kensington in Aeronautical Engineering, Civil Engineering, Industrial Engineering, Mechanical Engineering and Naval Architecture.

The School also offers a formal postgraduate course leading to the degree of Master of Engineering Science in Mechanical Engineering in addition to research degrees leading to Master of Engineering and Doctor of Philosophy. Details of these appear under Postgraduate Study in this Handbook.

The first two years of the full-time courses are identical in course content with the first four stages of the part-time courses. Either degree may be taken out by a continuation of full-time/part-time study, subject to approval by the Head of School.

Industrial experience is an integral part of the full-time course. Forty working days of industrial training must be completed by Civil Engineering and Mechanical Engineering students between Years 3 and 4. All students are strongly recommended to gain as much industrial training as possible in other long vacations.

Assessment: It is expected that assessment of a student's performance in a course in 1973 will be based on a grade point system. Details may be obtained from the School.
### CIVIL, MECHANICAL AND MINING ENGINEERING—FULL TIME COURSE

**BACHELOR OF ENGINEERING**

#### YEAR I

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<tr>
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<td>Hours per session</td>
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<td>Mathematics I</td>
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* Chemistry IB* to be taken by Mining Engineering students only.

#### YEAR II

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#### CIVIL ENGINEERING

#### YEAR III

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<td>Structures I</td>
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<td>General Studies</td>
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* A one-week Survey Camp will be held during the recess between Sessions I and II.

#### YEAR IV

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<td>Engg. Management I</td>
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*Plus a programme of electives selected from the following (subject to the approval of the Head of School)*
### UNDERGRADUATE COURSES

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#### SESSION II

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#### MECHANICAL ENGINEERING

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<tr>
<td>Design III</td>
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<td>Applied Mechanics IV</td>
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<td>Fluid Mechanics II</td>
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##### YEAR IV

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<td>Thesis</td>
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*Plus a programme of electives selected from the following (subject to the approval of the Head of School)*

<table>
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<tr>
<th>Course</th>
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#### MINING ENGINEERING

The third and fourth years of the BE(Mining Engineering) course must be completed at Kensington.
UNDERGRADUATE COURSES

CIVIL, MECHANICAL AND MINING ENGINEERING—PART TIME COURSE

BACHELOR OF SCIENCE (ENGINEERING)

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STAGE II

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* Chemistry IB to be taken by Mining Engineering students only.

STAGE III

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STAGE IV

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* Geology for Engineers may be substituted for this subject by Mining Engineers.

CIVIL ENGINEERING

STAGE V

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* A one-week Survey Camp will be held during the recess between Sessions I and II.

STAGE VI

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Plus a programme of electives selected from the following (subject to the approval of the Head of School)
### UNDERGRADUATE COURSES

#### SESSION II

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#### SESSION I

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</table>

#### MECHANICAL ENGINEERING

#### STAGE V

<table>
<thead>
<tr>
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<tbody>
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<td>Control Systems I</td>
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<td>Structures I</td>
<td>36</td>
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<td>Fluid Mechanics II</td>
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<td>Heat Transfer</td>
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#### STAGE VI

<table>
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<tr>
<td>Design IV</td>
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*Plus a programme of electives selected from the following (subject to the approval of the Head of School)*

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Applied Dynamics I</td>
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<td>Thermodynamics III</td>
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<td>Systems Analysis I</td>
<td>28</td>
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<tr>
<td>Engg. Management I</td>
<td>28</td>
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<td>Applied Elec. II</td>
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<tr>
<td>Structures II</td>
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<tr>
<td>Applied Mechanics IV</td>
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<td>Control Systems II</td>
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<td>Fluid Mechanics III</td>
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<td>Systems Analysis II</td>
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<td>Engg. Management II</td>
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<td>Applied Elec. II</td>
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<tr>
<td>Applied Dynamics II</td>
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<td>14</td>
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</tr>
</tbody>
</table>

#### MINING ENGINEERING

**STAGE 5:** Mining Engineering I, Parts 1 and 2

- Mining and mineral process engineering (Parts 1 and 2)*
- Engineering Surveying†
- Geology for mining engineers‡
- General Studies Elective

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Engineering Surveying†</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Geology for mining engineers‡</td>
<td>3</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>General Studies Elective</td>
<td>1½</td>
<td>1½</td>
<td></td>
</tr>
</tbody>
</table>

- 13½
- 13½

* Includes four visits each of three hours to mines or mineral processing plants.
† Plus 42 hours of practical work at Survey Camp.
‡ Geology excursions will be conducted.
<table>
<thead>
<tr>
<th></th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Session 1</td>
</tr>
<tr>
<td>STAGE 6: Mining Engineering I</td>
<td>5</td>
</tr>
<tr>
<td>Mineral Processing I</td>
<td>3</td>
</tr>
<tr>
<td>Mine Surveying and Control Engineering</td>
<td>1</td>
</tr>
<tr>
<td>Mineral Industry Elective Project†</td>
<td>2</td>
</tr>
<tr>
<td>General Studies Elective</td>
<td>1½</td>
</tr>
<tr>
<td></td>
<td>12½</td>
</tr>
</tbody>
</table>

§ A mining excursion of five days will be conducted during the year.
† Project for an award with merit will be more advanced than that required for the award of the pass degree.
DEPARTMENT OF ELECTRICAL ENGINEERING

The Department offers a full-time course of four years' duration leading to the degree of Bachelor of Engineering, and a six-year part-time course for the degree of Bachelor of Science (Engineering). The courses may also be completed by a combination of part-time and full-time study. Graduate courses are described elsewhere.

The degrees of Bachelor of Engineering and Bachelor of Science (Engineering) are recognised by the Institution of Engineers, Australia, the Institution of Radio and Electronics Engineers, Australia, and the Institution of Electrical Engineers, London, as giving complete exemption from the examinations required for admission to Graduate or Corporate membership.

Electrical engineering, perhaps more than most other branches of engineering, is closely linked with the pure sciences, and requires a scientific outlook and approach for a proper understanding of the problems in electrical engineering.

In the early years of the electrical engineering courses, students concentrate on acquiring knowledge of the basic sciences, i.e. mathematics, physics, and chemistry, but with some introduction to engineering.

In the final year students will elect, with the approval of the Head of the Department, to study in the specialised fields of electrical engineering. At the same time they will take subjects common to all students in electrical engineering. A list of available electives (which may vary from year to year) is given in the course description. Students in doubt as to which programme patterns are desirable or permissible should consult the Head of the Department.

Each student in the full-time course is required to work on a project under the guidance of members of the lecturing staff. Generally, the project will involve the design and construction of experimental apparatus together with laboratory tests. Where possible the projects will be related to the research programme of the Department and chosen to develop the student's initiative. Each student will be required to deliver a seminar paper and to prepare a thesis based on the results of the project work.

In the Bachelor of Engineering course the identical formal programme will be offered to both Pass students and to those aiming at Honours. Honours will be awarded for meritorious performance over the course: special attention is paid to a candidate's performance in the final year thesis project. A student with a creditable performance in the Bachelor of Science (Engineering) course may be awarded a degree with Merit.

All students are strongly recommended to complete two periods of industrial training, one of forty-five working days between Years 2 and 3, and the other forty-five working days between Years 3 and 4. They are also advised to obtain practical experience during the long vacation between Years 1 and 2.
Double Degree of BSc, BE in Electrical Engineering

Students in Electrical Engineering may qualify for this double degree in five years of full-time study. Having completed the first and second years of the Electrical Engineering course, students transfer to Science (this is subject to the recommendation of the Head of the Department of Electrical Engineering and the approvals of the Deans of the Faculties of Engineering and Science) and do the appropriate General Studies subjects, and four Level III units chosen from related disciplines and no less than four other units of either Level II or Level III, chosen in accordance with the Science Course regulations. In their fourth year the students revert to the Department of Electrical Engineering. Depending on the programme followed in their year in Science they will have already completed parts of the normal third year programme of the Electrical Engineering course, and they will be required to omit these from their programme and to include an equivalent amount of other courses chosen with the approval of the Head of Department. In their fifth year they will complete the fourth year of the Electrical Engineering course.

ELECTRICAL ENGINEERING—FULL-TIME COURSE

BACHELOR OF ENGINEERING

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Session 2</th>
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<tbody>
<tr>
<td><strong>YEAR 1:</strong></td>
<td><strong>YEAR 2:</strong></td>
</tr>
<tr>
<td>Applied Mechanics I and Design I</td>
<td>Applied Mechanics II and III</td>
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<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Materials I or Chemistry I</td>
<td>Circuit Theory 1</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics I</td>
<td>Electronics 1</td>
</tr>
<tr>
<td>6</td>
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<td>Physics I</td>
<td>Energy Conversion 1 and 2</td>
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<td>Physics II</td>
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<td>6</td>
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<tr>
<td></td>
<td>Mathematics II</td>
</tr>
<tr>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Strength of Materials and Materials II</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>General Studies</td>
</tr>
<tr>
<td></td>
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<td><strong>Total:</strong></td>
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<table>
<thead>
<tr>
<th>Session 1</th>
<th>Session 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YEAR 1:</strong></td>
<td><strong>YEAR 2:</strong></td>
</tr>
<tr>
<td>24</td>
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81
UNDERGRADUATE COURSES

<table>
<thead>
<tr>
<th></th>
<th>Session 1</th>
<th>Session 2</th>
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<tbody>
<tr>
<td>YEAR 4: Electives (four)</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Engineering IVE</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Thesis</td>
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<td>1½</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>28½</strong></td>
<td><strong>28½</strong></td>
</tr>
</tbody>
</table>

**Electives:**
- Circuit Theory 4 and 5: 3
- Control 2 and 3: 3
- Computer Systems Engineering 1 and 2: 3
- Electrical Properties of Materials 1 and 2: 3
- Electronics 4 and 5: 3
- Machines 3 and 4: 3

Only 4 of the listed electives are taken by individual students in each session.

ELECTRICAL ENGINEERING—PART-TIME COURSE

**BACHELOR OF SCIENCE (ENGINEERING)**

**STAGE 1:** Applied Mechanics I and Design I, Mathematics I
- 6
- 6
- 12
- 12

**STAGE 2:** Physics I, Materials I or Chemistry I
- 6
- 6
- 12
- 12

**STAGE 3:** Applied Mechanics II and III, Circuit Theory I
- 3
- 3
- 12½
- 12½

**STAGE 4:** Programme under revision*

**STAGE 5:** Circuit Theory 2 and 3, Machines and Transformers 1 and 2
- 5
- 5
- 13
- 13

**STAGE 6:** Applied Mechanics IV and V, Control 1, Electronics 2 and 3, Power Systems
- 3
- 5
- 5
- 13
- 13

* Details available from the Department of Electrical Engineering.
## UNDERGRADUATE COURSES

### OUTLINES OF COURSE REQUIREMENTS—METALLURGY

#### BACHELOR OF SCIENCE—FULL TIME COURSE

<table>
<thead>
<tr>
<th>Hours per week</th>
<th>Lect.</th>
<th>Lab./Tut.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YEAR 1:</strong> Engineering I</td>
<td>4</td>
<td>2</td>
<td>6</td>
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<tr>
<td>Mathematics I</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Physics I</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry I</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Metallurgy Tutorial I</td>
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<tr>
<td><strong>Total:</strong></td>
<td>6</td>
<td>6</td>
<td>12</td>
</tr>
</tbody>
</table>

| **YEAR 2:** Chemistry IIM | 3 | 3 | 6 |
| Mathematics II | 1 | 1 | 2 |
| Design M | 1 | 2 | 3 |
| Metallurgical Statistics | 2 | 1 | 3 |
| General Studies | 1 | 1/2 | 1 1/2 |
| **Metallurgy Subjects: Level 1** | | | |
| **Total:** | | | 10 |

| **YEAR 3:** Applied Electricity 1/1 | 2 | 1 | 3 |
| General Studies | 2 | 1 | 3 |
| **Metallurgy Subjects: Level 2** | | | 20 1/2 |
| **Total:** | | | 26 1/2 |

| **YEAR 4:** Engineering Management | 2 | – | 2 |
| General Studies | 1 | 1/2 | 1 1/2 |
| **Metallurgy Subjects: Level 3** | | | 11 |
| Metallurgy Project | – | 8 | 8 |
| Applied Science/Engineering Option | 2 | – | 2 |
| **Total:** | | | 24 1/2 |

---

### BACHELOR OF SCIENCE (TECHNOLOGY) — PART-TIME COURSE

<table>
<thead>
<tr>
<th>Hourly Distribution</th>
<th>Lect.</th>
<th>Lab./Tut.</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td><strong>STAGE 1:</strong> Engineering I</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics I</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Metallurgy Tutorial I</td>
<td>–</td>
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<td>1</td>
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<tr>
<td><strong>Total:</strong></td>
<td>6</td>
<td>6</td>
<td>13</td>
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</table>

| **STAGE 2:** Physics I | 3 | 3 | 6 |
| Chemistry I | 3 | 3 | 6 |
| Metallurgy Tutorial II | – | 1 | 1 |
| **Total:** | 6 | 6 | 13 |

* See page 191 for details of subjects and textbooks.
### STAGE 3:

<table>
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<th>Subject</th>
<th>Lect</th>
<th>Lab./Tut.</th>
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<tbody>
<tr>
<td>Chemistry IIIM</td>
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<tr>
<td>Mathematics II</td>
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<td>2</td>
</tr>
<tr>
<td>Design M</td>
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<td>3½</td>
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<tr>
<td>General Studies</td>
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<tr>
<td>Metallurgy Tutorial III</td>
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### STAGE 4: Metallurgy Subjects — Level 1

<table>
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<th>Lect</th>
<th>Lab./Tut.</th>
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<tbody>
<tr>
<td>Metallurgical Statistics</td>
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<td>1</td>
<td>3</td>
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### STAGE 5: Metallurgy Subjects — Level 2A

<table>
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<th>Subject</th>
<th>Lect</th>
<th>Lab./Tut.</th>
<th>Total</th>
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<tbody>
<tr>
<td>Applied Electricity 1/1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>General Studies</td>
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</table>

### STAGE 6: Metallurgy Subjects — Level 2B

<table>
<thead>
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<th>Subject</th>
<th>Lect</th>
<th>Lab./Tut.</th>
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<tr>
<td>Engineering Management</td>
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<td>General Studies</td>
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<td>1½</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14½</td>
</tr>
</tbody>
</table>

* See page 191 for details of subjects and textbooks.
OUTLINES OF COURSE REQUIREMENTS — SCIENCE

GENERAL DESCRIPTION

The Regulations for this course are based on a unit structure. A unit occupies up to ninety hours of attendance at lectures and tutorials/laboratory classes. The requirements for a pass degree may be met by completing units chosen in accordance with the regulations in a minimum of three years of full-time or the equivalent period of part-time study. Subject to meeting conditions defined in the regulations, a student may be admitted to an honours course which will take an extra year of full-time study or two years of part-time study.

The unit structure allows flexibility in the choice of a course of study and the regulations have been framed so that a student may choose a pattern of units suitable for:

1. A general training in science.
2. A training for science teaching.
3. A professional level of training in a specific discipline.
4. A professional level of training in a combination of related disciplines.

Major sequences of units may be chosen from the following:

WOLLONGONG UNIVERSITY COLLEGE:
DIVISION OF BIOLOGICAL AND CHEMICAL SCIENCE
Chemistry
DIVISION OF PHYSICAL SCIENCE
Geology, Mathematics, Physics.

UNIVERSITY OF N.S.W.—KENSINGTON
FACULTY OF SCIENCE
FACULTY OF BIOLOGICAL SCIENCES
Biochemistry, Biological Technology, Botany, Microbiology, Psychology, and Zoology.
OTHER FACULTIES
Anatomy, Computer Science, Geology and Physiology.

REGULATIONS GOVERNING THE SCIENCE COURSE

1. Definitions

The Science course is administered by the Dean of the Faculty of Science through his nominated representative.

The pass degree is based on a unit* structure. A unit may be

* Not all units listed below are available at Wollongong University College. Information on those available may be obtained from the College Secretary.
of fourteen or twenty-eight weeks' duration, and units are grouped according to levels. Level I subjects are all double units; level II units normally follow after level I prerequisites and level III units, in most cases, follow after level II prerequisites. A major sequence normally includes four level III units chosen from those offered by a particular school,* although a number of schools offer more than four such units.

A prerequisite unit is one which must be completed prior to enrolment in the unit for which it is prescribed. A co-requisite unit is one which must either be completed successfully before or be studied concurrently with the unit for which it is prescribed. An excluded unit is one which cannot be counted together with the unit which excludes it towards the degree qualification. In exceptional circumstances, on the recommendation of the head of the appropriate school,† the Dean of the Faculty of Science may waive or vary a particular prerequisite or co-requisite.

CARE SHOULD BE TAKEN IN THE CHOICE OF UNITS TO ENSURE THAT THE PATTERN COMPLIES WITH THE REGULATIONS SET OUT IN SECTION 3 (a). CERTAIN COMBINATIONS OF UNITS CANNOT BE COMPLETED IN THE MINIMUM TIME DUE TO THE RESTRICTIONS OF TIMETABLES. COPIES OF TYPICAL COURSE PATTERNS ARE AVAILABLE FROM THE FACULTY OFFICE.‡

2. Regulations Governing the Science Course

(a) Requirements for a pass degree

In order to qualify for admission to the degree of Bachelor of Science under these regulations a candidate shall attend classes and satisfy the examiners in Science units and General Studies subjects chosen as follows—

(i) At least twenty-three Science units shall be included from the list set out in section 3 (a) and three General Studies subjects from the list in section 3 (b).

(ii) The twenty-three Science units shall comply with the prerequisites, co-requisites and exclusion conditions set out in section 3 (a) and also shall conform to the following restrictions:

* not less than eight units, nor more than ten units may be from level I;
* not less than four units may be from level III, and these four shall be chosen from related disciplines.

* At Wollongong University College there are departments instead of schools.
† The Head of the Department at Wollongong University College.
‡ At Wollongong University College the Head of the Department will provide the necessary advice.
(iii) One of 10.001 Mathematics I, or 10.011 Higher Mathematics I, or 10.021 Mathematics IT shall be included.*

(iv) in addition to the specific prerequisites listed in Clause 3 (a), additional general prerequisites are required by some schools as a preliminary to certain advanced level units. These units, which are scheduled below, should be taken in the first year of enrolment together with compulsory mathematics. Eight units are normally taken in first year.

<table>
<thead>
<tr>
<th>School of Chemistry</th>
<th>1.001, 1.011 or 1.041 Physics.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Applied Geology</td>
<td>1.001, 1.011 or 1.041 Physics and 2.001 Chemistry.*</td>
</tr>
<tr>
<td>School of Biochemistry</td>
<td>1.001, 1.011 or 1.041 Physics and 2.001 Chemistry and 17.001 General and Human Biology except that, with the consent of the Head of the particular School† concerned and in special circumstances, 25.111 Geoscience or 12.001 Psychology may be taken in lieu of Physics I in first year. In this case credit will not be given for level III units offered by these Schools† until level I Physics or 12.013 Psychology III is completed.*</td>
</tr>
<tr>
<td>School of Microbiology</td>
<td>1.001, 1.011 or 1.041 Physics and 2.001 Chemistry and 17.001 General and Human Biology except that, with the consent of the Head of School† and in special circumstances, Physics may be deferred to second year and 25.111 Geoscience or 12.001 Psychology taken in lieu in first year. In this case, credit will not be given for level III units offered by this School† until level I Physics is completed.*</td>
</tr>
<tr>
<td>School of Botany</td>
<td>1.001, 1.011 or 1.041 Physics and 2.001 Chemistry and 17.001 General and Human Biology except that, with the consent of the Head of School† and in special circumstances, Physics may be deferred to second year and 25.111 Geoscience or 12.001 Psychology taken in lieu in first year. In this case, credit will not be given for level III units offered by this School† until level I Physics is completed.*</td>
</tr>
<tr>
<td>School of Anatomy</td>
<td>17.001 General and Human Biology.</td>
</tr>
<tr>
<td>School of Physiology</td>
<td>2.001 Chemistry and 17.001 General and Human Biology.</td>
</tr>
</tbody>
</table>

* Subject numbers apply to subjects offered by the University of New South Wales (Kensington) only.
† The department at Wollongong University College.
(v) Only one from each of the following subjects/units may be included:

a. 12.001 Psychology or 26.121 Psychology.*

b. 52.111 Philosophy or 26.521 Philosophy.*

c. Any unit listed in Section 3 (a) or the equivalent unit offered at Wollongong University College which contains similar syllabus material.

(vi) A full time student is required to complete the appropriate level of Mathematics and six other approved level I units in the first two years of attendance or else show cause to the satisfaction of the Professorial Board why he should be allowed to re-enrol. The remaining units of the course may be completed in any order consistent with the requirements concerning prerequisite and co-requisite units as set out in Clause 3 (a).

(vii) The proposed course must be approved by the Dean of the Faculty of Science or his representative at enrolment.† In special circumstances, the Dean may grant a student permission to defer enrolment in certain level I units until the second year of the course. Where any alteration in the course approved at enrolment is desired, the student must obtain the approval of the Dean or his representative for the new course.

(b) Requirements for an honours degree

(i) In order to qualify for admission to the honours degree of Bachelor of Science a candidate shall:

1. Satisfy the requirements for a pass degree but without proceeding to graduation;

2. Undertake an extra year of full-time or two extra years of part-time study.

(ii) Admission to an honours course is granted by the Head of School.‡ Students wishing to proceed to an honours degree must apply to the Head of the appropriate school on completion of pass degree requirements.

* Subject numbers apply to subjects offered by the University of New South Wales (Kensington) only.

† At Wollongong University College the Head of the Division.

‡ At Wollongong University College the Head of the Department.
(iii) A suitably qualified candidate may be admitted to an honours course in one of the following:

- Anatomy
- Applied Mathematics
- Applied Physics
- Biochemistry
- Biological Technology
- Botany
- Chemistry
- Computer Science
- Entomology
- Geology
- Microbiology
- Physics
- Psychology
- Physiology
- Pure Mathematics
- Theory of Statistics
- Zoology

(iv) To qualify for admission to an honours course a student must have completed successfully eight level III units in the pass degree course,* except that in special cases the Head of the appropriate school† may approve entry without such a qualification.

(v) Further to requirements listed in paragraph 2 (b)(iv), to qualify for entry into an honours year a student must have completed any special units at required grades as determined by the Head of the School,† prior to admission to the Honours year. In order to ascertain any such special conditions, a student contemplating honours is advised to consult the Head of School† at the end of the first year of study.

(vi) Upon admission to the honours course a student must attend lectures, read and engage in laboratory work as required by the Head of School.†

3. Schedule of Units

(a) Science units

These are listed under the Schools‡ which provide the instruction and are divided into levels. Students must observe the prerequisites and co-requisites. Some Schools offer higher units to which special prerequisites apply and which are designed to lead to honours. Students contemplating honours studies must ensure that they have selected appropriate units. Some units are terminating so that students taking these may not qualify to continue studies in that School.† When selecting terminating units students must ensure that a choice of a major sequence is still available. Note that many units are of half year duration so that it is necessary to choose units which give a balanced programme of study over the year.

* For the honours course in Applied Physics the corresponding normal requirement is both (a) at least six Level III units to be completed and (b) at least eight units at Levels II and III to be completed at Credit grade or better or in the respective Higher version.

† At Wollongong University College the Head of the Department.

‡ Departments at Wollongong University College. Details of units available at Kensington are listed in the University Calendar and the Faculty of Science Handbook.
## UNDERGRADUATE COURSES

### 3 (a) Schedule of Science Units

<table>
<thead>
<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS VALUE</th>
<th>WHEN OFFERED</th>
<th>HOURS P.W.</th>
<th>PREREQUISITES</th>
<th>CO-REQUISITES</th>
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## UNDERGRADUATE COURSES

### 3 (a) Schedule of Science Units (cont.)

#### DEPARTMENT OF CHEMISTRY (continued)

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### CHEMISTRY HONOURS

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* Students taking a single major in Chemistry (4 Level III units) may not take more than two of the subjects marked *. 
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<th>HOURS P.W.</th>
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<td>Unit C — Palaeontology, Stratigraphy and Sedimentation</td>
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<td>Unit D — Elements of Geological Mapping</td>
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* Plus field work.
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- **Unit A**—Crystallography, Mineralogy, Igneous and Metamorphic Petrology
- **Unit B**—Geophysics and Statistical Methods in Geology
- **Unit C**—Sedimentary Rocks, Stratigraphy and Stratigraphic Palaeontology, Vertebrate Palaeontology
- **Unit D**—Structural Geology and Geotectonics, Economic Geology

* Plus field work.
† Progression to Geology IIIW without passes in all prerequisites may be possible with the approval of the Head of the Department.
### DEPARTMENT OF GEOLOGY (continued)

<table>
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<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS VALUE</th>
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<th>PREREQUISITES</th>
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<td>Unit F— Exploration Geophysics, Petroleum and Nuclear Fuels</td>
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<td>Unit G— Basin Analysis, Sedimentation and Oceanography</td>
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It should be noted that not all Geology IIIW units may be offered in any one year.
### 3 (a) Schedule of Science Units (cont.)

#### DEPARTMENT OF MATHEMATICS

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* Double session subjects.

† Students intending to take Level III units normally must have passed at least three Level II units.
### UNDERGRADUATE COURSES

#### 3 (a) Schedule of Science Units (cont.)

#### DEPARTMENT OF MATHEMATICS (continued)

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* Double session subjects.

† Students intending to proceed to Honours should consult the Head of Department.
## UNDERGRADUATE COURSES

### 3 (a) Schedule of Science Units (cont.)

#### DEPARTMENT OF PHYSICS

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<td>and Wave Mechanics</td>
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<tr>
<td>Mechanics, Thermodynamics</td>
<td>III</td>
<td>1</td>
<td>*</td>
<td>3</td>
<td></td>
<td>Electromagnetism and Optics</td>
<td></td>
</tr>
<tr>
<td>and Statistical Physics</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Astronomy</td>
<td>II</td>
<td>1</td>
<td>*</td>
<td>3</td>
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<tr>
<td>PHYSICS, LEVEL III</td>
<td></td>
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<tr>
<td>Classical Mechanics and Quantum</td>
<td>III</td>
<td>1</td>
<td>*</td>
<td>3</td>
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<tr>
<td>Mechanics</td>
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</table>

* Double session subjects.
<table>
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<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS</th>
<th>WHEN OFFERED</th>
<th>HOURS P.W.</th>
<th>PREREQUISITES</th>
<th>CO-REQUISITES</th>
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<tbody>
<tr>
<td>Astrophysics</td>
<td>III</td>
<td>1</td>
<td>*</td>
<td>3</td>
<td>Classical Mechanics and Quantum Mechanics; Solid State Physics and Nuclear Physics; Statistical Mechanics and Kinetic Theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solid State Physics and Nuclear Physics</td>
<td>III</td>
<td>1</td>
<td>*</td>
<td>3</td>
<td>Classical Mechanics and Quantum Mechanics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistical Mechanics and Kinetic Theory</td>
<td>III</td>
<td>1</td>
<td>*</td>
<td>3</td>
<td>Classical Mechanics and Quantum Mechanics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Project</td>
<td>III</td>
<td>1</td>
<td>*</td>
<td>3</td>
<td>Permission of the Head of the Department of Physics is required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYSICS, LEVEL IV</td>
<td></td>
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<td></td>
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<tr>
<td>Quantum Mechanics†</td>
<td>IV</td>
<td></td>
<td>*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistical Mechanics†</td>
<td>IV</td>
<td></td>
<td>*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear Fields†</td>
<td>IV</td>
<td></td>
<td>*</td>
<td>1</td>
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</tr>
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</table>

* Double session subjects.
### UNDERGRADUATE COURSES

#### 3 (a) Schedule of Science Units (cont.)

**DEPARTMENT OF PHYSICS** (continued)

<table>
<thead>
<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS VALUE</th>
<th>WHEN OFFERED</th>
<th>HOURS P.W.</th>
<th>PREREQUISITES</th>
<th>CO-REQUISITES</th>
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<tbody>
<tr>
<td>Solid State†</td>
<td>IV</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>Astrophysics†</td>
<td>IV</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plasma Physics†</td>
<td>IV</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Physics of Measurement†</td>
<td>IV</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear Astrophysics†</td>
<td>IV</td>
<td></td>
<td></td>
<td>1</td>
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</tr>
<tr>
<td>Honours Thesis</td>
<td>IV</td>
<td></td>
<td></td>
<td>20</td>
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</table>

**Note:** As a general rule, units at any level should be attempted only after completion of all units at the preceding level. In case of doubt the Head of the Department should be consulted.

* Double session subjects.
† Physics Level IV units may be altered without notice depending on the availability of staff.
### UNDERGRADUATE COURSES

#### SCHOOL OF CIVIL, MECHANICAL AND MINING ENGINEERING

<table>
<thead>
<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS VALUE</th>
<th>WHEN OFFERED</th>
<th>HOURS P.W.</th>
<th>PREREQUISITES</th>
<th>CO-REQUISITES</th>
<th>EXCLUDED</th>
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<tbody>
<tr>
<td>ENGINEERING I†</td>
<td>I</td>
<td>2</td>
<td>*</td>
<td>6</td>
<td>Sc. Faculty Entrance</td>
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#### DEPARTMENT OF BIOLOGICAL SCIENCES

<table>
<thead>
<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS VALUE</th>
<th>WHEN OFFERED</th>
<th>HOURS P.W.</th>
<th>PREREQUISITES</th>
<th>CO-REQUISITES</th>
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<tbody>
<tr>
<td>GENERAL AND HUMAN BIOLOGY</td>
<td>I</td>
<td>2</td>
<td>*</td>
<td>6</td>
<td>Sc. Faculty Entrance</td>
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#### DEPARTMENT OF GEOGRAPHY

<table>
<thead>
<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS VALUE</th>
<th>WHEN OFFERED</th>
<th>HOURS P.W.</th>
<th>PREREQUISITES</th>
<th>CO-REQUISITES</th>
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<tbody>
<tr>
<td>GEOGRAPHY I</td>
<td>I</td>
<td>2</td>
<td>*</td>
<td>4</td>
<td>Sc. Faculty Entrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEOGRAPHY II</td>
<td>II</td>
<td>3</td>
<td>*</td>
<td>6</td>
<td>Geography I</td>
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#### DEPARTMENT OF PSYCHOLOGY

<table>
<thead>
<tr>
<th>NAME</th>
<th>LEVEL</th>
<th>UNITS VALUE</th>
<th>WHEN OFFERED</th>
<th>HOURS P.W.</th>
<th>PREREQUISITES</th>
<th>CO-REQUISITES</th>
<th>EXCLUDED</th>
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<tbody>
<tr>
<td>PSYCHOLOGY I</td>
<td>I</td>
<td>2</td>
<td>1st session</td>
<td>3</td>
<td>Sc. Faculty Entrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychobiology</td>
<td>I</td>
<td>1</td>
<td>1st session</td>
<td>3</td>
<td>Sc. Faculty Entrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Measurement</td>
<td>I</td>
<td>1</td>
<td>1st session</td>
<td>3</td>
<td>Sc. Faculty Entrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation and Dynamics</td>
<td>I</td>
<td>1</td>
<td>2nd session</td>
<td>3</td>
<td>Sc. Faculty Entrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Method I</td>
<td>I</td>
<td>1</td>
<td>2nd session</td>
<td>3</td>
<td>Psychological Measurement I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYCHOLOGY II</td>
<td>II</td>
<td>3</td>
<td>*</td>
<td>9</td>
<td>Psychology I</td>
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</tbody>
</table>

* Double session subjects. † Comprising the session subjects *Applied Mechanics I* and *Design I*. 
(b) General Studies

Students shall select six of the following subjects:

- A History of Modern Art, Part I
- A History of Modern Art, Part II
- Architecture, Part I
- Architecture, Part II
- Aspects of Industrial Society
- Aspects of Modern Psychology, Part I
- Aspects of Modern Psychology, Part II
- Contemporary History, Part I
- Contemporary History, Part II
- Developments in Present Day Music
- English Language and Literature
- Introduction to English Linguistics
- Population Studies

For honours students an advanced elective is offered:
Asia in the Twentieth Century

4. Pattern of Studies

In general, a student should select a course which is adequately distributed over the six half years of study. Typical course patterns are available from the Faculty Office.*

A suggested pattern of study is:

First year: The appropriate two units of level I Mathematics and six other level I units including those essential to the intended major sequence of units.

Second year: One general studies elective and eight units from level II or six units from level II and two from level I.

Third year: Two general studies electives and at least four level III units. The other units could be level II or III.

Fourth year: For an honours degree, an advanced general studies elective and such requirements as specified by the Head of the appropriate School.*

5. Part-time Study

A student must select the units and general studies electives in accordance with these regulations save that Clause 2a(vi) is modified so that he must complete level I Mathematics and six other level I units in the first four years of enrolment or else show cause to the satisfaction of the Professorial Board why he should be allowed to re-enrol.

RULES GOVERNING ADMISSION TO THE SCIENCE DEGREE COURSE WITH ADVANCED STANDING

1. Graduates of the University of New South Wales may be admitted to the Science degree course with exemption in all General Studies subjects completed by them and in no more than twelve Science course units completed by them.

* At Wollongong University College, the Head of the Department.
2. Undergraduates of the University of New South Wales who transfer from another course to the Science degree course, may be admitted to the Science degree course with exemption in all General Studies subjects completed by them and in all Science course units completed by them. Further, where an undergraduate has completed a subject which contains the syllabus material of a Science course unit (or units) the Dean, with the agreement of the Head of the School* offering the Science course unit (or units) may allow the unit (or units) so covered to be counted to a Bachelor of Science degree.

An undergraduate transferring to the Science course must take Mathematics 10.02† or 10.001 or 10.011‡ during his first year of enrolment in the course unless one of them has previously been completed.

3. Graduates or undergraduates of other universities or of other approved tertiary institutions may be admitted to the Science degree course with advanced standing.

4. Students admitted under Rule 3 who have satisfied the examiners in units of the same title or subject matter as Science course units in this University may, subject to the approval of the appropriate Heads of School,* be granted exemption in no more than eleven Science course units but not including level III Science course units.

5. Notwithstanding the provisions of Rules 1, 2, 3 and 4 Faculty may determine a special programme to be completed by a student who wishes to be granted advanced standing for an honours degree of Bachelor of Science in this University.

RULES GOVERNING ADMISSION TO THE SCIENCE DEGREE COURSE WITH ADVANCED STANDING FOR THE PURPOSE OF OBTAINING A DOUBLE DEGREE

1. Undergraduates‡ of the University of New South Wales who have satisfied the examiners in at least the first two years of a degree course extending over four or more years and approved by the Faculty of Science for the purpose of double degrees, may be admitted to the Science degree course with advanced standing. Such undergraduates' performance shall have been of a high standard and their admission shall be subject to the approval of the Dean of the Faculty of Science.

* At Wollongong University College, the Head of the Department.
† Subject numbers apply to subjects offered by the University of New South Wales (Kensington) only.
‡ The word “undergraduate” includes graduands, i.e. a person may be admitted under these rules if he has met all requirements for a first degree which has not yet been conferred on him and his admission under these rules shall be no bar to the subsequent award of the first degree.
2. Students so admitted who have satisfied the examiners in General Studies subjects and/or Science course units shall be given advanced standing in such General Studies subjects and no more than fourteen such Science course units.

3. Students so admitted may be granted exemption from two other level II Science units on the basis of other subjects completed by them.

4. In order to qualify for the award of the degree of BSc, students so admitted with advanced standing shall be required to complete the appropriate General Studies subjects and no less than four units of either level II or level III and four other level III units in accordance with the Science course regulations.

The units submitted for the Bachelor's degree under these regulations must include at least four level III units chosen from related disciplines in accordance with the Science course regulations. One of Mathematics 10.021 or 10.001 or 10.011‡ must be included in the course.

‡ Subject numbers apply to subjects offered by the University of New South Wales (Kensington) only.
Description of Subjects
Description of Subjects
ACCOUNTANCY

Accounting and Financial Management IA
First session subject
The basic concepts of financial model building and information systems, including the double-entry recording system, the accounting cycle, income measurement and financial reporting, elementary computer programming and applications.

TEXTBOOKS

Accounting and Financial Management IB
Second session subject
Development of basic concepts introduced in Accounting and Financial Management IA including management accounting and operations research, corporate reporting, business finance, systems design, and an introduction to basic elements of taxation and auditing.

TEXTBOOKS
As for Accounting and Financial Management IA.

Accounting and Financial Management IIA
First session subject
The design, production and use of accounting and other quantitative information in the planning and control of organisations, with particular reference to manufacturing activities and to long and short-term decision-making and financial planning.

TEXTBOOKS

Accounting and Financial Management IIB
Second session subject
A critical examination of concepts and problems in income measurement and financial reporting for various forms of undertaking with particular reference to corporate organisations, including associated aspects of auditing and taxation.

TEXTBOOKS
DESCRIPTION OF SUBJECTS

Statements on Accounting Practice. Institute of Chartered Accountants in Australia.

Accounting and Financial Management IIIA
First session subject

TEXTBOOKS

Accounting and Financial Management IIIB*
Second session subject
Management Accounting: An advanced treatment of management accounting theory and applications including statistical cost analysis, cost accounting, control systems, budgetary and strategic planning and decision models.

TEXTBOOKS

Law in Society
Second session subject
An introduction to the nature of law, the legal system, legal reasoning and the administration of justice, including the sociological and political implications of the legal environment.

TEXTBOOKS

Information Systems
First session subject
Management information systems, including data collection and processing, internal control and internal reporting. System design and computer applications.

* This subject may not be offered in 1973.
TEXTBOOKS

Business Finance
Second session subject
The finance function, with particular reference to corporate financing, financial policy and financial management, including aspects of Australian financial institutions and the development of theories of financial structure.

TEXTBOOKS

Advanced Auditing
First session subject
Advanced aspects of auditing, including auditing standards and responsibilities, problems of valuation and verification, organisation and application to various forms of accounting systems including computer systems, and investigations.

TEXTBOOKS

Advanced Business Finance*
Single session subject
Advanced aspects of corporate financial management, growth strategies, combinations and reorganisations; theories and models of capital structure and cost of capital.

Advanced Information Systems
Second session subject
Advanced aspects of communication and information theory, system evaluation, design, implementation and management, accounting and associated computer applications, and software development.

TEXTBOOKS

* This subject will not be offered in 1973.
DESCRIPTION OF SUBJECTS


Business Law I*
First session subject
Common Law and statutes relating to business, with special reference to the law of contracts, sale of goods and an introduction to the law relating to business organisations.

TEXTBOOKS
Statutes:
Partnership Act (N.S.W.) 1892. N.S.W. Government Printer, Sydney.

Business Law II
Second session subject
The law relating to business organisations, with particular reference to companies, and other areas of law relevant to commerce, including banker and customer, hire purchase, insurance and bankruptcy.

TEXTBOOKS
or
Statute:
Companies Act (N.S.W.) 1961 (as amended to date). Government Printer, Sydney.

Business Organisation and Policy*
First session subject
The relationship of organisation theories and behavioural considerations to the functions of management and of accounting, with particular reference to organisation structures, communication, motivation, inter-personal and inter-group relationships and decision processes. Corporate strategy, policy formulation and integration of business functions.

TEXTBOOKS

* This subject may not be offered in 1973.
DESCRIPTION OF SUBJECTS


**Industrial Law**

*First session subject*

An examination of the Commonwealth and State systems, the relationship between them and the effect on industrial relations of the Australian Federal system; with particular reference to the constitution of the tribunals, their respective powers and the effect of awards, agreements and other regulatory activities.

**TEXTBOOKS**


**Taxation Law**

*Second session subject*

Administration and interpretation of taxation laws, estate planning, accounting implications of taxation requirements.

**TEXTBOOKS**

DESCRIPTION OF SUBJECTS

CHEMISTRY

INTRODUCTORY (LEVEL I) COURSES

General and Human Biology

*Double session subject (84 hrs. lectures, 28 hrs. tutorials and 56 hrs. practical).*

This is an introductory course for students intending to proceed in medicine or in the biological sciences.


**TEXTBOOKS**


**Requirements for Practical Work:** Students will be notified of equipment required for practical work. This must be purchased before the first practical class.

Chemistry Level I

Part 1A. Introductory Physical and General Chemistry.

*First session subject (28 hrs. lectures, 14 hrs. tutorials and 42 hrs. practical).*

Atomic theory and structure, chemical bonding, shapes of molecules. Particle theory of matter, gases and liquids, thermodynamics and thermochemistry.

Part 1B. Introductory Organic and Physical Chemistry.

*Second session subject (28 hrs. lectures, 14 hrs. tutorials and 42 hrs. practical).*


**TEXTBOOKS**


*or for students intending to continue in Chemistry,*


* Not required for Part 1A.

**REFERENCE BOOK**

MAJOR COURSES IN CHEMISTRY

All units of the Chemistry course are single session subjects which consist of 28 hours lectures, 14 hours tutorials and 42 hours practical. There are four second level units and eight third level units.

Students may elect to take either a double major in Chemistry or a single major in Chemistry. A double major consists of four second level Chemistry units and eight third level Chemistry units. A single major consists of at least four third level Chemistry units and either three or four second level Chemistry units. Students taking only three second level Chemistry units will have their choice of third level units restricted by the prerequisite requirements listed in section 3 of the "Regulations Governing the Science Course". Students taking a single major in Chemistry may not take more than two of the following third level units except by permission of the Head of Department:

Inorganic Chemistry III
Spectroscopy III
Analytical Chemistry IIIA
Analytical Chemistry IIIB

No reference books are listed for the Chemistry units. Students will be provided with a list of recommended reading at the commencement of each course.

SECOND LEVEL CHEMISTRY SUBJECTS

Physical Chemistry IIA

Single session subject

Introductory Quantum Chemistry: Applications of quantum theory to the extra-nuclear structure of atoms. Applications to other chemical and physical systems. Molecular energies from both quantum mechanical and classical viewpoints.

Kinetic Theory: The study of rate processes. Collision theory and transition state theory. Applications to chemical systems.

TEXTBOOKS

Physical Chemistry IIB

Single session subject


TEXTBOOK

Inorganic Chemistry II

Single session subject


TEXTBOOKS
DESCRIPTION OF SUBJECTS

Organic Chemistry II
Single session subject

TEXTBOOKS

THIRD LEVEL CHEMISTRY SUBJECTS

Organic Chemistry IIIA
Single session subject
Stereochemistry. Heterocyclic chemistry. Non-benzenoid aromatic and condensed ring systems.

TEXTBOOKS

Organic Chemistry IIIIB
Single session subject
Synthetic organic chemistry. Natural products and biosynthesis.

TEXTBOOKS

or

Physical and Theoretical Chemistry IIIA
Single session subject
Reaction kinetics and reaction mechanisms. Correlation of molecular structure with chemical reactivity. Theoretical chemistry of simple molecules. Theoretical chemistry applied to organic molecules.

TEXTBOOKS

or

Physical Chemistry IIIB
Single session subject
Thermodynamics of non-ideal systems. Surface chemistry and colloids. Chromatography.
TEXTBOOKS

Spectroscopy III
Single session subject

TEXTBOOKS

Inorganic Chemistry III
Single session subject
Coordination chemistry: The coordinate bond; stereochemistry; types of coordination compounds. Ligand Field Theory: Absorption spectra; Orgel diagrams; Jahn Teller effect. Magnetochemistry: The magnetic properties of the free ion; effect of crystal fields on magnetic properties; molecular anti-ferromagnetism.

TEXTBOOKS

Analytical Chemistry IIIA
Single session subject
General analytical chemistry. Ionic equilibria in analytical chemistry.

TEXTBOOKS

Analytical Chemistry IIIB
Single session subject
Electrochemistry. Radiochemistry. Trace analysis and environmental chemistry.

TEXTBOOKS
Second Level Chemistry for Metallurgists
Comprises Physical Chemistry IIA and Chemistry IIM.

Physical Chemistry IIA
Single session subject
Introductory Quantum Chemistry: Applications of quantum theory to the extra-nuclear structure of atoms. Applications to other chemical and physical systems. Molecular energies from both quantum mechanical and classical viewpoints.
Kinetic Theory: The study of rate processes. Collision theory and transition state theory. Applications to chemical systems.

TEXTBOOKS

Chemistry IIM (for Metallurgy students only)
Single session subject
Analytical Procedures: Sampling, solutions, separation methods, analysis techniques, statistical treatment of data.
Methods of Analysis: Gravimetric, volumetric—acid-base, redox, complexometry—spectroscopy, electrochemistry, extraction techniques.

TEXTBOOK
Applied Mechanics I
First session subject
(a) Engineering Mechanics
Two dimensional force systems; laws of equilibrium; concurrent and non-concurrent forces; funicular polygon; statics applied to rigid bars; statics of pin-jointed frames, analytical and graphical treatment; concepts of shear force, axial force and bending moment; simple states of stress; three-dimensional statics; composition and resolution of forces; general laws of equilibrium; dynamics of a particle; graphical and analytical analysis of velocities, accelerations; relative motion and energy conservation. Introduction to rigid body dynamics.

(b) Introduction to Computers and Systems
Computers: Information-concepts, representation storage and manipulation in automatic systems; algorithms—transformation of information by algorithms, expression in flow charts and languages, iterative and recursive algorithms; computer organisation—user languages and hardware organisation, number and data representation, instruction sets, basic organisation, computer components, present and future uses of computers.

Systems: General introduction to systems involving consideration of the basic concepts of systems, system components and quantities involved. These concepts to be related to the phenomena within the experience of the students and to be illustrated by case histories and engineering examples.

PRESCRIBED TEXTBOOKS
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One three-hour paper at end of course and class assignments.

Design I
Second session subject
(a) Principles of Engineering Drawing and Design
Limits and fits; elementary rivetted, bolted and welded connections; couplings and bearings; brakes, clutches, power screws and springs. Conceptual design.

(b) Engineering Technology
Materials: Classification of materials in common use, occurrence of raw materials, processing of raw materials, refinements and properties of materials. Manufacture: description and appraisal of the processes classified as forming from liquid or solid, material removal, materials joining. Machines: analysis of the primary functions of the machine tools and an appraisal of their limitations; principles of operations of common machine tools and illustration of their use.
DESCRIPTION OF SUBJECTS

PRESCRIBED TEXTBOOKS

REFERENCE BOOKS
Krick, E. V. *An Introduction to Engineering and Engineering Design*. 2nd ed. Wiley.

EXAMINATION
One two-hour paper on Section (b) at end of course. Section (a) will be assessed by class assignments and a Conceptual Design Project.

Materials I
Second session subject
Atomic theory, stoichiometry and structure; states of matter; energy concepts including bond and lattice energies. Crystalline nature of metals and its significance; solidification of metals; phase equilibria in metallic alloys; heat treatment of some ferrous and non-ferrous alloys; plastic deformation of crystalline materials; introduction to the study of the mechanical properties of metals and non-metals.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One three-hour paper at end of course.

YEAR II

Applied Mechanics II
First session subject
Kinematics of rigid bodies. Dynamics of rigid bodies in plane motion; moments of inertia, equations of motion, dynamic equilibrium; momentum and impulse, energy analysis. Dynamics of simple mechanisms. Introduction to mechanical vibrations.

PRESCRIBED TEXTBOOKS
Hirschhorn, J. *Dynamics of Machinery*. Nelson.
Meriam, J. L. *Dynamics*. Wiley.

REFERENCE BOOKS
Church, A. H. *Mechanical Vibrations*. Wiley.

EXAMINATION
One two-hour paper at end of course.
DESCRIPTION OF SUBJECTS

Applied Mechanics III
Second session subject
System classification—ordinary and partial differential equations that commonly occur in engineering problems. Circuit diagrams for mechanical systems; "through" and "across" variables; equilibrium analysis; block diagrams; reduction of equations; concept of state; free and forced response; system functions; stability; sinusoidal response; Fourier Series and Integral; Laplace Transform applied to linear systems.

PRESCRIBED TEXTBOOK

REFERENCE BOOKS
Haberman, C. M. Engineering Systems Analysis. Merrill.
Meriam, J. L. Dynamics. Wiley.
Salvadori, M. G. & Schwarz, R. J. Differential Equations in Engineering Problems. Prentice-Hall.

EXAMINATION
One two-hour paper at end of course.

Design II
Second session subject
(a) Machinery: Permissible stresses; probability of failure and safety factors. Machine elements including shafts, clutches, brakes, springs, power screws and bearings.
(b) Steel Structures: Bolted, rivetted and welded connections; simple and built up beams, trusses and columns.

PRESCRIBED TEXTBOOKS
Gorenc, B. E. Steel Designer's Handbook. A. & R.
S.A.A. CA1. Steel Structures; CA8 Arc Welding in Building Construction; CA34 Loading Code (Parts I and II); B249 Design of Shafts for Cranes and Hoists.

REFERENCE BOOK

EXAMINATION
No formal examination. Assessment will be based on drawing office assignments.

Experimental Engineering I
Second session subject

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
No formal examination. Assessment will be based on laboratory reports all of which are compulsory.
Fluid Mechanics I

*First session subject*
Review of physical properties of fluids; fluid statics and manometry; continuity and momentum equations; rotation and vorticity; equations of motion; steady flow energy equation; fluid flow measurements.

**PRESCRIBED TEXTBOOK**
Olson, R. M. *Engineering Fluid Mechanics*. International.

**REFERENCE BOOK**

**EXAMINATION**
One two-hour paper at end of course.

Materials II

*Second session subject*
Materials in engineering design, including—standard specification and acceptance tests, measurement of fatigue and impact strengths and hardness, notch sensitivity, application of criteria of failure.

**PRESCRIBED TEXTBOOK**
Nil.

**REFERENCE BOOKS**
Relevant standards covering specifications and acceptance tests—list provided during course.

**EXAMINATION**
One two-hour paper at end of course.

Strength of Materials

*First session subject*
Components of stress and strain; two-dimensional stress systems; torsion of circular shafts; springs; flexure and deflexion of beams; structures; slope deflexion equation; strain energy; frame structures.

**PRESCRIBED TEXTBOOK**

**REFERENCE BOOKS**

**EXAMINATION**
One two-hour paper at end of course.

Thermodynamics I

*First session subject*
DESCRIPTION OF SUBJECTS

PRESCRIBED TEXTBOOK

REFERENCE BOOKS
Wark, K. *Thermodynamics*. McGraw-Hill.

EXAMINATION
One two-hour paper at end of course.

YEAR III

**Applied Mechanics IV**
*First session subject*

PRESCRIBED TEXTBOOK

REFERENCE BOOKS
Haberman, C. M. *Engineering Systems Analysis*. Merrill.

EXAMINATION
One two-hour paper at end of course.

**Applied Mechanics V**
*Second session subject*


PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

**Control Systems I**
*First session subject*
Principles and techniques applicable to the analysis and design of feedback control systems with particular application to industrial processes. Modelling of control systems. Basic control actions, time domain and frequency domain analysis of linear systems, stability analysis, Nyquist Criterion, Bode Diagrams, Nichols Charts, root locus analysis. Analogue computers.
DESCRIPTION OF SUBJECTS

PRESCRIBED TEXTBOOK
Ogata, K. Modern Control Engineering. Prentice-Hall.

REFERENCE BOOKS
Kuo, B. C. Automatic Control Systems. Prentice-Hall.

EXAMINATION
One two-hour paper at end of course.

Control Systems II
Second session subject
Further methods applied to the analysis and design of feedback control systems. State space analysis of linear systems. Design and compensation techniques. Introduction to non linear systems and techniques of analysis. Liapunov stability analysis. Introduction to optimal control theory.

PRESCRIBED TEXTBOOK
Ogata, K. Modern Control Engineering. Prentice-Hall.

REFERENCE BOOKS
De Russo, P. M. et al. State Variables for Engineers. Wiley.
Kuo, B. C. Automatic Control Engineering. Prentice-Hall.

EXAMINATION
One two-hour paper at end of course.

Design III
First session subject
(i) Experimental methods: The application of models and analog methods in design for both static and dynamic loadings; to include photoelastic, Moire and strain gauge techniques.
(ii) Optimization and computers: The application of computers to design; computer simulation and optimizing techniques.
(iii) Concrete structures: Reinforced concrete elements, including slabs, beams, columns and foundations.

PRESCRIBED TEXTBOOKS
C. & C.A. Australian Reinforced Concrete Design Handbook.
S.A.A. CA2 Concrete in Buildings; CA34 Loading Code (Parts 1 & 2).

REFERENCE BOOK

EXAMINATION
No formal examination. Assessment will be based on drawing office assignments.
Design IV
Second session subject
Either

*Design A (Process and industrial machinery)*
Topics covered are selected from the following areas:
Rolling mills, air pollution control equipment, internal combustion engines, pumping equipment, blowers and compressors.

*or*

*Design B*
(i) **Steel structures**: Design of portal frames and mill buildings. Introduction to plastic design. Selected topics will be considered from the following areas: suspension and continuous girder bridges; transmission towers and guyed structures.
(ii) **Concrete structures**: Further design of concrete columns and continuous slabs. Design of pre and post stressed concrete structures.

In both Design A and Design B, the design and preparation of working drawings for selected topics will be required.

**PRESCRIBED TEXTBOOKS**
*Design A*
Nil.

*Design B*
Cowan, H. J. & Smith, P. R. *The Design of Reinforced Concrete*. A. & R.
S.A.A. CA1 Steel Structures; CA2 Concrete in Buildings; CA8 Arc Welding in Building Construction; CA34 Loading Code (Parts 1 & 2); CA35 Prestressed concrete; CA45 High Strength Bolting.

**REFERENCE BOOKS**
*Design A and Design B*
To be advised during course, depending on projects undertaken.

**EXAMINATION**
No formal examination. Assessment will be based on drawing office assignments.

Experimental Engineering II
Second session subject
Testing of reciprocating and rotodynamic machines: refrigeration plant nozzles; heat exchangers.

**PRESCRIBED TEXTBOOK**
Nil.

**REFERENCE BOOKS**
To be advised during course.

**EXAMINATION**
No formal examinations. Assessment will be based on laboratory reports all of which are compulsory.

Fluid Mechanics II
First session subject
DESCRIPTION OF SUBJECTS

Fluid Mechanics III
Second session subject
Students must take either Part A or Part B of this subject.

Heat Transfer
Second session subject
One and two-dimensional steady state conduction; free and forced convection; radiation; combined heat transfer mechanics and applications.

PRESCRIBED TEXTBOOK

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.


PRESCRIBED TEXTBOOK

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

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DESCRIPTION OF SUBJECTS

Materials III
Second session subject
Mechanical behaviour of materials; non-destructive test procedures; concrete technology.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

Soil Mechanics I
First session subject

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

Structures I
First session subject
Analysis of statically indeterminate structures; shells; plastic analysis of steel structures; introduction to two-dimensional elasticity; approximate methods.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One three-hour paper at end of course.

Surveying I
First session subject
Linear measurements, chain surveying; levelling; measurement of angles; traverse surveys and computations; horizontal and vertical curves.

PRESCRIBED TEXTBOOKS
Seven Figure Mathematical Tables. Chambers.

REFERENCE BOOKS
Sandover, J. A. Plane Surveying. Arnold.

EXAMINATION
One two-hour paper at end of course and assignments.
Surveying II
Second session subject
Indirect measurements of distance, electronic methods; topographic surveys, tacheometry, plane tabling; photogrammetry, radial line plotting, stereoscopy; earthwork calculations.

PRESCRIBED TEXTBOOKS
As for Surveying I.

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course and assignments.

Thermodynamics II
First session subject

PRESCRIBED TEXTBOOKS
or

REFERENCE BOOKS
Shepherd, D. Introduction to the Gas Turbine. 2nd ed. Van Nostrand.

EXAMINATION
One two-hour paper at end of course.

Applied Dynamics I
First session subject
Kinematics of particles and rigid bodies in three dimensions. Three dimensional dynamics of rigid bodies; inertia tensor; Euler’s equations of motion. Relativistic dynamics. Dynamic analysis of mechanisms.

PRESCRIBED TEXTBOOKS

REFERENCE BOOKS
Holowenko, A. R. Dynamics of Machinery. Wiley.
McCuskey, S. W. Introduction to Advanced Dynamics. Addison-Wesley.

EXAMINATION
One two-hour paper at end of course.
DESCRIPTION OF SUBJECTS

Applied Dynamics II
Second session subject
Lagrangian Dynamics and Hamilton’s Principle applied to particles and rigid bodies; holonomic and non holonomic constraints; dynamics of continuous systems; introduction to statistical mechanics.

PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
McCuskey, S. W. Introduction to Advanced Dynamics. Addison-Wesley.

EXAMINATION
One two-hour paper at end of course.

Engineering Management I
First session subject
Theory and practice of organisation and industry; general principles of law of contract.

PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

Engineering Management II
Second session subject
Industrial relations. Introduction to cost accounting.

PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

Fluid Mechanics IV
Second session subject

**PRESCRIBED TEXTBOOK**
Nil.

**REFERENCE BOOKS**
Pao, R. H. F. *Fluid Dynamics*. Merrill.

**EXAMINATION**
One two-hour paper at end of course.

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**Geology for Engineers**

*Second session subject*

Rock forming minerals, clay minerals; rock classification and properties; structural geology; groundwater; application of geology and geophysics in engineering practice.

**PRESCRIBED TEXTBOOK**
Nil.

**REFERENCE BOOKS**
To be advised during course.

**EXAMINATION**
One two-hour examination at end of course.

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**Materials IV**

*First session subject*

Further work on mechanical behaviour of metals and non-metals; behaviour of materials in electromagnetic fields; metallic and ceramic phases and their properties; equilibrium diagrams.

**PRESCRIBED TEXTBOOK**
Nil.

**REFERENCE BOOKS**
To be advised during the course.

**EXAMINATION**
One three-hour paper at end of course.

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**Materials Handling Systems I**

*First session subject*

Principles of granular mechanics; packings; flow patterns and properties; measurement of flow properties in relation to Hopper design; stress analysis of bulk solids and determination of Hopper configurations.

**PRESCRIBED TEXTBOOK**

**REFERENCE BOOKS**
DESCRIPTION OF SUBJECTS


EXAMINATION
One two-hour examination at end of course.

Materials Handling Systems II

Second session subject
Design and performance of conveyor systems; forced and free flow of granular materials. Two phase flow; system identification and optimization applied to bulk handling systems.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
Selected research papers.

EXAMINATION
One two-hour paper at end of course.

Nuclear Power Technology I

First session subject
Nuclear processes, fission and energy deposition, nuclear reaction rates, fuel cycles and nuclear reactor types. Primary and secondary radiation sources, multiplication slowing down and diffusion of neutrons, criticality conditions and reactivity changes with burnup. Fine scale flux in fuel element lattices, effects of control rods and reflectors. Delayed neutrons, point reactor neutron kinetics, and reactor control.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

Nuclear Power Technology II

Second session subject
The thermodynamics of nuclear power systems. The special nuclear, thermal and cost characteristics of gas cooled, pressurized water, boiling water and liquid metal fast reactor systems. Isotopic power generators, process heat and other reactor applications.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.
Public Health Engineering
Second session subject
Process of decomposition or decay; chemical and biochemical measurements, basic principles of the treatment of polluted waters. Water supply schemes; principles and practice of water treatment; sewage systems, sewage treatment and disposal; refuse disposal.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

Roads Engineering
First session subject
Road location and surveys, road design standards, types and functions of pavements, construction methods, earthworks and earth moving machinery. Construction planning and scheduling. Road drainage requirements. Economic analysis and costing. Transport systems and communication networks.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

Soil Mechanics II
Second session subject

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One three-hour paper at end of course.

Structures II
First session subject

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.
DESCRIPTION OF SUBJECTS

Structures III
Second session subject
Topics will include the following: Stiffness and flexibility methods of analysis of indeterminate structures; dynamics of structures; shells; finite element analysis; variational principles.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

Systems Analysis I
First session subject
Linear programming; network analysis; dynamic programming; queueing theory.

PRESCRIBED TEXTBOOK

REFERENCE BOOKS
Rosenbrock, H. & Storey, S. Computational Techniques for Chemical Engineers. Pergamon.

EXAMINATION
One two-hour paper at end of course.

Systems Analysis II
Second session subject
System optimization; variational methods; random data analysis; signal theory; stochastic processes.

PRESCRIBED TEXTBOOK

REFERENCE BOOKS
Hildebrand, F. B. Methods of Applied Mathematics. Prentice-Hall.
Rosenbrock, H. & Storey, S. Computational Techniques for Chemical Engineers. Pergamon.

EXAMINATION
One two-hour paper at end of course.
Systems Analysis III
First session subject

PREScribed TEXTBOOK

REFERENCE BOOKS
De Russo, P. M. et al. State Variables for Engineers. Wiley.

EXAMINATION
One two-hour paper at end of course.

Thermodynamics III
First session subject

PREScribed TEXTBOOK
Nil.

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

The following is for the Metallurgy Course only:

Design M
Double session subject
Moving loads; influence lines for beams; permissible stresses; design of welded plate web girder; project.
DESCRIPTION OF SUBJECTS

The following are for the Mining Engineering Course only:

Geology for Engineers
Double session subject

Mining Engineering I
Double session subject


Mining and Mineral Process Engineering
Double session subject

DESCRIPTION OF SUBJECTS

Engineering Surveying

Double session subject

Part A: Ordinary levelling, Angle measurement, Linear measurement (tapes), Theodolite traversing, Tachometry, Contour and detail surveys, Areas and volumes.

Part B: Levelling (other methods), Linear measurement (electronic), Applications of survey techniques; control surveys, provision of information for design, setting out engineering works, etc. Outline of photogrammetry.

Geology for Mining Engineers

Double session subject

Occurrence and structures of igneous rocks, consolidation of magmas, igneous rock classification, Thermal and regional metamorphism, Composition and classification of sedimentary rocks—sedimentary environment, Ore genesis, synmagmatic, epimagmatic and post-magmatic processes, volcanic exhalative deposits, sedimentary biogenic deposits, Structural control of ore deposits, Alluvial deposits, non-metallic ores, Nature, origin and occurrence of coal and petroleum, Type and rank variation, coal petrology, coalfield geology, Geological evolution of the Australian continent from Pre-Cambrian to Recent times, Introductory geophysics—methods and applications, Laboratory: macroscopic and microscopic study of rocks and minerals, Ore mineralogy and mineralogy, Coal petrology, Study of more common plant and animal fossils, Stratigraphic and other forms of geological mapping.

Mining Engineering II

Double session subject

Mining atmosphere, gas, dust, spontaneous combustion, explosions, fires, mine rescue and recovery organization, Mine ventilation properties of mine air fans, air flow, shock losses, thermodynamics, Transport of materials, flow of bulk solids, chute and storage design, conveyors, tracked and trackless transport, head frames, shaft conveyances, wire ropes, oil and slurry pipe lines, State of stress in earth's crust, subsidence, strata control, rock bursts, physical properties of rocks.

Mining tectonics and rock mechanics, Power supply and transmission, Mine drainage, pumps, pump stations, flooding and dewatering, removal of fluid from porous strata, Mine safety engineering, health, hygiene, diseases, Noise, Signalling, Principles of mine lighting, Compressed air generation and reticulation.

Mineral Processing I

Double session subject

Applied mineralogy, assessment of physical and chemical properties, liberation, process design, Theory of particle breakage, comminution technology of crushing and grinding, particle size distribution and analysis, Gravity concentration and other physical methods of separation, Froth flotation, Fluid mechanics of mineral pulps, free, hindered and zone settling, thickening, classification, dewatering.
DESCRIPTION OF SUBJECTS

Mine Surveying and Control Engineering

*Double session subject*
Surveying techniques in the development and exploitation of mineral resources and the assessment of mineral properties. Tunnel surveys; transfer of azimuth; bore hole surveying; stope and ore reserves surveys; special mine surveys; mine survey office organization. Stereographic projection. Organization and programming of mining methods or techniques. Method of production control and grade control. Mathematical models of mining methods.

Mineral Industry Elective Project

*Double session subject*
Elective may include mineral process engineering; statistics; sampling and valuation; rock mechanics; mine and treatment plant design; minerals and petroleum production engineering; selected courses from other Schools.
DESCRIPTION OF SUBJECTS

ECONOMICS

All subjects require three class hours per week.

Economics I
First session subject
A general introduction to the study of Economics. Emphasis will be placed on:
1. Differences between economic systems.
2. The structure of the Australian economy.
3. Economic analysis and its application in the study of the micro-unit in an exchange system.

REFERENCE BOOKS

Economics II
Second session subject
This subject continues the general introduction to the discipline, extending it to the analysis of the macro-unit, economic growth and international economics, and leads to the study of some central problems of Australian economic policy.

REFERENCE BOOKS
As for Economics I, plus:

Microeconomics III
First session subject
Theory of consumer demand: utility, indifference curve analysis, elasticity; theory of production: production functions, stages of production, law of diminishing marginal returns, returns to scale; theory of costs; isoquants and isocosts, optimum factor combinations, nature and type of costs; prices and output in perfect competition: resource allocation and economic efficiency, short run and long run equilibrium; price and output in imperfect competition: monopoly, price discrimination, monopolistic competition; theory of factor pricing: demand for factors, supply of factors, economic rent, equilibrium in factor markets; economic interdependence: general and partial equilibrium, input-output analysis.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES
A.E.A. Readings in Price Theory. Irwin.
**Microeconomics III Honours**

*First session subject*
This subject covers the same ground as the pass course, but in more depth. Extra reading and assignments will be required.

**Microeconomics IV**

*Second session subject*
Prices in oligopoly: kinked demand curve, price leadership, limit pricing and barriers to entry, marginal cost pricing, full cost pricing; goals of oligopolists: profit maximization, sales maximization, growth maximization, alternatives to maximization; implications of market structure, concentration, size of firms, non-price competition, restrictive trade practices, countervailing power, research and development, uncertainty and interdependence; growth of firms: diversification, mergers, zones of stability; economic progress: dynamic v. static performance, sources of growth, innovation, planning, and technological change.

**REFERENCE BOOKS**

**SUPPLEMENTARY REFERENCES**
A.E.A. *Readings in Price Theory*. Irwin.
Bain, J. *Barriers to New Competition*. Harvard, U.P.
Mason, E. *Corporation and Modern Society*. Atheneum.
Wiles, P. *Price, Cost and Output*. Blackwell.

**Microeconomics IV Honours**

*Second session subject*
This subject covers the same ground as the pass course, but in more depth. Extra reading and assignments will be required.

**Macroeconomics III**

*First session subject*
A basic study of theoretical macroeconomics concerned with: interactions between markets for money, products and labour; theories of investment and interest rates; the multiplier and its empirical applications; internal and external balance; theories of inflation; and theories of business cycles and economic growth.
REFERENCE BOOK

SUPPLEMENTARY REFERENCES

**Macroeconomics III Honours**

*First session subject*
This includes *Macroeconomics III* plus additional reading and assignments.

**Macroeconomics IV**

*Second session subject*
A study in the application of basic macroeconomic theories, principally concerned with the Australian economy. It includes the analysis of the Australian national accounts, input-output relations, and the flow-of-funds accounts; intertemporal and international comparisons of real income; the national debt and debt management; monetary theory; and money, banking and the capital market of Australia.

**REFERENCE BOOKS**
As for *Macroeconomics III*, plus:
Flow of Funds Supplement. Reserve Bank of Australia Statistical Bulletin. (Last issue April, 1972.)

**Macroeconomics IV Honours**

*Second session subject*
This includes *Macroeconomics IV* plus additional reading and assignments.

**Statistical Methods I**

*First session subject*
Basic concepts: tabular and graphical methods of presenting data; frequency distributions; their formation and types; measures of central tendency, dispersion and skewness; probability: discrete and continuous; laws of probability, probability distributions, expectations, random variables; testing hypotheses, formation of hypotheses, measures of reliability and significance; standard error, confidence limits, Type I and Type II errors, goodness of fit.

**REFERENCE BOOK**
SUPPLEMENTARY REFERENCES

Statistical Methods II
*Second session subject*
Simple regression analysis, scatter diagrams, analysis of variance, correlation co-efficients; index numbers: concept, types, index number construction, index numbers in practice; time series analysis: components of time series, trend line, moving average; sampling: population and samples, size of sample, stratified sampling, practical problems.

REFERENCE BOOKS
As for Statistical Methods I.

SUPPLEMENTARY REFERENCES

Quantitative Methods III
*First session subject*
Introduction to research methods and procedures. Multiple regression analysis: theory, economic applications, problems in empirical regression analysis. Introduction to decision theory: inventory problems, replacement problems.

REFERENCE BOOK
To be advised.

SUPPLEMENTARY REFERENCES

Quantitative Methods IV
*Second session subject*
Input-output analysis: theory, economic applications; linear programming: theory, economic applications, relation to various types of allocation problems.

REFERENCE BOOKS
SUPPLEMENTARY REFERENCES

International Economics
First session subject
Structure and pattern of international trade and income levels. Analysis of resource allocation: comparative advantage, Heckscher-Ohlin model, rent-for-surplus theory; gains from trade: welfare arguments; growth in factors of production: Rybczynski theorem; technical progress; transfer of capital, technology and labour; tariff policy: optimum tariff, tariff structure and rates, tariff v. subsidy; balance of payments policy: elasticity and absorption approach, exchange rates, quantitative controls; internal and external balance; trends in trade, investment, and finance: institutions, trade and investment policies, economic integration, international monetary developments. Australian international economic relations will be studied.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES

Comparative Economic Systems
First session subject
Classification of economic systems. A priori arguments about the relative efficiency and non-economic implications of centralised and decentralised economic systems. The structure, conduct and performance of the Soviet, Yugoslav, Japanese and French economies.

REFERENCE BOOKS
Natural Resource Economics

First session subject

A study of the role of natural resources in the economic process and of the problems associated with the use and development of natural resources. Reference will be made to current problems in resource use. Topics to be studied include: definition and classification of natural resources, their social significance; how natural resources become involved in the economic process, the theory of property rights, the role of property; the use of natural resources by individuals and by society; natural resources in relation to economic growth and development, classical doctrine of natural resource scarcity, impact of technological change.

REFERENCE BOOK

SUPPLEMENTARY REFERENCES
Economic Policy

Second session subject

This is a study of the objectives of macroeconomic policies, the relations between objectives, and the use of monetary, fiscal and other instruments of policy. Particular attention is given to policies concerned with prices, employment and incomes in Australia and the main instruments available for their implementation.

REFERENCE BOOKS


SUPPLEMENTARY REFERENCES


Runcie, N. The Economics of Instalment Credit. London U.P., 1969.

Economic Policy Honours
Second session subject
This includes Economic Policy plus additional reading and assignments.

Economic Development
Second session subject
A study of conditions and policies affecting economic development with particular regard to differences between experiences in selected low income countries. Analysis of differences and rates of change in income levels, socio-economic structures and values, and population growth. National policies and plans for different levels of development: infrastructure requirements, technological and manpower requirements, developments in agriculture and industry, internal and external market developments, monetary and fiscal structures, population policy. Project evaluation and implementation. National, inter-regional and inter-sectoral balance and imbalance. International aspects of development: inter-government operations, bi-lateral and multi-lateral agencies, effective and for development. Students will be required to make a detailed study of any low income country.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES

Regional Economics
Second session subject
The nature of the regional problem in Australia and overseas:
1. Inter-regional disparities in unemployment, income and growth. The effect of such disparities on achievement of national macroeconomic goals.

Some applications of macroeconomic theory at the regional level: regional accounts, regional input-output analysis, regional growth models, regional multipliers, inter-regional trade theory, regional equilibrium analysis.
Australian and European policies for control of spatial distribution of economic activity. Effectiveness of such policies.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES

Mathematical Economics
Second session subject
An introduction to a mathematical treatment of economic theory; theory of consumer behaviour, theory of production and profit maximization, mathematical analysis of market structures, introduction of dynamics.

REFERENCE BOOK

SUPPLEMENTARY REFERENCES

Operations Research
First session subject
Linear, non-linear and dynamic programming. Theory of games.

TEXTBOOK
DESCRIPTION OF SUBJECTS

Transport Economics

Second session subject

This subject will be a study of the economics of transportation based on the spatial analysis of transport systems, including the following aspects:
1. Distance, movement and location theory
2. Network location, structure and measurement: terminal location, morphology
3. Rating, spatial patterns and intermodal competition
4. Movement, gravity and interaction models
5. Intra-urban transport, traffic and land use
6. Transport and economic development

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES

Advanced Economic Analysis

Double session subject

This subject, together with the completion of the thesis, occupies the final year of the full-time Honours degree course. It consists of six parts, each of which normally requires 21 class hours. The whole amounts to a survey of advanced economic theory; it normally includes advanced macro- and micro-economics, cyclical fluctuations, economic growth, monetary theory, international economics, welfare, and history of economic thought.
DESCRIPTION OF SUBJECTS

ELECTRICAL ENGINEERING

1. Subjects are listed in alphabetical order, i.e.
   Circuit Theory 1, 2, 3, 4, 5
   Computer Systems Engineering 1, 2
   Control 1, 2, 3
   Electrical Properties of Materials 1, 2
   Electronics 1, 2, 3, 4, 5
   Electronics and Circuit Theory 1, 2
   Energy Conversion 1, 2
   Machines (and Transformers) 1, 2, 3, 4
   Power Systems

2. Prerequisites: Engineering 2 subjects are prerequisites for Engineering 3 subjects, and Engineering 3 subjects are prerequisites for Engineering 4 subjects.

3. Assessment: Composite (based on exams, tests, assignments and laboratory reports) for a single subject or a group of subjects in a particular year or stage.

Circuit Theory 1
Single session subject
Electromagnetic fields and circuit concepts, Kirchhoff's laws and elementary circuit analysis. Responses of elementary circuits, introduction to sinusoidal steady state.

TEXTBOOK

Circuit Theory 2
Single session subject
Basic network topology, mesh, nodal and cut-set analysis, Laplace transform methods and generalised analysis, sinusoidal steady state.

TEXTBOOK
As for Circuit Theory 1.

Circuit Theory 3
Single session subject
State space analysis, two port networks, network theorems, signal flow graphs, transmission lines. Fourier series and integral.

TEXTBOOK
As for Circuit Theory 1.

Circuit Theory 4
Single session subject

TEXTBOOK
Circuit Theory 5
Single session subject
Two-port network analysis, filters, methods of network analysis, lattice networks.

TEXTBOOK
As for Circuit Theory 4.

Computer Systems Engineering 1
Single session subject
Switching algebra, combinational and sequential logic. Number systems and codes. Computer structure.

TEXTBOOK

Computer Systems Engineering 2
Single session subject
Digital circuit implementation, logic systems, analogue to digital and digital to analogue convertors, analogue and hybrid computation.

TEXTBOOK
No set text.

Control 1
Single session subject
Analysis of linear systems, frequency response, stability, design procedure. Control system components, transducers, measurements. Computing and simulating systems.

TEXTBOOK

Control 2
Single session subject
Controlability and observability, stability of linear servo mechanisms, sensitivity and error analysis, synthesis of linear servo mechanisms.

TEXTBOOK

Control 3
Single session subject
Computers in control, non-linear control systems, signal modulated systems, optimal control.

TEXTBOOK
As for Control 2.
Electrical Properties of Materials 1
Single session subject
Ionisation and decay processes; electric breakdown in solid, liquid and gaseous dielectrics, in uniform and non-uniform fields.
TEXTBOOK

Electrical Properties of Materials 2
Single session subject
Generation and measurement of high voltages for testing purposes. Non-destructive insulation test techniques, high-voltage and high-frequency dielectric loss measurements, discharge measurements.
TEXTBOOK
As for *Electrical Properties of Materials 1*.

Electronics 1
Single session subject
TEXTBOOK

Electronics 2
Single session subject
TEXTBOOK
As for *Electronics 1*.

Electronics 3
Single session subject
Charge-control models for switching operation of transistors. Switching circuits. Basic digital circuits, discrete and integrated, and their applications.
TEXTBOOK
As for *Electronics 1*.

Electronics 4
Single session subject
TEXTBOOK
Electronics 5
Single session subject
Guided electromagnetic waves, waveguides and transmission lines. Elements of microwave networks, cavity resonators, directional couplers, isolators, circulators and switches. Radiation and antennas. Antenna arrays, gain, directivity and bandwidth.

TEXTBOOK

Applied Electricity I
Double session subject
A course for metallurgists and engineers not intending to follow electrical engineering as a profession, presenting selected topics from circuit theory, electronic devices and their applications in linear and digital circuits, electromagnetic devices, and instrumentation systems.

TEXTBOOK

Energy Conversion 1
Single session subject
Energy in electric and magnetic fields. Electromechanical energy conversion, reactors, measuring transducers.

TEXTBOOK
No set text.

Energy Conversion 2
Single session subject
Mutually coupled circuits, transformers, singly and multiply excited circuits. Introductory d.c. and a.c. machines.

TEXTBOOK

Machines and Transformers 1
Single session subject
Principles of steady state and transient performance of d.c. and cross field machines and transformers.

TEXTBOOK

Machines and Transformers 2
Single session subject
Steady state performance of polyphase synchronous and induction machines. Static convertors.

TEXTBOOK
As for *Machines and Transformers 1*. 
DESCRIPTION OF SUBJECTS

Machines 3
Single session subject
Performance of commutator and single phase induction machines. Introduction to matrix methods and transformation techniques in machine analysis.

TEXTBOOKS

Machines 4
Single session subject
Electrical transient and dynamic performance of machines and applications of solid state devices to machine control.

TEXTBOOK
As for Machines 3 and Machines and Transformers 1.

Power Systems
Single session subject
Properties of multi-conductor transmission systems; symmetrical component analysis; system stability, surges, protection, economic optimisation.

TEXTBOOK
In 1973 the Department of English will offer subjects in English I, II and III Pass and English II, III and IV Honours in the B.A. degree course, and also in the first year of the M.A. Pass degree course.

Each subject comprises at least 28 hours (2 hours per week per session) of lectures, seminars and tutorials. Some subjects are optional. In principle, students may choose those subjects that interest them most. Not all subjects, however, will be offered at both day and evening times. Furthermore, the Head of the Department of English reserves the right to place a limit on numbers in particular subjects, and to advise students on the subjects best suited to their qualifications and purposes. As many of the subjects described in the following pages will be offered as can be with the staff available.

Pass students are required to take FOUR, and Honours students, SIX subjects in each year. In addition to those subjects designated as compulsory, Honours students must take at least one of the Old English Language or the Medieval English Literature subjects. (Second year Honours students should note that additional options in Medieval English Literature will be available in 1974.)

In all subjects, students will be required to hand in written assignments and sit for examinations during or at the end of each session. English IV Honours students are also required to write a thesis of 12,000-15,000 words on a topic approved by the Head of the Department.

**ENGLISH I**

*First Session*

Students are required to choose, in each session, two of the subjects listed.

**Critical Method—Poetry**

Problems and techniques involved in the criticism of poetry; critical discussion and interpretation of selected poems.

**TEXTBOOKS**


**Modern Fiction**

*Part I*: The problems and techniques involved in the criticism of fiction; critical discussion and interpretation of selected modern short stories and novels.

**BASIC READING**


**Introduction to English Language Studies**

*Part I*: The development of English up to the early modern period; introduction to Chaucer's language.

**TEXTBOOKS**

ENGLISH I
Second Session

Modern Poetry
Varying critical approaches to modern poetry; interpretation and discussion of selected modern poems.

BASIC READING

Modern Fiction
Part II: Critical interpretation and discussion of the short stories and novels of selected modern writers.

BASIC READING
Joyce. Dubliners; A Portrait of the Artist as a Young Man. Penguin.
To be a Pilgrim. Harper & Row.
White. The Burnt Ones; The Vivisector. Penguin.

Introduction to English Language Studies
Part II: Present day English, its sound system, vocabulary and structure.

TEXTBOOKS
Quirk, R. The Use of English. 2nd ed. Longmans.

ENGLISH II—COMPULSORY SUBJECTS

First Session

Victorian Fiction
The novels of Dickens, Thackeray and George Eliot.

BASIC READING
Dickens. Pickwick Papers; Hard Times; Our Mutual Friend.
Thackeray. Vanity Fair; Henry Esmond.
George Eliot. The Mill on the Floss; Middlemarch.

Second Session

The Poetry of Wordsworth, Byron and Keats

RECOMMENDED TEXTS

ENGLISH III—COMPULSORY SUBJECTS

First Session

The Novel in the Eighteenth Century

BASIC READING
Defoe. Robinson Crusoe; Moll Flanders.
Richardson. Pamela.
Sterne. Tristram Shandy.
DESCRIPTION OF SUBJECTS

Second Session

The Poetry of Milton, Dryden and Pope

RECOMMENDED TEXTS
Sutherland, J. A Preface to Eighteenth Century Poetry. O.U.P.

ENGLISH II AND III—OPTIONS

First Session

Metaphysical Poetry
A study of selected poems by Donne, Herbert, Crashaw, Vaughan and Marvell.

TEXTBOOKS

Shakespeare's Tragedies
Macbeth; Hamlet; Othello; King Lear; Timon of Athens; Antony and Cleopatra; Coriolanus.

Students are advised to use the separate volumes of the New Arden Shakespeare (Methuen), the New Shakespeare (C.U.P.), the Signet Classics or the New Penguin Shakespeare.

Old English
An introduction to the language, literature and culture of the Anglo-Saxons.

TEXTBOOKS

Second Session

Victorian Poetry
Selected poems by Tennyson, Browning, Arnold, Swinburne and Hardy.

RECOMMENDED TEXTS
Satire from 1660 to 1780

RECOMMENDED READING
Sutherland, James. *English Satire*. C.U.P.

Old English Prose and Verse
*Old English* (see under First Session) is a prerequisite for this subject.

TEXTBOOKS

Medieval Dream Poetry
Poems by Chaucer and the Scottish Chaucerians.

TEXTBOOK

ENGLISH IV (HONOURS)

First Session

Critical Practice and Theory

Part I:
(A) Selected critical essays on a number of major literary texts. The essays will be chosen to illustrate a variety of critical approaches. The list of texts will include Shakespeare’s *Othello* and *Macbeth*, Donne’s *Songs and Sonnets*, Swift’s *A Tale of a Tub*, and Sterne’s *Tristram Shandy*.


Elizabethan Drama
Selected plays by Lyly, Peele, Kyd, Marlowe, Greene; Shakespeare’s early plays, Comedies and “Problem Plays”.

RECOMMENDED TEXTS
Alexander’s (Collins) or Sisson’s (Odhams) edition of Shakespeare’s plays, or the separate volumes of the New Arden Shakespeare (Methuen), the New Shakespeare (C.U.P.), the Signet Classics or the New Penguin Shakespeare.
Renaissance Poetry

The works of particular poets are prescribed, but the subject of study will be not so much authors as the principal modes, themes and conventions of sixteenth- and seventeenth-century English poetry.

TEXTBOOKS


Literary Scholarship

A study of research methods, with special reference to textual problems in Shakespeare.

ENGLISH IV (HONOURS)

Second Session

Critical Practice and Theory

Part II:

(A) Selected essays on a number of major texts. The list of texts will include Coleridge’s *The Ancient Mariner*, Shelley’s lyric poems, Melville’s *Moby Dick*, Dickens’ *Little Dorrit*, Eliot’s *The Waste Land* and Faulkner’s ‘The Bear’.


Jacobean Drama

Selected plays by Jonson, Chapman, Marston, Tourneur, Webster, Middleton, Beaumont and Fletcher, Massinger.

Late Seventeenth-Century Literature

A study of selected works by Bunyan, Dryden, Pepys, Etherege, Rymer, Wycherley, Rochester, Otway and Congreve.
GENERAL STUDIES

It is a requirement of all undergraduate courses* that the programme of study include certain subjects of a general nature in addition to those vocational subjects in which the student must specialise.

Since 1971 the normal general studies requirement has been 168 hours for full-time courses of at least four years duration and 126 hours for three-year full-time courses. The corresponding figures for part-time courses are 168 hours for courses of over six years and 126 hours for courses of six years and under. This means that students in the longer courses will take four subjects and those in the shorter courses will take three.

The General Studies programme at Wollongong University College consists of fourteen-week subjects, each of which in turn consists of fourteen lectures and seven tutorials.

The programme is designed to cover various aspects of the modern world, its thought and artistic expression.

Where a subject is offered in two parts, Part II will allow students who have shown interest and ability in Part I to pursue the subject further and at greater depth in the second session.

The subjects offered in 1973 are:

First Session:
English Language and Literature
Aspects of Modern Psychology, Part I
Contemporary History, Part I
Architecture, Part I
Population Studies
A History of Modern Art, Part I

Second Session:
Introduction to English Linguistics
Aspects of Modern Psychology, Part II
Contemporary History, Part II
Architecture, Part II
A History of Modern Art, Part II
Aspects of Industrial Society
Developments in Present Day Music.
Advanced Elective for Honours Students: Asia in the Twentieth Century (28 weeks).

FIRST SESSION

English Language and Literature
This subject consists of an introduction to the English Language and a discussion of some significant prose writings by twentieth century authors.

TEXTBOOKS
Camus, A. The Outsider. Penguin.
Snow, C. P. The Two Cultures: and a Second Look. C.U.P.

*Except those for the Bachelor of Arts Degree.
Aspects of Modern Psychology

This subject introduces students to psychology through some of its major areas. The course aims not only to impart information about these areas of modern psychology but also to be sufficiently stimulating as to encourage further study.

Part I

1. Individual Differences
The nature of psychological measurement, the structure of intelligence, heredity and environment.

2. Motivation and Emotion
The concepts of drive, motivation and activation. Environmental influences, conflict and frustration. Cross cultural comparisons and laboratory studies.

TEXTBOOK

REFERENCE BOOKS

Contemporary History

This course seeks to develop an awareness of the contemporary world through the study of some important issues. Contemporary history takes problems that are actual in the world today and examines them from the time they first take recognisable shape. The focus will be on events since 1945, but the roots of the problems will often necessitate a backward look to earlier periods.

Part I: The first part of the course will lay the necessary foundation (especially for students who have not seriously studied the subject before) and will then begin the study of certain issues like the changing face of Communism, Superpowers, the Cold War, and World Co-operation.

TEXTBOOKS

REFERENCE BOOKS
A comprehensive list of reference books dealing with particular topics in Parts I and II will be provided at the beginning of the course.
DESCRIPTION OF SUBJECTS

Architecture
The course is offered in two closely related parts, the second designed for those students who have developed an understanding of and interest in the ideas presented in the first session.

Part I: The aim is to demonstrate how modern architecture is a mirror of our times, just as the architecture of an earlier age reflected that particular age. The main focus will be on 'the walls around us' now, though this will necessarily include reference to styles of other periods.

TEXTBOOKS

REFERENCE BOOKS
Cichy, B. Architecture of the Ancient Civilization in Colour. Thames & Hudson.

Population Studies
This subject is intended to present a world picture of population on a regional basis, with emphasis on spatial differences of selected characteristics of population. It examines population growth and patterns of density; the age and sex composition; cultural and economic determinants of population numbers and distribution; socio-economic evolution of mankind and urbanization; the balance of people and resources; the future pattern of population.

TEXTBOOK
Zelinsky, W. A Prologue to Population Geography. Prentice-Hall.

REFERENCE BOOKS
Wilson, A. Population Geography. N.A.P.

A History of Modern Art
The course will be offered in two parts, the first providing the background to an understanding of more traditional as well as more recent art, the second looking at art in Australia.

Part I
RECOMMENDED READING
Bazin, G. A Concise History of Art, Part II. Thames & Hudson.
Lucie-Smith, E. Art Movements Since 1945. Thames & Hudson.

SECOND SESSION

An Introduction to English Linguistics
The subject will introduce students to the main approaches of linguistics as applied to a study of English. Students intending to enrol in this subject are advised that it assumes a basic understanding of the language as given in the first session subject English Language and Literature.
DESCRIPTION OF SUBJECTS

TEXTBOOKS

REFERENCE BOOKS
A reference list of books and articles will be provided at the beginning of the course.

Aspects of Modern Psychology

*Part II*

3. Learning

4. Perception
Sensory processes and the psychophysical methods. Phenomena of perception, e.g. constancy, illusions, after-effects. Environmental influences, e.g. space perception. Social influences. Sensory perceptual deprivation.

TEXTBOOKS AND REFERENCE BOOKS
As for *Aspects of Modern Psychology, Part I*.

Contemporary History

*Part II*: The second part of the course will further explore such questions as the growth of nationalism in Africa and Asia; the Middle East; Latin America; democracy in theory and practice; race relations; twentieth century revolutions and guerrilla warfare.

TEXTBOOKS
As for *Contemporary History, Part I*, plus:
Barraclough, G. *An Introduction to Contemporary History*. Penguin.

Architecture

*Part II*: Man and Architecture. Building on the first session course, this will pursue more closely the concept of architectural expression, considering how this has reflected and can be expected to reflect man’s outlook in the future. The hypothesis would thus contemplate the structure of man’s future environment while remaining aware of previous cycles in the history of civilization.

TEXTBOOKS
As for *Architecture, Part I*, plus:
Freeland, J. M. *Architecture in Australia*. Cheshire.

REFERENCE BOOKS
A list of reference material will be supplied at the beginning of Part II.

A History of Modern Art

*Part II*: This part of the course goes on to deal with the development of art in Australia, with special attention to certain major artists and movements.

RECOMMENDED READING
As for *History of Modern Art, Part I*, but additional references to Australian Art will be given during the course.
Aspects of Industrial Society

A one-session subject which considers some of the social and economic aspects of industrial society. Topics to be discussed include the impact of industrial society on the individual, its effects on the quality of life, the complexity of social and economic institutions and organisations, automation and changing industrial technology, the problems of poverty in an affluent society and the causes and consequences of rapid social change.

There will be 1½ hours per week made up of lectures and seminars: a 1½ hour examination paper will be held at the end of the session.

A detailed reading list for each topic and assignment will be handed out at the first lecture.

TEXTBOOKS
Ben, J. Harmony and Conflict in Modern Society. McGraw-Hill.

Developments in Present Day Music

The subject will seek to give an understanding and appreciation of twentieth century music by means of discussion and illustration. The main points to be dealt with are: recent developments in music; changing elements in music’s vocabulary; the development of jazz; electronic music; the music of Asia and its influence on modern European music; and the making of music in Australia at the present time.

RECOMMENDED READING

Asia in the Twentieth Century (Advanced Elective for Honours Students)

The subject, which runs for 28 weeks (42 hours) is a survey of the main problems in Asian history today commencing with a brief survey of Asia at the beginning of the 20th century, the decline of the old imperialism after 1918, and the rise of Japan.

The course of World War II in the Pacific and its consequences are evaluated; economic, political, and social and foreign policy problems since 1945 are considered in relation to Japan, China, India, Pakistan and the nations of S.E. Asia. Particular reference is made to the new nationalism and its inter-action with communism, democracy and authoritarianism. The wars in Indo China and Korea are examined in the light of new theories of warfare.

Finally, Australia as an extension of Asia will be discussed.

TEXTBOOKS
Crozier, B. Southeast Asia in Turmoil. Penguin.
Wallbank, T. W. A Short History of India and Pakistan. Mentor.
DESCRIPTION OF SUBJECTS

GEOGRAPHY

The Department of Geography offers subjects in Geography I and II Pass, and Geography II Honours, and Geography IIIA, IIIB, IIC and IIIID Pass, and Geography IIIA and IIIB Honours and IV Honours in the BA degree course, and also Geography I and II in the BSc degree course.

All subjects for Geography I and II are compulsory. They comprise physical and human geography, in Geography I, and urban location and structure, quantitative methods, biogeography and regional geography, in Geography II. Geography II Honours consists of the Geography II Pass course plus additional and more advanced work in each subject, and one extra lecture/seminar per week.

In Geography III there are four subjects from which students choose two. In principle, students take the subjects that interest them most, and provision is also made for all four subjects to be studied. Thus the following combinations are offered at pass level:

Geography IIIA (soil studies and geomorphology)
Geography IIIB (agricultural geography and geography of transport systems)
Geography IIC (agricultural geography and geomorphology)
Geography IID (soil studies and geography of transport systems).

Geography IIIA and IIIB are for those students who wish to take all four subjects and Geography IIC and IID are for those who wish to combine a particular subject in economic geography, with one in physical geography. There will be at least two separate days' field tutorials in Geography I and field schools of up to four days in Geography II and up to five days in Geography III; additional field tutorials in Geography II and III may be arranged as required.

Not all lectures will be offered at both day and evening times. Also, the Head of the Department reserves the right to place a limit on the numbers of students in Geography I and II and in the subjects in Geography III, and to advise students on the subjects best suited to their qualifications and purposes. As many of the courses described in the following pages will be given as can be with the staff available. In all subjects students will be required to hand in written assignments and sit for examinations during or at the end of each session. Between 20 and 30 per cent of the final marks in each of the three years will be allocated to formal essays and written practical work. However, credit cannot be obtained for any subject or part, independently of the whole year's work.

GEOGRAPHY I

First session

Physical Geography

An introductory study of the main physical and biogeographical areas of geography in relation to process and interdependencies, and in consideration of the variation in the main spatial patterns at global and Australian scale.

TEXTBOOKS


It is also necessary that students purchase one of these atlases:

REFERENCE BOOKS
Miller, A. Meteorology. Merrill, Columbus, 1971.

GEOGRAPHY I

Second session

Human Geography
The way in which people perceive and organise space differs in different places because of peculiar or unique factors, but there are general principles of human spatial behaviour which create regularities of organisation and structure. This introductory subject in human geography focuses on the relationships between spatial structure and process in order to emphasize patterns in space—industrial and urban patterns, population distribution patterns, transport network patterns, agricultural patterns and so on.

Laboratory sessions will introduce the student to techniques of analysis and the representation and interpretation of data.

TEXTBOOKS

REFERENCE BOOKS
DESCRIPTION OF SUBJECTS


GEOGRAPHY II

First session

Urban Location and Structure

Urban centres vary from vast, sprawling agglomerations to compact, orderly country towns. This subject attempts to introduce the student to the hypotheses, theories and techniques of urban analysis which shed light on the organisation, structure and function of urban centres. There are four major discussion areas in the subject—intra-urban spatial structure, urban mobility, people in the urban system and systems of cities.

TEXTBOOKS

REFERENCE BOOKS
DESCRIPTION OF SUBJECTS


Quantitative Methodology

This subject attempts to introduce the student to some of the basic quantitative techniques which appear in the contemporary literature of locational analysis. Individual measures, techniques, etc. are oriented to particular examples drawn from current theory and/or practice. Emphasis is on the practical application of the techniques and/or on providing an adequate understanding of the techniques as they are employed in contemporary literature.

REFERENCE BOOKS


GEOGRAPHY II

Second session

Biogeography

This subject adopts the ecological approach to the study of vegetation communities and considers the inter-relationship between climate, soil, vegetation and fauna. Systematic studies are made of plant requirements and processes in plant growth, and of the role of energy flow and biogeochemical cycling in the functioning of ecosystems; case studies are chosen from Australia and elsewhere, of vegetation communities in relation to climate, landforms and soil. The foregoing principles are further applied to studies of conservation, and of trace element contamination in the soil/plant system.

TEXTBOOKS


REFERENCE BOOKS

Regional Geography
This subject considers the regional concept and method in geography, and will deal with characteristics and attributes of regions, regional construction, economic regions, and detailed treatment of some specific regions of South-east Asia and South Asia.

TEXTBOOKS

REFERENCE BOOKS

GEOGRAPHY II HONOURS
First session
Urban Location and Structure
This subject consists of *Urban Location and Structure* as prescribed for the pass course plus additional and more advanced work.

TEXTBOOKS AND REFERENCE BOOKS
As for the pass course in *Urban Location and Structure.*
Quantitative Methods
This subject consists of Quantitative Methods as prescribed for the pass course plus additional and more advanced work.

REFERENCE BOOKS
As for the pass course in Quantitative Methods.

GEOGRAPHY II HONOURS

Second session

Biogeography
This subject consists of Biogeography as prescribed for the pass course plus additional and more advanced work.

TEXTBOOKS AND REFERENCE BOOKS
As for the pass course in Biogeography.

Regional Geography
This subject consists of Regional Geography as prescribed for the pass course plus additional and more advanced work.

TEXTBOOKS AND REFERENCE BOOKS
As for the pass course in Regional Geography.

For all Geography II Honours subjects the extra reading depends mainly on published papers.

GEOGRAPHY IIIA PASS

First session

Soil Studies
This subject consists of three parts:
1. Scientific background to soil studies to provide an introduction to (2) and (3) below.
2. Pedological studies with special reference to Australian great soil groups.
3. Applied studies in soil conservation, productivity, and land capability.

Practical work will be an integral part of this subject. It comprises a series of laboratory experiments in (1) above, and field tutorials and soil cartography in (2) and (3).

TEXTBOOK

REFERENCE BOOKS
DESCRIPTION OF SUBJECTS


GEOGRAPHY IIIA PASS

Second session

Geomorphology

This subject consists of: processes in the evolution of hillslopes, stream channels and valley forms, shorelines, and arid features; lithological, structural and temporal controls in landscape development; application of these principles to morphogenetic landscape studies with special reference to Australian examples.

TEXTBOOKS


REFERENCE BOOKS


Agricultural Geography
This subject deals with origin, dispersals, and basis of agriculture; models of location of agricultural activity; agricultural structure and typology; measurements of various agricultural attributes (intensity, productivity, concentration and diversification); sampling and representative farms in agricultural geography; regional comparisons in farm structure; studies in agricultural change; agriculture in selected countries; and diffusion of innovation in agriculture.

TEXTBOOKS
Dunn, E. S. Location of Agricultural Production. Florida U.P., 1967.

REFERENCE BOOKS

GEOGRAPHY IIIB PASS
Second session

Geography of Transport Systems
This subject considers the significance of transport systems in structuring spatial patterns. Discussion will be focused on a number of aspects including some of the following:
(i) Distance, movement and location theory.
(ii) Network location, structure and measurement; terminal location morphology.
(iii) Rating, spatial patterns and intermodal competition.
(iv) Movement, gravity and interaction models.
(v) Intra-urban transport, traffic and land use.
(vi) Transport and economic development.
DESCRIPTION OF SUBJECTS

TEXTBOOKS

REFERENCE BOOKS

GEOGRAPHY IIIA HONOURS

First session

Soil Studies
This subject consists of Soil Studies as prescribed for the pass course plus additional and more advanced work in pedological and applied studies.

TEXTBOOKS
As for the pass course in Soil Studies plus:

REFERENCE BOOKS
As for the pass course in Soil Studies.
Additional reading for honours will depend mainly on published papers.
DESCRIPTION OF SUBJECTS

GEOMORPHOLOGY

This subject consists of Geomorphology as prescribed for the pass course plus additional and more advanced work in classical and contemporary geomorphic research.

TEXTBOOKS
As for the pass course in Geomorphology plus:

REFERENCE BOOKS
As for the pass course in Geomorphology.
Additional reading for honours will depend mainly on published papers.

Agricultural Geography

This subject consists of Agricultural Geography as prescribed for the pass course plus additional and more advanced work on current trends in agricultural geography.

TEXTBOOKS
As for the pass course in Agricultural Geography plus:

REFERENCE BOOKS
As for the pass course in Agricultural Geography.
Additional reading for honours will depend mainly on published papers.

Geography of Transport Systems

This subject consists of Geography of Transport Systems as prescribed for the pass course plus additional and more advanced work in urban transport and traffic, and in marine transport and port systems.

TEXTBOOKS
As for the pass course in Geography of Transport Systems plus:

REFERENCE BOOKS
As for the pass course in Geography of Transport Systems.
Additional reading for honours will depend mainly on published papers.
DESCRIPTION OF SUBJECTS

GEOGRAPHY IV HONOURS

*Double session subject*

It is proposed that Geography IV Honours shall consist of three major parts: the thesis, a general course for all students, and a special area course. Geography IV Honours will include an average of two lecture periods a week. Special seminars and field study will be arranged as required.

1. The thesis topic and title must be approved by the Head of the Department, and the length of the thesis shall not exceed 20,000 words.

2. A general course for all Honours IV students consisting of:
   (i) methods and sources in research,
   (ii) geographical thought and its development.

**REFERENCE BOOKS**

The reading for this course will largely involve published papers, but basic texts will be:

- Woolridge, S. W. & East, G. *Spirit and Purpose of Geography*. 1951.

3. Each student takes a course in the wider field within which his thesis topic is selected. A course will consist of one or more of the following topics (in a special case, a course may be given in another area, subject to facilities and staff being available).

**Physical Geography**

Principles and methods of soil survey; use of air photos in the prediction of soil type and soil properties; problems of soil definition and classification; developments in experimental pedology with reference to specific soil types and/or process; practical application of a system or systems of land capability classification (this would normally involve the consideration of a small, diverse area); influence of climate and soil on plant growth; nutrient cycles; a geographical approach to the study of landforms, which is concerned primarily with the meaning of distribution of phenomena; historical analysis in landform studies, relationships between timeless and timebound concepts; systems theory in geomorphology; empiric and rational methods of investigation, particular reference will be given to papers by Mackin; concepts of indeterminancy.

**Economic Geography**

Choice of farming systems and decision making models; spatial measurements in agricultural productivity; spatial equilibrium models; regional programming of agriculture; agricultural marketing systems; patterns of technological change in agriculture; intra-urban transport; intra-urban residential mobility; land value and residential locations; intra-urban retail and commercial structure; port morphology (in particular the application of factor analytic and/or Markov chain models to the structure of ports); port capacity (queuing models and the definition of optimal port capacities, simulation models); port hinterland systems.

**REFERENCES**

References are almost exclusively from journals and similar publications.
GEOLOGY

UNIT A. Introductory Geology, Crystallography, Mineralogy, Petrology.
First session subject (3 hrs. lectures and 3 hrs. practical per week).

Geology as a science, geological time, the earth in space, shape of the earth, astrogeology, Earthquakes and earth structure, orogenesis and epeirogenesis, and volcanoes. The geological cycle.

Crystallography: Crystal symmetry, crystal forms, crystal systems, stereographic projection, twinning.

Mineralogy: Occurrence, form and physical properties of minerals. Mineral classification of silicates. Descriptive mineralogy of the rock-forming minerals (essentially the silicates).

Economic Geology: Descriptive mineralogy of minerals of economic importance. Occurrence of ore deposits, coal and petroleum geology.

Petrology: Field occurrence, lithological characters, classification and structural relationships of igneous, sedimentary and metamorphic rocks.

Practical Work: Study of crystal models in clinographic and stereographic projection. Identification and description of common minerals and rocks in hand-specimen. At least one field tutorial.

UNIT B. Physical Geology, Palaeontology and Stratigraphy.
Second session subject (3 hrs. lectures and 3 hrs. practical per week).


Stratigraphy and Palaeontology: Basic principles of stratigraphy. Introductory palaeontology, especially the morphology of the main invertebrate animal and plant phyla. The geological history of the Australian continent and more specifically that of the Sydney Basin and New South Wales.

Practical Work: Recognition and description of examples of important fossil groups and their use in stratigraphy. Interpretation and preparation of geological maps and cross-sections. Map reading and the use of simple geological instruments. At least one field tutorial.

TEXTBOOKS
For Unit A and Unit B.

or

Wollongong Sheet Geological Map. 1:250,000. Mines Dept., N.S.W.

REFERENCE BOOKS
DESCRIPTION OF SUBJECTS

Mason, B. & Berry, L. G. *Elements of Mineralogy. Freeman, 1968.

or


* The purchase of these books is suggested for students who intend to proceed to later units in Geology.

Geology IIW

UNIT A. Crystallography, Crystal Chemistry and Mineralogy.
First session subject (2 hrs. lectures and 4 hrs. practical per week).


Practical: A laboratory study of the optical properties of minerals using the petrological microscope.


Economic Minerals: The application of the principles of crystal chemistry to the following mineral classes: native elements, sulphides, oxides, halides, carbonates, sulphates and phosphates.

Practical: A study of economic minerals in hand-specimen.

Silicate Minerals: The application of the principles of crystal chemistry to, and a study of, the physical and chemical properties of the silicate minerals.

Practical: A study of silicates in hand-specimen and thin-section.

TEXTBOOKS


REFERENCE BOOKS


UNIT B. Petrology.

Second session subject (2 hrs. lectures and 4 hrs. practical per week).


Practical: Study of rocks in hand-specimen and thin-section.

TEXTBOOK

REFERENCE BOOKS
Second session subject (1 hr. lectures, 1½ hrs. practical per week and up to a total of 10 days of field work).

Course Description: Introductory lecture and practical course-work. Field mapping tutorial, held during a vacation. Students will map in detail the geology of a selected area. Map compilation and progress reports on each day’s work with final interpretation of results in the laboratory tutorials after completion of the field tutorial.

REFERENCE BOOKS

Geology IIIW
It should be noted that all units may not be offered in any one year. A list of units on offer can be obtained from the Head of the Department.

UNIT A. Crystallography, Mineralogy, Igneous and Metamorphic Petrology.
First session subject (2 hrs. lectures and 4 hrs. practical per week).

Optical Crystallography: Oil immersion techniques and mineral determination by dispersion in refractive index liquids. The universal stage, feldspar determination, location of vibration axes, optic axes and 2V measurement, determination of extinction angles.

X-ray Mineralogy: Theory and practice of X-ray instrument techniques, powder photographs, cell dimensions.


Practical: Determination of unknown mineral grains by immersion techniques. Exercises involving use of the universal stage. Determination of crystal class and cell dimensions from powder photographs. The study of igneous and metamorphic rocks and rock suites in hand-specimen and thin-section.

TEXTBOOKS
DESCRIPTION OF SUBJECTS

REFERENCE BOOKS

UNIT B. Geophysics and Statistical Methods in Geology.
First session subject (4 hrs. lectures and 2 hrs. tutorials or practical per week).

Geophysics: Geodesy — study of the shape of the earth, and its gravitational field. Seismology — study of natural (and artificial) earthquake phenomena, and their relation to the structure of the earth and its properties. The earth's near-atmosphere. Geomagnetism and palaeomagnetism. The earth's magnetic field, its characteristics and variations; the history of this geomagnetic field, especially as recorded in rocks and similar material. Solar-planetary relationships. The sun, planets, moon, meteorites and their relationships. Geochronology — methods of radiometric dating and correlation. Geothermy — thermal properties of the earth, heat flow.

TEXTBOOKS
or


REFERENCE BOOKS


Practical: Preparation of simple computer programmes. Use of library programmes to solve geological problems.

TEXTBOOKS
or
REFERENCE BOOK

Second session subject (3 hrs. lectures and 3 hrs. practical per week).
Sedimentary Rocks: Further studies of sediments, classificatory schemes for sedimentary rocks and post-consolidation changes in sediments. Accessory minerals in sediments. The use of heavy minerals and other features in the study of provenance, including methods of separation of heavy minerals. Clays.
Practical: Study of sedimentary rocks in hand-specimen and thin-section. Heavy mineral and provenance studies.

TEXTBOOKS

Stratigraphy and Stratigraphic Palaeontology: Rock, time and time-rock unit concepts. Correlation methods and problems in the Pre-Cambrian and the Phanerozoic. A systematic treatment of the geological columns discussing the type successions together with other important overseas successions and those of representative Australian regions. The history of the Tasman, Caledonian and Alpine and other geosynclines.
Practical: Demonstrations of suites of rocks and fossils from important successions.

Vertebrate Palaeontology: The main features of the major groups in the evolution of the vertebrates.
Practical: Study of morphology of some important groups.

TEXTBOOKS

REFERENCE BOOKS

UNIT D. Structural Geology and Geotectonics, Economic Geology.
Second session subject (2 hrs. lectures and 4 hrs. practical per week).
Structural Geology and Geotectonics: Non-diastrophic and diastrophic deformation of rocks. Structures, internal and external, associated with igneous rocks. Introduction to structural analysis. Large-scale deformations such as alpine tectonics, and the structure and structural evolution of the European Alps and the Himalayas. Other examples of mountain-building, and geosynclines. Mid-oceanic ridges and associated features.
DESCRIPTION OF SUBJECTS

TEXTBOOKS

REFERENCE BOOKS

Economic Geology: Outline of the scope of economic geology and of the processes of concentration of economically important minerals. Introduction to some classifications of ore deposits. Description, with examples, of the major types of ore deposits — those contained in igneous rocks, those associated with igneous rocks. Sedimentary ore deposits. Effects of metamorphism in forming new ore deposits, and modifying existing ore deposits. Metallogenic analysis — the distribution of ores in space and time. Appraisal techniques. Australian ore deposits.

Practical: An introductory course in ore microscopy. The mineragraphy of some important Australian orebodies.

TEXTBOOKS

REFERENCE BOOKS

UNIT E. Crystallography, Mineralogy and Petrology and Geochemistry.
Second session subject (2 hrs. lectures and 4 hrs. practical per week).


Theoretical Petrology: The phase rule, systems of one, two and three components. Eutectics and solid solutions. Complex binary systems. Ternary systems. The application of work on synthetic systems to petrology using, for example, systems such as nepheline-kalsilite-silica, quartz-albite-orthoclase-anorthite-water, diopside-forsterite-silica. Experimental work on the melting of natural rocks. Experimental and theoretical petrology as applied to metamorphic rocks. The mineralogical phase rule. Direct determination of equilibrium curves, reactions of synthesis. Use of thermodynamic data. Experimental appraisal of critical metamorphic reactions, reactions in pelitic assemblages, reactions in siliceous dolomitic limestones, experimental data relating to magnesian schists.
DESCRIPTION OF SUBJECTS

Textures of rocks: Structures and textures. The sequence of crystallization in granites, the development of K-feldspar megacrysts and quartz-feldspar intergrowths. Exsolution textures. Textures of basic igneous rocks. Textures of metamorphic rocks.

Practical: Simple experiments using modern instruments especially in regard to silicate melts. Study of suites of rocks in hand-specimen and thin-section. Thin-section studies of rock textures.

Geochemistry: Elements of structural chemistry and some principles of thermodynamics. Structure of the atom, isotopes, radioactivity, ionic size, aggregates of ions, the crystalline state, imperfections in crystals, diffusion in crystals, order-disorder.


Practical: Calculation of problems in geochemistry.

TEXTBOOKS

or


or

REFERENCE BOOKS


UNIT F. Exploration Geophysics, Petroleum and Nuclear Fuels.

Second session subject (2 hrs. lectures and 4 hrs. tutorials and practicals per week).


Practical: Calculations of real and imaginary problems based on the theory and interpretation outlined in lectures for various techniques. Study of Australian case histories, in particular, will be made. Field work will be undertaken, depending on the availability of instrumentation.

TEXTBOOKS

or


REFERENCE BOOKS

**Petroleum and Nuclear Fuels:** Petroleum: History of the use of, and search for, petroleum. The distribution of petroleum in time and space. The generation, migration and accumulation of petroleum, including reservoir rock properties and trap characteristics. Methods of search for and exploitation of, including evaluation of, petroleum deposits. Gas, oil and petroleum solids. Australian occurrences will be described.

Nuclear Fuels: Description of the mineralogy and geology of important nuclear fuel deposits, and related mineral deposits. The methods of searching for such deposits.

Practical: Study of data on Australia petroleum deposits. Description of rotary drill cutting samples.

**TEXTBOOKS AND REFERENCE BOOKS**


(The reference book for Nuclear Fuels is yet to be selected.)

**UNIT G. Basin Analysis, Sedimentation and Oceanography.**
First session subject (2 hrs. lectures, 4 hrs. tutorials and practicals per week).


Practical: Examination of textures, fabrics and structures of sedimentary rocks in the laboratory. Demonstrations of specimens and maps from some basins covered in lectures. Field examination of sediments (recent and Permian) in the Illawarra District. Experiments with erosion, transport and deposition of sands by water.

**TEXTBOOKS**

**REFERENCE BOOKS**
UNIT H. Structural Geology, Geology of Coal.
First session subject (2 hrs. lectures and 4 hrs. practical per week).

Structural Geology: Structural analysis, and further study of folding, including superposed folding. Geometrical, kinematic and dynamic analysis of folded rocks. Stress and strain and its analysis, including determination of the strain ellipsoid. Cleavage and fracture, joint and fault development.


TEXTBOOKS AND REFERENCE BOOKS
In addition to those noted for Structural Geology in Unit D of Geology IIIW:


Practical: Examination of macerals in transmitted and reflected light. Use of immersion to adjust contrast, maceral analyses in reflected light. Measurement of reflectance and of refractive indices using polished sections.

TEXTBOOK

REFERENCE BOOKS
DESCRIPTION OF SUBJECTS

Geomorphology: The study of landforms and some other aspects of geomorphology.

Practical: Study of different landforms in stereoscopic pairs of photographs.

REFERENCE BOOKS

GEOLOGY IV HONOURS

Double session subject

The formal parts of the proposed course will consist of a section on the history of geological thought together with at least two specialist sections chosen from the fields of mineral paragenesis, rock magnetism, biostratigraphy, mathematical geology, coal and petroleum geology. The other parts of the course will be field and laboratory projects, seminars and study of selected references.

TEXTBOOKS
The Head of the Department should be consulted. However, readings in "History of Geological Thought" will be selected from the following:
HISTORY

History I

Double session subject

A major purpose of this subject is to confront students with various approaches to the study of History. The programme for 1973 is as follows:

(a) SESSION I: The chief events in French history from the age of Louis XIV to 1940 with emphasis on the growth of the state; the relationship of state and society; and with particular reference to science, enlightenment and revolution in French history.

REFERENCE BOOKS


(b) SESSION 2: English social history 1750-1940. Emphasis is placed upon economic development, class relationships, education, religion, Victorian respectability and the problem of the poor.

Credit for completion of the first session will be given only after successful completion of the second session.

REFERENCE BOOKS


DESCRIPTION OF SUBJECTS


History II

Double session subject

Russia and the West: History II will be offered in 1973 provided staff and facilities are available. The programme for the two sessions is as follows:

(a) Kievan Russia to the reign of Nicholas I. Selected topics on the history of Russian government, society, economics, culture and thought are studied in relation to Western influence.

(b) The reign of Alexander II to the present. The emphasis remains as in session I.

REFERENCE BOOKS


History IIIA

Students may take and count towards their degree History IIIA and IIIB.

Double session subject

Australian Social History: The History IIIA programme for the two sessions is as follows (this subject, however, is not likely to be offered in 1973):

(a) Australian social history from 1800 to 1890. The principal themes for study are the relations between social classes, demographic change, and social welfare. Study will be based chiefly on the examination of primary records.

(b) Australian social history from 1890 to 1950. The emphasis remains as in session I.

Credit for completion of the first session will be given only after successful completion of the second session.
REFERENCE BOOKS

History IIIB

*Double session subject*

*Southeast Asian History*: The History IIIB programme for the two sessions is as follows:

(a) This course will deal briefly with the history of the region in the pre-European period. Throughout, chronology will be secondary, and the basic approach will be sociological: the aim will be an understanding of the ecological, social, religious and other factors underlying Southeast Asian polities to about 1800.

(b) This course will study three Southeast Asian territories—Indonesia, Malaya and Vietnam—since about 1800. Attention will be concentrated on reactions between the ideas and methods of the colonial powers and indigenous concepts and systems. This will lead on to discussions of the emergence and nature of nationalism in the region, and the attendant internal and international problems. German, British and Australian administration in Papua-New Guinea will be similarly considered. The growth of Australian attitudes towards Southeast Asia will also be briefly analysed.

REFERENCE BOOKS
HISTORY AND PHILOSOPHY OF SCIENCE

History and Philosophy of Science I

*Double session subject*

An account of the development of theories of the universe, and especially of planetary theories, from the time of Babylon and Ancient Greece to the beginning of the early nineteenth century. Special emphasis will be placed on the work of Aristotle, Ptolemy, Copernicus, Kepler, Galileo and Newton.

The various theories are considered, not in isolation, but in the context of the philosophical, religious and social background, which not only affected, but was affected by scientific developments.

In the course of the historical analysis, various issues in the philosophy of science are discovered; the methods and goals of science, the nature of scientific theories and explanations, and the dynamics of scientific change.

No previous knowledge of science or mathematics is required for an understanding of the course.

**TEXTBOOKS**

Galilei, G. *Dialogue Concerning the Two Chief World Systems*. California U.P.


Rosen, E. *Three Copernican Treatises*. Dover.


History and Philosophy of Science II

*Double session subject*

An account of the historical and philosophical development of the idea of biological evolution. The course traces the origins of the idea and follows it through to Darwin and Wallace. Attention will be paid to the geological contribution made; particularly of the fossil record. Some aspects of post Darwinian thought will be analysed. These mainly take the form of the general impact of Darwin's theory on late 19th and early 20th century social and intellectual history; in particular the impact in politics, economics and psychology.

The first session will cover the development of the Darwinian Revolution up to the formulation of the theory by Darwin: during the second session there will be a more detailed examination of his works, together with an account of their reception and implications.

**TEXTBOOKS**


MATHEMATICS

Mathematics I
Double session subject (6 hrs. per week).
Session 1: Calculus, introduction to abstract algebra, introduction to computing.
Session 2: Calculus, abstract algebra, linear algebra.

TEXTBOOKS

Statistics
First session subject (4 hrs. per week).
Session 1: Introduction to statistics, FORTRAN programming.

TEXTBOOKS

REFERENCE BOOKS

Analysis I
Double session subject (2 hrs. per week)
Session 1: Partial differentiation, multiple integrals, differential equations of the first order and second order with constant coefficients.
Session 2: Fourier series, second order differential equations.

TEXTBOOKS

REFERENCE BOOKS
Marder, L. *Calculus of Several Variables*. Allen & Unwin.
Algebra I
Double session subject (2 hrs. per week)
Session 1: Vector algebra, vector calculus, general integral theorems, matrix algebra, eigen-values and eigen-vectors.

REFERENCE BOOKS
Ayres, F. Matrices. Schaum.
Lipschutz, S. Linear Algebra. Schaum.

Theory of Functions I
Double session subject (2 hrs. per week).
Session 1: Fundamental point-set topology and set theory, uniform convergence.
Session 2: Differentiable functions. Riemann integration, Euclidian vector spaces.

TEXTBOOK
Youse, B. K. Introduction to Real Analysis. Allyn & Bacon.

REFERENCE BOOKS

Dynamics
Double session subject (2 hrs. per week).
Session 1: Elementary dynamics of a particle and a rigid body.
Session 2: Vibrations of particles, normal modes, vibrations of continuous systems.

TEXTBOOK

Probability
Double session subject (2 hrs. per week).
Session 1: Probability, discrete and continuous distributions, expectations.
Session 2: Sampling distributions, estimation, tests of hypotheses.

TEXTBOOK

REFERENCE BOOKS
NUMERICAL ANALYSIS I
Double session subject (2 hrs. per week).
Session 1: Numerical processes applied to functions, equations, differential equations, integration, matrices.
Session 2: Further numerical work on integration matrices; direct methods and least squares.

TEXTBOOK

REFERENCE BOOKS
Froberg, C. E. Introduction to Numerical Analysis. Addison-Wesley.

GEOMETRY I
Double session subject (2 hrs. per week).
Session 1: Elementary algebraic projective geometry.
Session 2: Elementary differential geometry of curves and surfaces.

TEXTBOOKS

COMPLEX VARIABLE
Double session subject (2 hrs. per week).
Session 1: Complex functions, analytic functions, Laurent series.
Session 2: Singularities, residues, contour integrals, conformal mapping.

TEXTBOOK

REFERENCE BOOK

ANALYSIS II
Double session subject (2 hrs. per week).
Session 1: Laplace and Fourier Transforms, Error, Gamma, Zero and Hypergeometric functions.
Session 2: Two-sided Laplace, Mellin and Hankel transforms, Bessel and Legendre functions. Orthogonal polynomials.

TEXTBOOKS

REFERENCE BOOKS
Rainville, E. D. Special Functions. Macmillan.
**General Topology**

*Double session subject (2 hrs. per week).*

*Session 1:* Topological spaces, separation axioms, filters, compactness, local compactness and connectedness, continuous functions.

*Session 2:* Metric spaces and function spaces.

**TEXTBOOK**


**REFERENCE BOOKS**

Bourbaki, N. *Topologie Generale.*


Kasriel, R. H. *Undergraduate Topology.*

Kelley, J. L. *General Topology.*

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**Algebra II**

*Double session subject (2 hrs. per week).*

*Session 1:* Groups, rings and ideals.

*Session 2:* Fields, algebraic numbers and Galois theory.

**TEXTBOOK**

Herstein, I. N. *Topics in Algebra.* Ginn Blaisdell.

**REFERENCE BOOKS**


Herstein, I. N. *Topics in Algebra.* Ginn Blaisdell.

Lang, S. *Algebra.* Addison-Wesley.

Van der Waerden, B. L. *Modern Algebra I.* Ungar Publishing Co.

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**Theory of Functions II**

*Double session subject (2 hrs. per week).*

*Session 1:* Metric spaces, function spaces, analytic functions and continuation, multiple valued functions.

*Session 2:* Lebesgue Integration.

**TEXTBOOKS**

Epstein, B. *Linear Functional Analysis.* Saunders.

Levinson, N. & Redheffer, R. *Complex Variables.* Holden-Day.

**REFERENCE BOOKS**

Ahlors, L. *Complex Analysis.* McGraw-Hill.

Burkhill, J. C. *The Lebesgue Integral.* C.U.P.

Cupson, E. T. *Metric Spaces.* C.U.P.


Hobpon, E. V. *The Theory of Functions of a Real Variable.* Dover.

Nevawlinna, R. & Paatero, V. *Introduction to Complex Variable.* Addison-Wesley.

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**Dynamics of Continuous Media**

*Double session subject (2 hrs. per week).*

*Session 1:* Introduction to non-viscous fluid flow in two and three dimensions, compressible flow, water waves including surface and long waves.

*Session 2:* Capillary and finite amplitude waves, dispersion, perturbation theory, interaction of waves, spectral analysis, infinitesimal stress and strain theory.
TEXTBOOK

REFERENCE BOOKS
Bullen, K. E. *Introduction to Seismology*. C.U.P.

**Stochastic Processes**
*Second session subject (4 hrs. per week).*

*Session 2:* Probability measures, random variables, branching processes, renewal processes, Markov chains, test of significance, sequential analysis.

TEXTBOOK

**Mathematical Methods**
*Double session subject (2 hrs. per week).*

*Session 1:* Cartesian tensors, calculus of variations.

*Session 2:* Laplace’s and Poisson’s equation, optimisation of numerical process in solving differential equations, harmonic and data analysis.

TEXTBOOK

REFERENCE BOOKS
Hildebrand, F. B. *Methods of Applied Mathematics*. Prentice-Hall.
Jeffreys, H. & Jeffreys, B. *Methods of Mathematical Physics*. C.U.P.

**Operations Research**
*First session subject (4 hrs. per week).*

*Session 1:* Linear, non-linear and dynamic programming, queueing theory, theory of games. Simulation.

REFERENCE BOOK

**Ocean Dynamics**
*Double session subject (4 hrs. per week).*

*Session 1:* Edge Waves.

*Session 2:* Tidal dynamics, estuary and coastline dynamics, introduction to ocean currents.

REFERENCE BOOKS
Ippen, A. T. *Estuary and coastline hydrodynamics*.
Neumann, G. *Ocean Currents*. 
DESCRIPTION OF SUBJECTS

**Numerical Analysis II**

*Double session subject (2 hrs. per week).*

*Session 1:* Advanced work on function evaluation, solution of algebraic equations, solution of differential equations, and integration. Linear algebra: solutions of equations, calculations of eigen-values and eigen-vectors.


**TEXTBOOK**
Froberg, C. *Introduction to Numerical Analysis.* Addison-Wesley.

**REFERENCE BOOKS**
Varga, R. S. *Matrix Iterative Analysis.* Prentice-Hall.

**Partial Differential Equations**

*Double session subject (2 hrs. per week).*

*Session 1:* Cauchy-Kowaleski theorem, first order equations, linear second order equations.

*Session 2:* Elliptic, parabolic and hyperbolic equations.

**TEXTBOOK**

**REFERENCE BOOKS**

**Logic and Number Theory**

*Double session subject (2 hrs. per week).*

*Session 1:* Nonaxiomatic and axiomatic treatments of positional and predicate calculus, formal number theory based on logic.

*Session 2:* Primality, linear and quadratic, residue theory.

**TEXTBOOKS**
Mendelson, E. *Introduction to Mathematical Logic.*

**REFERENCE BOOKS**
Dickson, L. E. *Introduction to the Theory of Numbers.* Dover.
Niven, I. & Zuckerman, S. *An Introduction to Number Theory.*
Shoenfield, J. R. *Mathematical Logic.* Addison-Wesley.
Usbensky, J. V. & Heaslet, M. A. *Elementary Number Theory.*
Vinogradov, I. M. *Elements of Number Theory.* Dover.
Ordinary Differential Equations

*Double session subject (2 hrs. per week).*

**Session 1:** Existence and uniqueness, solution in series, Storm-Liouville Theory, Green's functions.

**Session 2:** Non-linear equations, stability, Liapunov functions and methods.

**TEXTBOOK**


**REFERENCE BOOKS**


### METALLURGY

#### LEVEL 1 SUBJECTS

<table>
<thead>
<tr>
<th>Description</th>
<th>Hours per Week</th>
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<tbody>
<tr>
<td><strong>Session 1</strong></td>
<td><strong>Session 2</strong></td>
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<tr>
<td>Physical Properties of Crystals I and II</td>
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<tr>
<td>Phase Equilibria</td>
<td>1</td>
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<tr>
<td>Optical Metallography</td>
<td>1</td>
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<tr>
<td>Structure of Alloys I</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to Mechanical Metallurgy</td>
<td>1</td>
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<tr>
<td>Shaping Process and Testing</td>
<td>1</td>
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<tr>
<td>Fluid Flow I and II</td>
<td>1</td>
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<tr>
<td>Thermodynamics I</td>
<td>1</td>
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<tr>
<td>Extraction Processes I, II and III</td>
<td>2</td>
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<tr>
<td>Metallurgy Tutorial IV</td>
<td>1½</td>
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<td>Metallurgy Laboratory I</td>
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#### LEVEL 2A SUBJECTS

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<tbody>
<tr>
<td><strong>Session 1</strong></td>
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<tr>
<td>Physical Properties of Crystals III</td>
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<tr>
<td>Kinetics</td>
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<tr>
<td>Structure of Alloys II</td>
<td>1</td>
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<tr>
<td>Elasticity</td>
<td>1</td>
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<tr>
<td>Structure and Mechanical Properties I</td>
<td>1</td>
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<tr>
<td>Thermodynamics II and III</td>
<td>1</td>
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<tr>
<td>Mineral Dressing I and II</td>
<td>1</td>
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<tr>
<td>Refractories</td>
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<tr>
<td>Metallurgy Tutorial VA</td>
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<td>Metallurgy Laboratory IIA</td>
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#### LEVEL 2B SUBJECTS

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<tr>
<td><strong>Session 1</strong></td>
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<tr>
<td>Mechanisms of Phase Transformations</td>
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<tr>
<td>Structure of Alloys III</td>
<td>1</td>
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<tr>
<td>Structure and Mechanical Properties II</td>
<td>1</td>
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<tr>
<td>Metal Joining</td>
<td>1</td>
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<tr>
<td>Fracture</td>
<td>1</td>
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<tr>
<td>Heat Transfer I and II</td>
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<tr>
<td>Mass Transfer I and II</td>
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<tr>
<td>Extraction Processes IV</td>
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<td>Seminar</td>
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<td>Metallurgy Tutorial VB</td>
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<tr>
<td>Metallurgy Laboratory IIIB</td>
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#### LEVEL 2 SUBJECTS: Essentially Level 2A and level 2B Subjects combined but excluding Extraction Processes IV.

<table>
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<tr>
<td><strong>Session 1</strong></td>
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<tr>
<td>Interfaces</td>
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<tr>
<td>Structure of Alloys IV</td>
<td>1</td>
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<tr>
<td>Structure and Mechanical Properties III</td>
<td>1</td>
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<tr>
<td>Plasticity and Metal Shaping</td>
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<tr>
<td>Reaction Engineering</td>
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<tr>
<td>Refining</td>
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<tr>
<td>Extraction Process V and VI</td>
<td>2</td>
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<tr>
<td>Metallurgy Tutorial VI</td>
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<td>Metallurgy Laboratory III</td>
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#### LEVEL 3 CORE SUBJECTS

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<td>Plasticity and Metal Shaping</td>
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<td>Reaction Engineering</td>
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<tr>
<td>Refining</td>
<td>1</td>
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<tr>
<td>Extraction Process V and VI</td>
<td>2</td>
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<tr>
<td>Metallurgy Tutorial VI</td>
<td>2</td>
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<tr>
<td>Metallurgy Laboratory III</td>
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</tbody>
</table>
### Description of Subjects

#### LEVEL 3 OPTION UNITS (4 to be taken)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours per week</th>
<th>Session 1</th>
<th>Session 2</th>
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<tbody>
<tr>
<td>Non-Destructive Testing</td>
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<tr>
<td>Crystallography of Phase Transformations</td>
<td>-</td>
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<tr>
<td>Advanced Mechanical Metallurgy</td>
<td>1</td>
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<tr>
<td>Solidification</td>
<td>-</td>
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</table>

Note: further option units will be offered as facilities permit.

#### Metallurgy Level I

**TEXTBOOKS**


#### Metallurgy Level II

**TEXTBOOKS**

As for Level I, together with:

Hull, D. *Introduction to Dislocations*. Pergamon.
Tegart, W. J. McG. *Elements of Mechanical Metallurgy*. Macmillan.

#### Metallurgy Level III

**TEXTBOOKS**

As for Levels I and II, together with:

Levenspiel, O. *Chemical Reaction Engineering*. Wiley.
DESCRIPTION OF SUBJECTS

PHYSICS

FIRST LEVEL PHYSICS

Mechanics, Electricity and Magnetism

*Double session subject (84 hrs. lectures, 28 hrs. tutorials and 56 hrs. practical).*

*First session*

Kinematics and frames of reference; dynamics of a particle; vibrations; electrostatics; d.c. circuits.

*Second session*

Dynamics of a rigid body; waves, electromagnetism; a.c. circuits.

TEXTBOOKS


SECOND LEVEL PHYSICS

Electromagnetism and Optics

*Double session subject (42 hrs. lectures and 42 hrs. practical).*

*First session*

Electromagnetism

1. Vector analysis appropriate to the course.
2. Fundamentals of electromagnetism leading up to Maxwell’s Equations.
3. Wave equations.
4. Radiation from an oscillating dipole.

Optics

1. Propagation of light.
2. Coherence and interference.
3. Diffraction.
4. Thermal radiation and light.

TEXTBOOKS


Atomic Physics, Nuclear Physics and Wave Mechanics

*Double session subject (42 hrs. lectures and 42 hrs. practical).*

*First session*

Atomic Physics

Black body radiation; the photoelectric effect; the Compton effect; light quanta and interference phenomena; coherence; atomic spectroscopy; Stern—Gerlach experiment; X-ray and electron diffraction.

*Second session*

Wave Mechanics

Matter waves; Schrödinger wave equation; free particle; correspondence principle; square potentials.
DESCRIPTION OF SUBJECTS

Nuclear Physics
General Properties of the Nucleus: Quantum states, binding energy; stable and unstable nuclei; fission; size of nuclei coulomb barrier; angular momentum, spin, electric and magnetic moments; statistics of nuclear constituents; nuclear stability and saturation of nuclear forces.

TEXTBOOK

Mechanics, Thermodynamics and Statistical Physics
*Double session subject (42 hrs. lectures and 42 hrs. practical).*

*First session*
Mechanics
Introductory topics: coordinate transformations, properties of rotation matrices, transformation matrices.


Oscillatory motion: The simple harmonic oscillator, damped harmonic motion, forced oscillations, the Laplace Transform Method, oscillations in a potential well.

Thermodynamics and Statistical Physics
Characteristic features of microscopic systems: irreversibility and the approach of equilibrium; heat and temperature.

Basic probability concepts; statistical ensembles, mean values for a spin system, distribution of molecules in an ideal gas.

Statistical description of systems of particles; statistical ensembles and postulates, equilibrium and reversibility, interactions between systems—thermal and adiabatic, general interactions—first law of thermodynamics.

Thermal interactions: distribution of energy between macroscopic systems, entropy as a measure of accessible states, contact with heat reservoir—Boltzmann factor, canonical distribution applied to paramagnetism.

*Second session*
Mechanics
The special theory of relativity: Galilean invariance, the Lorentz transformation, momentum and energy in relativity.

Calculus of variations: Euler's equations, functions with several dependent variables, Euler equations with auxiliary conditions.

Hamilton's principle—Lagrangian and Hamiltonian dynamics: Hamilton's principle, Lagrange's Equations of Motion, Euler's Theorem applied to kinetic energy, conservation theorems, canonical equations of motion—Hamiltonian dynamics, the Virial Theorem. The Lagrangian Function in special relativity.

Thermodynamics and Statistical Physics
Microscopic theory and macroscopic measurements: work, internal energy and heat, heat capacity and entropy changes.

Canonical distribution in the classical approximation: Maxwell velocity distribution, the equipartition theorem, specific heat of a monatomic ideal gas.

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General thermodynamic interactions: the thermodynamic identity, entropy—adiabatic compression, the laws of thermodynamics, the Gibbs free energy and equilibrium, equilibrium between phases.

**TEXTBOOKS**

**Astronomy**

*Double session subject (54 hrs. lectures and 30 hrs. practical)*

**First session**
Aspects of the sky; the earth in motion; timekeeping, light and the telescope; the moon; eclipses of the moon and sun; the solar system; planets and their satellites; the sun.

**Second session**
The stars; stellar atmosphere and interiors; intrinsic variable stars; binary stars; star clusters; interstellar gas and dust; the galaxy; the exterior galaxies.

**TEXTBOOKS**

Supplemented by notes and references to be given by lecturers.

**THIRD LEVEL PHYSICS**

**Classical Mechanics and Quantum Mechanics**

*Double session subject (56 hrs. lectures and 28 hrs. seminars).*

**First session**
Classical Mechanics
Non-linear oscillations phase diagrams for non-linear systems; non-linear oscillations in an asymmetric potential; central-force motion; kinematics of two-particle collisions; elastic collisions; cross sections; the Rutherford scattering formula; motion in a noninertial reference frame.

Quantum Mechanics
Introduction: postulates of quantum mechanics, operators of quantum mechanics, state function space—vector space, eigenvalue equations—basic vectors, expectation values, Orthonormal sets—sharing of eigenfunction sets.

The Hamiltonian Operator and Schrodinger’s Equation: Hamiltonian eigenfunctions as basis wave functions; time variation of expectation values. Uncertainty principle.

Momentum representation: Fourier transforms general applications.

The harmonic oscillator—Schroedinger treatment.

The matrix formulations of quantum mechanics: matrix treatment of harmonic oscillator, promotion demotion operators.
Second session
Classical Mechanics
Dynamics of rigid bodies: the inertia tensor, moments of inertia for different body coordinate systems, Euler's equations for a rigid body, motion of a symmetrical top with one point fixed, the stability of rigid-body solutions.
Coupled oscillations.
Waves in strings.
Quantum Mechanics
Collision Theory: time-dependent perturbation theory.
Multiparticle systems.

TEXTBOOKS

Astrophysics
Double session subject (45 hrs. lectures and tutorials).
First session
Observational basis; Hertzsprung-Russell diagrams; galactic and globular clusters; stellar populations; radiative transfer; atomic ionization; equation of transfer in local thermodynamic equilibrium; opacity; theory of spectral line formation.
Second session
Line contour theory curves of growth; equations for stellar interiors; energy transport; nuclear reactions in stars; construction of stellar models; main sequence structures; stellar evolution.

TEXTBOOK

REFERENCE BOOKS

Solid State Physics and Nuclear Physics
Double session subject
Solid State Physics
First and second session
Crystalline state: the classification of crystals; crystal lattices; diffraction of X-rays, electrons and neutrons; reciprocal lattices; structure determination. Crystal binding: covalent, ionic, metallic.
TEXTBOOK

Nuclear Physics
*First and second session*
Forces between nucleons: n-p and p-p, deuteron ground state, nuclear stability.
Nuclear spectroscopy: systematics of stable nuclei, models of the nucleus.
Nuclear reactions: description, cross sections, compound nucleus, resonance theory.
High energy interactions and elementary particles.

TEXTBOOK

**Statistical Mechanics and Kinetic Theory**
*Double session subject (45 hrs. lectures and tutorials).*

Statistical Mechanics
*First session*
The canonical distribution; connection of statistics with thermodynamics: the Fermi and Bose oscillators; statistics of simple systems; the ideal insulating crystal; black body radiation; systems of identical particles; the Ideal Gas; the grand canonical distribution; non-interacting identical particles; Bose-Einstein and Fermi-Dirac distributions; the ideal monatomic gas at a definite chemical potential; Bose-Einstein degeneration; conduction of electrons in metals.

Kinetic Theory
*Second session*
Collisions; Boltzmann Transport Equation; equilibrium properties of a gas; hydrodynamic equations; interaction between gases in equilibrium; expansion of the distribution function; transport properties of a simple gas; transport properties of a gas mixture: some approximate forms for the collision term in the Boltzmann Transport Equation.

TEXTBOOK

**Laboratory Project and Thesis**
*(90 hrs.)*

TEXTBOOK
DESCRIPTION OF SUBJECTS

PSYCHOLOGY

First Year
1. All students enrolling for the first year of Psychology are required to take Psychobiology, Psychological Measurement I, Laboratory Method and Motivation and Adjustment.

Second Year
2. Provision is made for students proceeding into Psychology II as part of a BA, a BCom (Applied Psychology) or a BSc (Applied Psychology) degree. Arts students are provided for at both Pass and Honours levels. The individual units contained in these courses are as follows:

3. Second Year Pass Course
   Personality Theory
   Learning Theory
   Personality Development and Adjustment
   Laboratory Method II

4. Second Year BCom (Applied Psychology)
   Personality Theory
   Learning Theory
   Laboratory Method II
   Psychological Testing
   Research Design
   Psychological Measurement II

5. Second Year Honours Course and BSc (Applied Psychology)
   Personality Theory
   Learning Theory
   Personality Laboratory
   Learning Laboratory
   Psychological Measurement II
   Research Design
   Psychological Testing
   Personality Development and Adjustment

Third Year
6. Provision is made for students proceeding into Psychology III as part of a BA or a BCom (Applied Psychology) only. BSc (Applied Psychology) students are not provided for by courses offered at Wollongong. Arts students are provided for at both Pass and Honours levels. For students in all third year courses, attendance at seminars to be held at 1.30 p.m. on Monday afternoons for both sessions will be compulsory. Part time students are also required to attend seminars.

7. Note that Psychological Theory is compulsory in all courses, and that two of the remaining electives may be selected. Part-time students will be limited in their choice because not all electives will be offered at times suitable for them. Intending students should consult the Departmental Secretary, in the first instance, before making a selection. The course contents are as follows:
8. **Third Year Pass Course**  
*Psychological Theory*, plus two of the following:  
Counselling Psychology*  
Educational Psychology*  
Social Psychology*

9. **Third Year BCom (Applied Psychology)**  
*Psychological Theory*, plus two of the following:  
Counselling Psychology  
Educational Psychology  
Experimental Psychology  
Social Psychology

10. **Third Year Honours**  
*Psychological Theory*, plus two of the following:  
Counselling Psychology†  
Educational Psychology†  
Experimental Psychology†  
Social Psychology†

**Fourth Year (Honours)**

11. The Honours year in Psychology is planned to both prepare the student for professional practice and to pave the way for further academic work. The major requirements are two individual research theses, based on theoretical and empirical work by the student. It is unlikely that part-time students will be provided for in this course, although intending Honours students should consult with the Head of the Department.

* Pass students would take only the theory component of these courses.  
† The additional hour in each third year elective subject for Honours students will be utilised for student’s personal research projects.
<table>
<thead>
<tr>
<th>Title</th>
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<td>Counselling Research and Practical</td>
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<td>Educational Psychology Theory</td>
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<td>Educational Research and Practical</td>
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<tr>
<td>Social Psychology Theory</td>
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<td>Social Psychology Research and Practical</td>
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<td>Experimental Psychology</td>
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<td><strong>PSYCHOLOGY IV</strong></td>
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<td>Research Seminar</td>
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DESCRIPTION OF SUBJECTS

PSYCHOLOGY I

Psychobiology
First session subject

Aims of the Course:
1. This is an introductory course in psychology and physiological aspects of behaviour. It is a course in which students will be required to read widely. The principal aim is to stimulate interest in the behavioural sciences.
2. The course deals with areas of psychology which traditionally have had a long history and an established body of empirical data. Thus, students will be introduced to experimental method and typical data at an early stage in their course work.

Syllabus:
1. **An introduction to psychology.** Conceptions of the roles and areas of responsibility of psychologists will be considered. Some of the history of psychology as well as findings from various areas in modern applied psychology will be discussed.

Although detailed study will be required (specific sections of book and text chapters will be recommended in lectures) it will generally be sufficient to have read the relevant sections of the syllabus in any modern introductory text.

As well as one of the recommended texts, students must be prepared to purchase all of the supplementary texts, as four objective tests, based on books selected from this list, will be set during the course. However, no texts or supplementary texts should be purchased until advised by the lecturer taking this course.

**TEXTBOOKS**


or


or


or

SUPPLEMENTARY TEXTS

Psychological Measurement I
First session subject
Aims of the Course:
1. To equip students with a knowledge and understanding of the basic statistical concepts and techniques most appropriate to psychological measurement.
2. To enable students to apply these techniques to research data.

Syllabus:
1. Presentation of Data—Tabulation; graphical representation.
2. Measures of central tendency, with emphasis on the mean, using ungrouped and grouped data.
3. Measures of dispersion, with emphasis on the standard deviation, using ungrouped and grouped data.
5. Z. and t tests of significance.
6. Tests of hypotheses. Type I and type II errors; one tailed and two tailed tests.
7. Chi square tests.
8. Spearman Rank order correlation.

TEXTBOOKS
No textbooks should be purchased until advised by the lecturer taking this course.

Laboratory Method
Second session subject
Aims of the Course:
1. To provide an introduction to laboratory method in psychology.
2. To illustrate the application of psychological measurement and statistics to experimental situations.
3. To acquaint students with a variety of experimental apparatus.
DESCRIPTION OF SUBJECTS

Syllabus:
Laboratory Method is entirely a practical course and will include experiments in each of the following areas:
1. Attitudes and values (survey method).
2. Psychophysics.
3. Effect of social factors on attitudes.
5. Effect of personality differences on reactions to conflict.

TEXTBOOKS
No textbook is set for this course. Students will be advised of reference material in connection with each experiment.

Motivation and Adjustment
Second session subject
Aims of the Course:
1. To provide an introduction to the concept of behaviour as the outcome of personality, environmental forces, and interpersonal relationships.
2. To provide a basis for second year courses on personality theory and dynamics of behaviour.

Syllabus:
Primary and secondary motivation and emotions; frustration and conflict; defence mechanisms; relation between motivation and the self; conscious and unconscious motivations; attitudes; values, beliefs, interests and social influences on these; the socialization process.

TEXTBOOKS

PSYCHOLOGY II

Personality Theory and Laboratory Method
First session subject
Aims of the Course:
1. To examine critically the major theoretical approaches to personality structure, dynamics and development.
2. To equip students with sufficient understanding of the various personality theories to enable them to develop critical and diagnostic skills.
3. To provide a specialist background in personality development and functioning against which third year elective subjects may be viewed.
DESCRIPTION OF SUBJECTS

Syllabus:

A. THEORY—
Theories exemplifying: Psychoanalytic, neo-Freudian, interpersonal self-theory, behaviouristic, rational/motivational, field trait and factor analytic theories of personality. Two of the above will be dealt with in depth, the remainder at a level only sufficiently deep to meet the aims above.

B. LABORATORY—
Concurrent with the theory lectures, students will complete three research exercises related to personality. One will take the form of a survey, in which students will examine the relationship between certain attitudes in parents and personality factors in their children. Another will be an experiment, in which the variable of anxiety will be related to performance.

TEXTBOOKS

Learning Theory and Laboratory Method

Second session subject

Aim of the Course:
1. To treat in detail material related to learning which was introduced in the previous year.
2. To teach laboratory methods specifically related to learning and operant conditioning.

Syllabus:

A. Theory
1. Definitions and historical perspective
2. Theories of learning
3. Classical and operant conditioning
4. Reinforcement and the Law of Effect
5. The Drive Reduction Hypothesis
6. Brain stimulation effects
7. Discrimination learning
8. Extinction
9. Vibrotactile and multi-sensory learning
10. Learning of skills

B. Laboratory

TEXTBOOK

Laboratory Method II

Double session subject

Aims of the Course:
To give students experience in the designing and conducting of empirical research in the fields of learning and personality.
Syllabus:
There is no set syllabus. Empirical research appropriate to the theory courses in personality and learning will be planned at relevant stages in the course. Each piece of research will be the subject of a full laboratory report to be submitted by the students.

Psychological Measurement II

First session subject

Aims of the Course:
1. To equip students with a more advanced knowledge of techniques and concepts treated in Psychological Measurement I.
2. To illustrate the use of these techniques in the design and analysis of experiments.

Syllabus:
1. Probability theory.
2. Random Sampling
3. Normal and Binomial distributions.
5. Correlation and regression.
6. Factor analysis.

TEXTBOOKS

Research Design

Second session subject

Aims of the Course:
1. To teach principles of research design and methodology.
2. To illustrate the practical application of statistical techniques covered in courses Psychological Measurement I and Psychological Measurement II.

Syllabus:
1. The context of discovery.
   Formulation of hypotheses
   Form of hypotheses
   Specification of meaning of terms
   Explication
   Definitions
   Substruction (Facet analyses)
   Measurement of variables
   Scaling
   Validity
   Reliability
2. The context of evaluation.
   Experimental design
   Antecedent probability
   Control groups
   Variables
   Choosing statistical methods
   The risk function and decision theory

3. Analysis and interpretation of outcomes.
   Causality.
   Application of results (truth and knowledge)

4. Theories and models.
   Elements of a formal theory
   Formal theories and behavioural science.

TEXTBOOK

**Psychological Testing**

*First session subject*

**Aims of the Course:**
1. To provide an overview of the variety of tests available for use in educational-vocational settings.
2. To examine in detail the construction and use of some tests in each of the major areas of psychological testing.
3. To teach background theory necessary for efficient reporting of test results.

**Syllabus:**
1. History and development of the testing movement.
2. Individual Testing.
   The Terman Revision of the Stanford Binet.
   The Wechsler Adult Intelligence Scale.
   The Wechsler Intelligence Scale for Children.
   Intelligence Tests.
   Achievement Tests.
   Multi-factor Tests.
   Aptitude Tests.
   Interests and Attitude Tests.
   Personality Tests (including Projective Tests).
4. Test Theory.
   Scales, Scores and Norms.
   Reliability.
   Validity.
   Item Analysis.

TEXTBOOK
Development Psychology

Double session subject

Aims of the Course:
1. To give students a knowledge of the normal development stages and processes, and the interaction between the individual and his social environment during development.
2. To provide students with further background against which third year elective subjects such as counselling psychology, educational psychology, occupational psychology and social psychology may be viewed.
3. To apply in a more practical way the understanding of personality function and structure acquired in the course Personality Theory and Laboratory Method.

Syllabus:
The following major strands will be incorporated in this course:
(a) A descriptive outline of normal maturation and development, and the physiological and environmental influences on these. This section will be considered from a very general rather than a particular theoretical viewpoint.
(b) A study of the development of personality in terms of several of the major theoretical approaches: Erikson, Fromm, Horney and Sullivan.

TEXTBOOK

Psychological Theory

Double session subject

Aims of the Course:
1. To provide a philosophical basis for work in the elective subjects in the third year which are "applied" in orientation.
2. To extend on the student's knowledge of scientific theory construction and to provide background material, mainly of historical interest, but necessary to a thorough understanding of contemporary science.

Syllabus:
1. The general nature of theory construction and levels of explanation.
2. The role of models.
3. Personality and Psychodynamics.
4. Complex Processes
   Verbal Learning
   Thinking
5. Sensory and Perceptual Functions.

TEXTBOOK
Counselling Psychology Theory

Double session subject

Aims of the Course:
1. To introduce students to the theory and practice of giving guidance and counselling.
2. To give students the opportunity to gain some experience in interviewing and counselling techniques.

Syllabus:
1. The nature of counselling:
   - educational
   - vocational
   - psychotherapy
2. Techniques of Counselling.
3. Relationship techniques.
4. Use of tests in counselling.
5. Decision approaches to counselling.
6. Counselling theory:
   - Nondirective
   - Desensitization
   - Interpersonal
   - Psychoanalytic
   - Rational/ emotive

TEXTBOOK

Social Psychology Theory

Double session subject

Aims of the Course:
1. To consider in detail the interaction between the personality and the social environment.
2. To present the major theories in social psychology.
3. To familiarize students with research methods appropriate to the field.

Syllabus:
1. Social psychological theories
   (a) Field theoretical
   (b) Psychoanalytic
   (c) Reinforcement
   (d) Cognitive
2. Attitude and opinion change including conformity
3. Socialization and child rearing practices
4. Group Dynamics— norms, conformity, deviance
5. Inter societal variation in socialization
6. Socialization of specific personality and behavioural variables and their relation to role playing and attitude formation.
7. Collective behaviour, crowds and social movements.

The tendency will be to emphasize field theoretical and psychoanalytic orientations.
TEXTBOOKS
or
or

Educational Psychology Theory

*Double session subject*

*Aims of the Course:*
1. To apply psychological principles to the process of instruction.
2. To give experience in the conduct of research in this field.
3. To explore in depth selected areas of specialization in education.

*Syllabus:*
1. A review of major areas of psychology with particular emphasis on their relation to education including:
   - learning theory
   - personality theory
   - psychological testing
   - individual differences
2. Concept formation.
3. Group dynamics in the classroom
4. Psychological principles applied to educational administration

TEXTBOOKS

Experimental Psychology

*Double session subject*

*Aims of the Course:*
1. To develop skill in conducting psychological research with apparatus and animals.

*Syllabus:*
Emphasis will be placed on experimentation in:
(a) Perception
(b) Skill acquisition
(c) Vibrotactile and multi-sensory learning
(d) Instrumental conditioning.
(e) Human factors/engineering psychology

TEXTBOOK
Postgraduate Study
Postgraduate Study
POSTGRADUATE STUDY

Postgraduate study and research leading to the degrees of Master of Arts (Honours), Master of Commerce, Master of Engineering, Master of Science and Doctor of Philosophy may be undertaken.

Masters degrees, involving formal course-work, are offered in English and History (Master of Arts (Pass)), in Electrical Engineering and in Mechanical Engineering (Master of Engineering Science), and in Mathematics (Master of Science (Operations Research)).

In addition, a postgraduate diploma course in Education is offered.

Details of conditions of award and of formal course-work requirements are set out later in this section of the Handbook.

Particulars of postgraduate scholarships are given on page 220.

POSTGRADUATE ENROLMENT PROCEDURE

Research Degrees

Details of the procedure to be followed in enrolling for a research degree are given in the statement of the conditions of award of the degree as set out in the following pages.

Application forms for registration are obtainable from the College Secretary.

Before lodging an application applicants are advised to contact the head of the Department concerned, to discuss research interests, suitability of qualifications held, and the availability of facilities for research in particular areas.

Courses Requiring Attendance at Formal Lectures

Students wishing to enrol as candidates for postgraduate degrees or diplomas requiring attendance at formal lectures should make application on the appropriate form available from the College Secretary.

No enrolments will be accepted after 30th March without the express approval of the College Secretary, which will be given in exceptional circumstances only.

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

Re-enrolment

Enrolment forms will be sent to re-enrolling students in January each year with instructions concerning re-enrolment procedure.
SOME CURRENT RESEARCH INTERESTS

Persons interested in pursuing postgraduate studies should contact the appropriate Head of Department. The research interests of the staff cover a wide range of topics, and some current fields of interest are listed:

Accountancy
Accounting theory and income concepts.
Behavioural aspects of management information systems.
Business objectives.
Capital expenditure decision-making.
Corporate strategy and growth through takeovers and mergers.
International accounting.

Chemistry
Chemistry of natural products—alkaloids and hallucinogenic fungi.
Correlation of chemical structure with physiological activity.
Synthetic organic chemistry.
Physical-organic chemistry—kinetic studies of hydrolysis reactions and measurement of thermodynamic acidity constants.
Catalytic deuterium exchange reactions.
Magneto-chemical and spectral studies of transition metal complexes.
Chemistry of organic sulphur compounds.
Gas chromatography and mass spectrometry of diastereoisomers and metabolites.
Peptide chemistry.
Environmental chemistry.

Civil and Mechanical Engineering
Applied mechanics and photoelasticity.
Computer analysis of structures.
Development of composites.
Experimental stress analysis.
Highways and traffic.
Hydraulic model studies.
Interaction between reinforcing and parent materials.
Investigation of the potentialities of blast furnace slag.
Local effects on design wind loads.
Model analysis of structures.
Significance of tyre-pavement interaction on safety.
Determination of flow properties of bulk solids.
Dynamic analysis and optimization of bulk handling systems.
Flow of granular materials.
Random signal analysis and stochastic processes.
System identification studies.
Boiling heat transfer.
Exhaust emissions from internal combustion engines.
Losses across valves of reciprocating air compressors.
Propagation of waves in small bore tubes.
Treatment and disposal of industrial effluents.

**Economics**
- Industrial economics.
- Regional studies.
- Economic development.
- Labour economics.
- Natural resource economics.

**Education**
- The teaching of social studies.
- Moral education.
- Classificatory ability in Australian children.
- Enrichment programmes for disadvantaged preschoolers.
- Schooling and social class.
- Convergent, divergent and operational thinking among white and Aboriginal children.

**Electrical Engineering**
- Automatic control.
- Plant identification.
- Electrostatic precipitation.
- Static converters.
- Electrical machines.

**English**
- Sixteenth to twentieth century literature.
- Satire.
- Old and Middle English language and literature.
- Aspects of eighteenth century usage.
- Nineteenth to twentieth century Australian fiction.
- Some investigation of migrant English in the Illawarra region.

**Geography**
- Pedology and soil/plant relationships.
- Urban and transport studies.
- Agricultural geography.
- Geomorphology.

**Geology**
- The geology of the regional coal measures.
- Rock magnetism and related geophysical phenomena.
- Textures of igneous and metamorphic rocks.
- Invertebrates of the Lower and Middle Palaeozoic of Australasia.
POSTGRADUATE STUDY

History
European history during the period 1660-1800.
Eighteenth, nineteenth and twentieth century British history.
Any area of Australian history.
Any aspect of modern colonial history.

Mathematics
Functional analysis.
Logic and set theory.
Numerical analysis.
Nuclear reactor theory.
Oceanography.
Operations research.

Metallurgy
Deformation and fracture at elevated temperatures.
Solidification of metals.
Studies of structure changes in alloys using optical, electron-optical and X-ray methods.
Studies of flow phenomena in packed beds.
Mechanical behaviour of metals with particular reference to sheet forming operations.

Physics
Astronomy—visible and infra-red—near infra-red detectors.
Mossbauer spectroscopy.

Psychology
Accidents in industry—psychological and physical factors.
Achievement motivation.
Attitudes.
Bi-sensory learning including vibro-tactile learning.
Decision and risk taking.
Deviant and criminal behaviour.
Disadvantaged children.
Personnel—selection and placement.
Prediction of academic success.
Social psychology of industry.
Student guidance and counselling services.
FEES

1. POSTGRADUATE COURSE FEES*
Master of Arts (Pass), Master of Engineering Science, Master of Science (Operations Research) and Graduate Diploma Courses

Completion of Enrolment

Students enrolling in post-graduate courses which include formal instruction are required to attend the College during the prescribed enrolment period† for authorisation of course programme.

Fees should be paid during the prescribed enrolment period but will be accepted without incurring a late fee during the first two weeks of Session 1. (For late fees see below.) No student is regarded as having completed an enrolment until fees have been paid. Fees will not be accepted (i.e. enrolment cannot be completed) after 30th March except with the express approval of the College Secretary, which will be given in exceptional circumstances only.

Payment of Fees by Session

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

Assisted Students

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

Extension of Time

Any student who is unable to pay fees by the date due may apply in writing to the College Secretary for an extension of time. Such application must give year of study, whether full-time or part-time and the course in which the applicant wishes to enrol, state clearly and fully the reasons why payment cannot be made and the extension sought, and must be lodged before the date on which a late fee becomes payable. Normally the maximum extension of time for the payment of fees is until 30th March for fees due in Session 1 and for one month from the date on which a late fee becomes payable in Session 2.

* Fees quoted in this schedule are current at time of publication and may be amended by the Council without notice.
† The enrolment periods for new students are advertised in the local press during the first week of February.
Failure to Pay Fees

Any student who is indebted to the University and who fails to make a satisfactory settlement of his indebtedness upon receipt of due notice ceases to be entitled to membership and privileges of the University. Such a student is not permitted to register for a further session, to attend classes or examinations, or to be granted any official credentials.

No student is eligible to attend the annual examinations in any subject where any portion of his course fees for the year is outstanding after the end of the fourth week of Session 2 (17th August, 1973).

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

Basis of Fee Assessment

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

(a) Courses for the degrees of Master of Arts (Pass), Master of Engineering Science, Master of Science (Operations Research)

(i) Registration Fee ........................................ $ 7
(ii) Graduation Fee ........................................ $ 9
(iii) Course Fee—calculated on the basis of a session’s attendance at the rate of $12.50 per hour per week. Thus the fee for a programme requiring an attendance of 24 hours per week for the session is 24 x $12.50 = $300 per session.
(iv) Thesis or Project Fee—$49 (an additional fee of $33* is payable by students who have completed their final examinations for the degree but have not completed the thesis or project for which they have been previously enrolled.)
(v) Thesis or Project Resubmission Fee† ................. $33

(b) Diploma in Education

(i) Registration Fee ........................................ $ 7
(ii) Award of Diploma Fee ................................. $ 9

* Students paying this fee who are not in attendance at the University are not required to pay the Student Activities Fees or the Library Fee.
† Candidates paying this fee are not required to pay the Student Activities Fees or the Library Fee.
(iii) Full-time Course Fee—$462 per annum or $231 per session
(iv) Part-time Course Fee—$231 per annum or $115.50 per session.
(v) Fees for repeat subjects—calculated on the basis of a session’s attendance at the rate of $12.50 per hour per week. Thus the fee for a programme requiring an attendance of 3 hours per week for the session is 3 x $12.50 = $37.50 per session.

(c) Miscellaneous Subjects
Post-graduate subjects taken as “Miscellaneous Subjects” (i.e. not for a degree or diploma) or to qualify for registration as a candidate for a higher degree are assessed on the basis of a session’s attendance at the rate of $12.50 per hour per week. Thus the fee for a subject requiring an attendance of 2 hours per week for the session is 2 x $12.50 = $25 per session.

LATE FEES
First Session
Fees paid from the commencement of 3rd week of the session to 30th March $16
Fees paid after 30th March where accepted with the express approval of the College Secretary $33

Second Session
Fees paid in the third and fourth weeks of the session $16
Fees paid thereafter $33

2. RESEARCH DEGREE FEES
(a) Master of Arts, Commerce, Engineering,* Science*
Fees are payable from the commencement date of a candidate’s registration and remain payable until the candidate’s thesis is presented to the College Secretary.

(i) Qualifying Examination $16
(ii) Registration Fee $7
(iii) Internal full-time student annual fee $98
     Internal full-time student session fee $49
(iv) Internal part-time student annual fee $49
     Internal part-time student session fee $24.50

* Candidates registered under the conditions governing the award of this degree without supervision will pay the following fees. Registration fee $7, Examination of Thesis $98. They are not required to pay the Student Activities Fees or the Library Fee.
(v) External student annual fee* ........................................ $33
(vi) Final Examination ................................................. $49
(vii) Thesis Resubmission Fee* ........................................ $49

(b) Doctor of Philosophy

(i) Qualifying Examination ........................................... $16
(ii) Registration Fee ................................................. $7
(iii) Annual Fee ...................................................... $98
(iv) Final Examination ................................................ $66.50
(v) Thesis Resubmission Fee* ......................................... $66.50

(c) Research Degree Continuation Fee† ........................... $33

A candidate who at the end of a year has completed all work for the degree other than the writing up of the thesis and who anticipates submitting the thesis to the College Secretary for examination before the end of the next session, may pay, in lieu of the normal fees, a Continuation Fee of $33. The payment must be accompanied by a statement from the candidate's Head of Department certifying that his work for the degree has reached this stage. If the thesis has not been submitted by the end of the session for which the concession was given, registration will revert to part-time candidature as from the beginning of the year with consequential adjustment of fees.

(d) Miscellaneous Subjects

Postgraduate subjects taken as "Miscellaneous Subjects" (i.e. not for a degree or diploma) or to qualify for registration as a candidate for a higher degree are assessed on the basis of a session's attendance at the rate of $12.50 per hour per week. Thus the fee for a subject requiring an attendance of 2 hours per week for the session is 2 x $12.50 = $25 per session.

Research

(i) One day per week—$33 per annum.
(ii) Two or three days per week—$64 per annum.
(iii) Four or five days per week—$98 per annum.

* Students in this category, or candidates paying this fee, are not required to pay the Student Activities Fees or the Library Fee.
† Students paying this fee who are not in attendance at the University are not required to pay the Student Activities Fees or the Library Fee.
LATE FEES

Initial Registration
Fees paid from commencement of sixth week after date of offer of registration to end of eighth week $16

Renewal at Commencement of each Academic Year
Fees paid from commencement of third week of Session 1 to 30th March $16
Fees paid after 30th March where accepted with the express approval of the College Secretary $33

3. OTHER FEES
In addition to the fees set out above, students in categories (a) and (b) are required to pay:
Library Fee—annual fee—$16,
College Union*—entrance fee—$20; annual fee—$30.
Sports Association*—annual subscription—$6.
Students' Representative Council—annual subscription—$6.
Miscellaneous—annual fee—$2.
Examinations conducted under special circumstances—$9 for each subject.
Review of examination result—$9 for each subject.

4. WITHDRAWAL
1. Students withdrawing from a course are required to notify the College Secretary in writing. Fees for the course accrue until a written notification is received.

2. Where notice of withdrawal from a course is received by the College Secretary before the first day of Session 1 a refund of all fees paid other than the registration fee will be made.

3. Where a student terminates for acceptable reasons a course of study within 30 days of the commencement of first session a refund of fees paid, less a sum of $33, may be made in respect of all fees except the College Union Entrance and membership fees, the Students' Representative Council fee and the Sports Association fee, in regard to which fees refunds may be made as shown hereunder.

4. Where a student terminates for acceptable reasons a course of study: (1) after the lapse of 30 days and before the lapse of half the first session, one half of each of the course fee, the library fee and the miscellaneous student activities fee may be

* Life members of these bodies are exempt from the appropriate fee or fees.
refunded; (2) before the lapse of half the second session one half of the session's course fee may be refunded.

5. Where a student terminates a course of study after half a session has elapsed, no refund may be made in respect of that session's fees.

6. No portion of the Registration fee is refundable on withdrawal.

7. On notice of withdrawal a partial refund of the Student Activities Fees is made on the following basis:
   - College Union—$7.50 in respect of each half session.
   - Students' Representative Council—where notice is given prior to the end of the fifth week of Session 1 $3, thereafter no refund.
   - Sports Association—where notice is given prior to 30th April a full refund is made, thereafter no refund.
   - Miscellaneous—where notice is given prior to 30th April $1, thereafter no refund.

8. Where initial registration is made at commencement of Session 2 in any year and the student subsequently withdraws, a refund of fees based on the above rules may be made.
POSTGRADUATE SCHOLARSHIPS

University Postgraduate Scholarships

The University provides each year a number of scholarships for postgraduate study and research in any approved field.

These awards are normally for graduates of Australian Universities who are domiciled in Australia. They are tenable for one year and, subject to satisfactory progress, may be renewed annually to provide a maximum tenure of two years in the case of a scholar registered for the degree of Master. In the case of a scholar registered for the degree of Doctor of Philosophy the award is tenable for up to a maximum of three years, but an extension for one year may be granted if special circumstances apply.

Stipend—Scholars will receive a stipend at the rate of $2,600* per annum, and a dependants' allowance at the rate of $450 per annum for dependent wife and child (or children).

Travel Allowance—In some cases a travel allowance (equivalent to a tourist air fare where appropriate) may be paid for a scholar who is obliged to move from one Australian city to another in order to take up his award. Travel allowance is also payable for dependants.

Establishment Allowance—In some cases an allowance of $100 will be paid to married scholars, and $50 to single scholars, who are entitled to a Travel Allowance. The establishment allowance is intended to assist scholars with removal expenses and with the expenses of setting up new quarters.

Thesis Allowance—In some cases a scholar may claim reimbursement of an amount of up to $100 to assist with thesis costs. Where two theses are submitted (Master followed by PhD) two claims may be made but the total amount payable will not exceed $100.

Income Tax—The stipend provided by a scholarship is normally exempt from income tax.

In some cases, scholarship holders may supplement their stipends by undertaking up to a maximum of six hours' teaching or demonstrating weekly, or a total of 180 hours in a calendar year. Opportunities for such work are usually available within the University. It is expected that scholarship holders will not engage in any other form of paid employment, and will be engaged full time on the work for which the scholarship is provided.

Normally a person may not hold more than one postgraduate scholarship.

Applications should be lodged with the College Secretary by 31st October each year.

* Rates quoted are currently under review.
Commonwealth Postgraduate Research Awards

A number of Commonwealth Postgraduate Research Awards are available to students undertaking full-time postgraduate research at the College, leading to the degree of Master and/or PhD.

Persons permanently domiciled in Australia, who are University graduates or will graduate in the current academic year, are eligible for the awards.

Applicants should hold, or expect to obtain, at least an upper division second class honours degree or its equivalent.

Awards are tenable for one year and, subject to satisfactory progress, may be renewed annually to provide a maximum tenure of two years in the case of a scholar registered for the degree of Master. In the case of a scholar registered for the degree of Doctor of Philosophy the award is tenable for up to a maximum of three years, but an extension for one year may be granted if special circumstances apply.

Stipend is $2,900 per annum, with a dependants’ allowance at the rate of $650 for dependent wife and first child, and $234 for each other child. Other allowances are as listed for University Postgraduate Scholarships.

The closing date for applications is 31st October each year.

Commonwealth Postgraduate Course Awards

A number of awards for full-time postgraduate study leading to the degree of Master by formal course-work are also made available by the Commonwealth Government.

Persons permanently domiciled in Australia who are under 45 years of age on 1st January of the year in which the award is to be taken up, and who are University graduates or will graduate in the current academic year, are eligible for the awards.

Applicants are expected to have an undergraduate record at better than pass level.

Stipend and dependants’ allowance are as for Research Awards. Other allowances are identical with those listed for University Postgraduate Scholarships.

Applications close on 30th September.

Broken Hill Pty. Co. Limited Postgraduate Research Scholarship in Metallurgy

The Broken Hill Pty. Co. Limited offers a scholarship tenable at Wollongong University College, with a view to promoting training and research in fields connected with the manufacture, processing and use of iron and steel.
The award has an annual stipend of $2,700 which will be payable in instalments at the end of each fortnight. A dependant’s allowance of $500 may be paid.

An intending applicant, prior to submitting an application, should consult the Head of the Department of Metallurgy.

Other Awards

Details of other awards and scholarships are included in the University of New South Wales Calendar. In most cases these are for postgraduate study in a specified field of research.

Applications and Enquiries

Application forms for Commonwealth and University postgraduate awards are available from the College. Applications should be lodged with the College Secretary by the specified date.

Separate application for registration as a higher degree candidate should be made on the appropriate form, in accordance with conditions applying to the particular degree.

Further enquiries may be directed to the College Secretary.
CONDITIONS OF AWARD

CONDITIONS FOR THE AWARD OF DEGREE OF DOCTOR OF PHILOSOPHY (PhD)

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

Qualifications

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

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

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

(iii) if he holds a degree without honours from the University of New South Wales or other approved university, have achieved by subsequent work and study a standard recognised by the appropriate Faculty or Board of Studies as equivalent to honours; or

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

3. When the Faculty or Board of Studies is not satisfied with the qualifications submitted by a candidate, the Faculty or Board of Studies may require him, before he is permitted to register, to undergo such examination or carry out such work as the Faculty or Board of Studies may prescribe.

Registration

4. A candidate for registration for a course of study leading to the degree of Doctor of Philosophy shall—

(i) apply to the Registrar* on the prescribed form at least one calendar month before the commencement of the session in which he desires to register; and

(ii) submit with his application a certificate from the head of the University school† in which he proposes to study stating that the candidate is a fit person to undertake a course of study and research leading to the degree of Doctor of Philosophy and that the school is willing to undertake the responsibility of supervising the work of the candidate and of reporting to the Faculty or Board of Studies at the end of the course on the merits of the candidate's performance in the prescribed course.

* At Wollongong University College, the Secretary.
† At Wollongong University College, the Head of the Department.
5. Subsequent to registration the candidate shall pursue a programme of advanced study and research for at least six academic sessions, save that—

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

(ii) in special circumstances the Faculty or Board of Studies may grant permission for the candidate to spend not more than one calendar year of his programme in advanced study and research at another institution provided that his work can be supervised in a manner satisfactory to the Faculty or Board of Studies;

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

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

7. The candidate shall be required to devote his whole time to advanced study and research, save that—

(i) the Faculty or Board of Studies may permit a candidate on application to undertake a limited amount of University teaching or outside work which in its judgment will not interfere with the continuous pursuit of the proposed course of advanced study and research;

(ii) a member of the full-time staff of the University may be accepted as a part-time candidate for the degree, in which case the Faculty or Board of Studies shall prescribe a minimum period for the duration of the programme;

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

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

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

10. A candidate may be required by the Faculty or Board of Studies to attend a formal course of study appropriate to his work.

Thesis

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

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

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

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

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

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

13. Every candidate shall be required to submit with his thesis a short abstract of the thesis comprising not more than 300 words.

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

Entry for Examination

15. The candidate shall give in writing two months' notice of his intention to submit his thesis and such notice shall be accompanied by the appropriate fee.

* Department at Wollongong University College.
16. Four copies of the thesis shall be submitted together with a certificate from the supervisor that the candidate has completed the course of study prescribed in his case. The four copies of the thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.* The candidate may also submit any work he has published whether or not such work is related to the thesis.

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

18. There shall normally be three examiners of the thesis, appointed by the Professorial Board on the recommendation of the Faculty or Board of Studies, at least one of whom shall be an external examiner.

19. After examining the thesis the examiners may—

(i) decide that the thesis reaches a satisfactory standard; or

(ii) recommend that the candidate be required to re-submit his thesis in revised form after a further period of study and/or research; or

(iii) recommend without further test that the candidate be not awarded the degree of Doctor of Philosophy.

20. If the thesis reaches the required standard, the examiners shall arrange for the candidate to be examined orally, and, at their discretion, by written papers and/or practical examinations on the subject of the thesis and/or subjects relevant thereto, save that on the recommendation of the examiners the Faculty or Board of Studies may dispense with the oral examination.

21. If the thesis is of satisfactory standard but the candidate fails to satisfy the examiners at the oral or other examinations, the examiners may recommend the University to permit the candidate to re-present the same thesis and submit to a further oral, practical or written examination within a period specified by them but not exceeding eighteen months.

22. At the conclusion of the examination, the examiners will submit to the Faculty or Board of Studies a concise report on the merits of the thesis and on the examination results, and the Faculty or Board of Studies shall recommend whether or not the candidate may be admitted to the degree.

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

* See later.
† See under Postgraduate Course Fees.
CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF ARTS (MA)

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

2. A candidate for the degree shall be registered in one of the following Schools\(^*\) of the Faculty of Arts: Drama, Economics, English, French, Geography, German, History, History and Philosophy of Science, Mathematics,\(^\dagger\) Philosophy, Political Science, Psychology, Russian, Sociology, Spanish.

3. The degree shall be awarded in two grades, namely the Pass degree and the degree with Honours. There shall be two classes of Honours, namely Class I and Class II.

4. A candidate for the Honours degree may not be awarded the Pass degree.

5. Honours Degree

(i) Except as provided in sub-section 5 (ii) an applicant for registration for the Honours degree of Master of Arts shall have been admitted to the degree of Bachelor of Arts at a standard not below second class honours in the University of New South Wales, or other approved University, in an appropriate School or Department.

(ii) Applicants for registration for the Honours degree who are graduates in Arts of this, or other approved University, with a degree at a standard below second class honours shall be required to take a qualifying examination as approved by the Faculty of Arts (hereinafter referred to as "the Faculty"), and if successful may then apply for registration as a candidate for the Honours degree.

(iii) Notwithstanding any other provisions of these conditions the Faculty may, on the recommendation of the Head of the School,\(^\ddagger\) require an applicant to demonstrate fitness for registration as a candidate for the Honours degree by carrying out such work and passing such examinations as the Faculty may determine. The Faculty may on the recommendation of the Head of the School\(^\ddagger\) concerned require a candidate for the Honours degree to undergo a suitable test in a relevant language, the form of such test to be recommended by the Head of the School\(^\ddagger\) concerned.

\(^*\) The Secretary at Wollongong University College.
\(^\dagger\) The School of Mathematics includes a Department of Statistics.
\(^\ddagger\) At Wollongong University College, the Head of the Department.
(iv) Every candidate for the Honours degree shall be required to submit three copies of a thesis embodying the results of an original investigation, to take such examinations and to perform such other work as may be prescribed by the Faculty on the recommendation of the Head of the School* concerned. A candidate for the Honours degree may not submit as the main content of his thesis any work or material which he has previously submitted for a University degree or other similar award. The Honours thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.†

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

(vi) The investigation and other work as provided in paragraph 5 (iv) shall be carried out under the direction of a supervisor appointed by the Faculty or under such conditions as the Faculty may determine.

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

(viii) Every candidate for the Honours degree shall in the first instance submit his proposed course of study and the subject of his thesis for the approval of the Head of the School* concerned.

(ix) No candidate shall be considered for the award of the Honours degree until the lapse of three complete sessions from the date from which registration becomes effective, save that in the case of a candidate who has demonstrated exceptional merit this period may, with the approval of the Faculty, be reduced by one session.

6. **Pass Degree**

(i) Unless the Faculty shall otherwise determine, an applicant for registration as a candidate for the Pass degree of Master of Arts shall have been admitted to the degree of Bachelor of Arts in the University of New South Wales or other approved university and shall have taken a major sequence, and passed all necessary examinations, in the subject or subjects, or in a discipline related to the subject or subjects, in which he wishes to work for the Pass degree.

* At Wollongong University College, the Head of the Department.
† See later.
(ii) Notwithstanding the provisions of clause 6 (i) the Faculty may, on the recommendation of the Head of the School,* require an applicant to demonstrate his eligibility for registration by carrying out such work and passing such examinations as the Faculty may determine.

(iii) A candidate for the Pass degree shall attend such classes and seminars as may be prescribed, shall pass the required examinations, and shall complete satisfactorily such written and other work as the Head of School* may determine.

(iv) No part-time candidate shall be considered for the award of the Pass degree until the lapse of four complete sessions from the date from which registration becomes effective. No full-time candidate shall be considered for the award of the degree until the lapse of two sessions from the date from which registration becomes effective.

7. (i) A graduate in a Faculty other than Arts of this or other approved university may be admitted to registration for the Honours or Pass degree of Master of Arts, with the approval of the Faculty.

(ii) In special circumstances a person may be permitted to register as a candidate for the Honours or Pass degree of Master of Arts if he submits evidence of such academic and professional attainments as may be approved by the Faculty on the recommendation of its Higher Degree Committee.

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

9. No candidate shall, without the approval of the Head of the School* concerned, be enrolled as a candidate for the degree of Master of Arts at the same time as he is enrolled for any other degree or diploma in this University or elsewhere.

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

CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF COMMERCE (MCom)

1. An application to register as a candidate for the degree of Master of Commerce shall be made on the prescribed form which shall be lodged with the Registrar† at least two full calendar months before the commencement of the session in which the candidate desires to register.

* The Head of the Department at Wollongong University College.
† The Secretary at Wollongong University College.
2. (i) An applicant for registration for the degree shall have been admitted to the degree of Bachelor of Commerce in the University of New South Wales or to an appropriate degree of any other approved University.

(ii) In special circumstances a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Faculty of Commerce (hereinafter referred to as “the Faculty”) on the recommendation of the Higher Degree Committee.

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

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

5. An approved applicant shall register in one of the following categories:

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

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

(iii) student working externally to the University;

and shall pay such fees as may be determined from time to time by the Council. Registration as a student working externally will be permitted only in cases where adequate arrangements can be made for external supervision. Course work can not be taken externally.

6. The requirements for the degree of Master of Commerce may be satisfied in either of two ways. Candidates who have a distinguished first degree and who provide evidence of research ability may be permitted to present themselves for examination by thesis only. Other candidates shall be required to follow a programme which places less emphasis on research and more on formal instruction.

7. A candidate presenting himself for examination by thesis only shall, upon application for registration, submit the title and outline of the proposed field of research. The research and investigation shall be carried out under the direction of a supervisor appointed by the Faculty and the results thereof shall be embodied in a thesis. No candidate shall be considered for the award of the degree until the lapse of four complete sessions from the date on which the registration becomes effective, save that in the case of a candidate who has obtained the degree of Bachelor with honours or who has had previous research experience, this period may, with the approval of the Faculty, be reduced by up to two sessions.
8. A candidate following a formal course of study leading to the degree shall:

(i) undertake a course of formal study prescribed by Faculty as set out in the "Course Requirements for the Master of Commerce Degree", save that a candidate who has obtained an appropriate degree at honours level may be given credit for honours course work. The course of formal study will extend over two full-time or three part-time years;

(ii) except in exceptional circumstances pass at the first attempt all examinations prescribed by the Faculty;

(iii) submit a report on a topic approved by Faculty. The report will normally be submitted at the end of the second full-time or third part-time year.

(iv) obtain an average of credit or better in the subjects listed below in respect of the school or department in which he is pursuing his studies as a condition for proceeding to completion of the degree, providing that a candidate who has passed at a standard below the required average may be permitted to present again such subject or subjects as the head of school or department approves. The subjects referred to above are:

School of Accountancy:
*14.163/1 Financial Accounting Theory
AND
*14.901G Corporate Organisation and Accounting
OR
*14.163/2 Managerial Accounting Theory
AND

School of Economics:
Economics Graduate Course—
*15.143G Economic Theory A
*15.144G Economic Theory B
Econometrics Graduate Course—
*15.434 Econometrics
*15.443 Mathematical Economics

School of Marketing:
*28.203 Seminar in Marketing Theory I.

9. (i) Every candidate shall submit three copies of the thesis or report. All copies shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. A candidate may submit also for examination any work he has published whether or not such work is related to the thesis.

* Subject numbers apply to subjects offered by the University of New South Wales (Kensington) only.
† See later.
(ii) It shall be understood that the University retains three copies of the thesis or report submitted for examination and is free to allow the thesis or report to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968 the University may issue the thesis or report in whole or in part, in photostat or microfilm or other copying medium.

10. For each candidate's thesis or report there shall be two examiners appointed by the Professorial Board on the recommendation of the Faculty, one of whom shall in the case of a thesis, be an external examiner.

CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF ENGINEERING (ME)

1. The degree of Master of Engineering may be granted by the Council on the recommendation of the Professorial Board to a candidate who has demonstrated ability to carry out research by the submission of a thesis embodying the results of an original investigation.

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

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

(ii) In exceptional cases a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainment as may be approved by the Professorial Board on the recommendation of the appropriate Faculty (hereinafter referred to as "the Faculty").

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

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

6. An approved applicant shall register in one of the following categories:
   (i) student in full-time attendance at the University;
   (ii) student in part-time attendance at the University;
   (iii) student working externally to the University;

* The Secretary at Wollongong University College.
and shall pay such fees as may be determined from time to time by the Council.

7. Every candidate for the degree shall be required to carry out a programme of advanced study, to take such examinations and perform such other work as may be prescribed by the Faculty. The programme shall include the preparation and submission of a thesis embodying the results of an original investigation, three copies of which shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.* The candidate may submit any work he has published whether or not such work is related to the thesis.

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

9. The investigation and other work as provided in paragraph 7 shall be carried out under the direction of a supervisor appointed by the Faculty or under such conditions as the Faculty may determine.

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

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

**CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF ENGINEERING SCIENCE (MEngSc)**

1. The degree of Master of Engineering Science in the Faculty of Engineering may be granted by the Council on the recommendation of the Professorial Board to a candidate who has satisfactorily completed a programme of advanced study comprising formal course work and who has submitted a satisfactory project report based upon a critical review, a design or research.

2. An application to register as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar† at least one full calendar month before the commencement of the course.

* See later.
† The Secretary at Wollongong University College.
3. (a) An applicant for registration for the degree shall have been admitted to the degree of Bachelor with Honours in the University of New South Wales or other approved University in an appropriate school or department. A graduate with a pass degree of good standing from an appropriate degree course in engineering may be admitted on the recommendation of the Head of School* and with the confirmation of Faculty.

(b) In special cases a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainment as may be approved by the Faculty on the recommendation of the Higher Degree Committee.

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

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

6. A candidate for the degree shall be required to undertake the prescribed courses of study, to pass any prescribed examinations and to submit a report on a project approved by the Faculty. The format of the report shall comply with the requirements of the Faculty for the preparation and submission of Master of Engineering Science project reports (see below).

7. A candidate shall submit the project report not later than one year after completing formal course work requirements.

8. The project report shall be examined by two examiners appointed by the Professorial Board on the recommendation of the Faculty.

9. The examiners will submit to the Faculty a concise report on the merits of the project report, and the Faculty shall recommend whether or not the candidate may be admitted to the degree.

Faculty of Engineering Requirements for Preparation of MEngSc Report

(i) Two copies of the written part of the report should be submitted, typed double spaced on one side of good quality foolscap or quarto-sized paper.

(ii) The margins on each sheet shall be not less than 1½ inches on the left-hand side, ½ inch on the right-hand side, 1 inch at the top and ¾ inch at the bottom.

(iii) There should be a title sheet showing project report title, author's name, degree and date of submission.

* The Head of the Department at Wollongong University College.
(iv) Sheets shall be numbered consecutively.

(v) Unless otherwise specifically instructed by the supervisor, diagrams, charts, etc., should be included, where possible, with the text, facing the page on which reference to them is made otherwise they may be clearly referred to in the text, numbered and folded for insertion in a pocket on the back cover of the project report. Folding diagrams or charts included in the text should be arranged to open out to the top and to the right.

(vi) All drawings which are separately bound shall be of double elephant size (27 inches by 40 inches) and shall have a margin at least 1 inch wide on the left-hand side to permit binding.

(vii) The drawings shall be bound together by a row of clips on the left-hand side and shall have a clear sheet of drawing paper on top and underneath. On the top sheet shall be printed the words "The University of New South Wales—Master of Engineering Science Degree", and a description of the project, e.g., "Highway Design Project", and underneath that the date submitted. On the bottom right-hand corner shall be printed the name of the candidate.

(viii) Drawings may be originals on cartridge paper or black and white prints. They should be suitably coloured where appropriate and it will be permissible to add extra work in ink to original drawings.

(ix) Two copies of all drawings will be required normally. Exceptions to this direction shall be granted only on the recommendation of the Faculty Graduate Studies Committee.

CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE (MSc)

1. The degree of Master of Science may be granted by the Council on the recommendation of the Professorial Board to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation.

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

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

* The Secretary at Wollongong University College.
In exceptional cases a person may be permitted to register as a candidate for the degree if he submits evidence of such academic and professional attainments as may be approved by the Professorial Board on the recommendation of the appropriate Faculty or Board of Studies.

4. Notwithstanding any other provisions of these conditions the Faculty or Board of Studies may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations as the Faculty or Board of Studies may determine.

5. In every case before permitting an applicant to register as a candidate the Faculty or Board of Studies shall be satisfied that adequate supervision and facilities are available.

6. An approved applicant shall register in one of the following categories:

   (i) student in full-time attendance at the University;
   (ii) student in part-time attendance at the University;
   (iii) student working externally to the University;

and shall pay such fees as may be determined from time to time by the Council.

7. Every candidate for the degree shall be required to submit three copies of a thesis embodying the results of an original investigation or design, to take such examinations and to perform such other work as may be prescribed by the Faculty or Board of Studies. The thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses. The candidate may submit also for examination any work he has published whether or not such work is related to the thesis.

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

9. The investigation, design and other work as provided in paragraph 7 shall be carried out under the direction of a supervisor appointed by the Faculty or Board of Studies or under such conditions as the Faculty or Board of Studies may determine.

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

* See later.
11. For each candidate there shall be at least two examiners appointed by the Professorial Board, on the recommendation of the Faculty or Board of Studies, one of whom shall, if possible, be an external examiner.

CONDITIONS FOR THE DEGREE OF MASTER OF SCIENCE OR
MASTER OF ENGINEERING WITHOUT SUPERVISION

Where it is not possible for candidates to register under the existing conditions for the degree of Master of Science or Master of Engineering by reason of their location at centres which are distant from University Schools* or where effective supervision is not practicable, registration may be granted in these categories under the following conditions:

1. An application to register as an external candidate for the degree of Master of Science or Master of Engineering without supervision shall be lodged with the Registrar† for recommendation by the Head of School‡ and consideration by the Faculty, not less than six months before the intended date of submission of the thesis. A graduate who intends to apply in this way should in his own interest at an early stage, seek the advice of the appropriate School* with regard to the adequacy of the subject matter for the degree. A synopsis of the work should be enclosed.

2. An applicant for registration shall have been admitted to a degree of Bachelor in the University of New South Wales.

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

4. (i) Every candidate for the degree shall be required to submit three copies of a thesis embodying the results of an original investigation or design. The thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.§ A candidate may submit also for examination any work he has published, whether or not such work is related to the thesis.

(ii) Every candidate shall submit with the thesis a statutory declaration that the material contained therein is his own work, except where otherwise stated in the thesis.

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

* Departments at Wollongong University College.
† The Secretary at Wollongong University College.
‡ At Wollongong University College, the Head of Department.
§ See later.
6. A candidate shall not be considered for the award of the degree until the lapse of six sessions in the case of honours graduates and eight sessions in the case of pass graduates from the date of graduation.

7. For each candidate there shall be at least two examiners appointed by the Professorial Board on the recommendation of the appropriate Faculty, one of whom shall be an internal examiner.

8. If the thesis reaches the required standard the candidate shall be required to attend for an oral examination at a time and place nominated by the University. The examiners may also arrange at their discretion for the examination of the candidate by written and/or practical examinations on the conduct of the thesis and/or subjects related thereto.
POSTGRADUATE STUDY

PREPARATION AND SUBMISSION OF THESES FOR HIGHER DEGREES

1. Every candidate for the degree of Master shall submit to the Registrar* three copies of the thesis and supporting work. All copies of the thesis shall include a summary of approximately 200 words and a certificate signed by the candidate to the effect that the work has not been submitted for a higher degree to any other University or institution.

2. Every candidate for the degree of Doctor of Philosophy shall submit to the Registrar* four copies of the thesis and supporting work. All copies of the thesis shall contain a short abstract of the thesis comprising not more than 300 words.

3. Every candidate for the degree of Doctor of Medicine shall submit to the Registrar four copies of the thesis and supporting work. All copies of the thesis shall contain a short abstract of the thesis comprising not more than 400 words which inter alia shall indicate wherein the thesis has made an original contribution.

4. The specifications currently approved for higher degree theses are as follows:
   (a) All copies of the thesis shall be in double spaced typescript.
   (b) The size of the paper shall be quarto (approximately 10 in. x 8 in.) except for drawings and maps on which no restriction is placed.
   (c) The margins on each sheet shall be not less than 1 1/2 in. on the left-hand side, 1/2 in. on the right-hand side, 1 in. at the top and 3/4 in. at the bottom.
   (d) There shall be a title sheet showing thesis title, author's name, degree and date of submission.
   (e) Pages shall be numbered consecutively.
   (f) Diagrams, charts, etc., must not be submitted on the back of typed sheets.

      Unless otherwise specifically instructed by the supervisor, diagrams, charts, etc., should be included where possible, with the text, facing the page on which reference to them is made, otherwise they may be clearly referred to in the text, numbered and folded for insertion in a pocket on the back inside cover of the thesis binding. Folded diagrams or charts included in the text should be arranged so as to open out to the top and right.

5. The original copy of the thesis for deposit in the Library shall be bound in accordance with the following specifications: The thesis shall be bound in boards, covered with blue or green bookcloth or backray, or other binding fabric.

* The Secretary at Wollongong University College.
The bound volume shall be lettered on the spine as follows:

(a) At the bottom and across—UNSW or if the volume is too thin for this—U
UNSW

(b) 2½ in. from the bottom and across, with the degree and year of the thesis, for example—
MSc
1960

(c) Evenly spaced between the statement of the degree and the year and the top of the spine the name of the author, first initials and then the surname, reading upwards in one line.

No further lettering or any decoration is required on the spine or anywhere else on the binding. In the binding of theses which include mounted photographs, folded graphs, and so on, leaves at the spine shall be packed to ensure even thickness of the volume. The Library copy of the thesis shall be bound by one of a panel of approved bookbinders, each of whom is aware of the University's requirements. Names of approved bookbinders may be secured from the Student Enquiries desk in the Office Block.

The other copies of the thesis shall be bound in such a manner as allows their transmission to the examiners without possibility of their disarrangement.

6. The thesis and other relevant work may be submitted to the Registrar* at any time during the year provided the candidate has completed the minimum period of registration. In order that a successful candidate may have a reasonable chance of having the degree conferred at one of the formal degree conferring ceremonies, the candidate should arrange for the thesis and other relevant work to be in the hands of the Registrar* at least fourteen weeks prior to the date of such ceremony.

* The Secretary at Wollongong University College.
CONDITIONS OF AWARD—GRADUATE DIPLOMAS

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

2. An applicant for admission to a graduate diploma course shall be—
   (a) a graduate of the University of New South Wales or other approved university,
   (b) a person with other qualifications as may be approved by Faculty.

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

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

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

* The Secretary at Wollongong University College.
† At Wollongong University College, the Head of the Department.
POSTGRADUATE STUDY

DETAILS OF COURSEWORK

MASTER OF ARTS (PASS)—ENGLISH

Students must complete four subjects (two in each of the two years). Each subject will involve at least 30 hours of seminars, together with such supplementary study of criticism, research-materials and methods as may be prescribed from time to time. Students will be expected to undertake wide reading in preparation for each seminar and must, as required, write papers to be presented at the seminars. Assessment will be based on these papers as well as on examinations at the end of each session, and a long essay (approximately 10,000 words) to be handed in at the end of the second session.

Two subjects will be offered in 1973 provided that the necessary staff is available; and new subjects will be added from time to time in such fields as Modern American Literature, Nineteenth-Century Australian Literature, Linguistic History and Theory, and European Fiction and Drama in English translation.

The Head of the Department reserves the right to place a limit on numbers in particular subjects, and to advise candidates on the subjects best suited to their qualifications and purposes.

FIRST SESSION

*Modern Poetry from Hardy to Auden*: A study of the poems of such writers as Hardy, Yeats, Frost, Stevens, Pound, T. S. Eliot, E. E. Cummings and Auden.

SECOND SESSION

*Modern Poetry from Louis MacNeice to Sylvia Plath*: A study of the poems of such writers as MacNeice, A. D. Hope, Dylan Thomas, Robert Lowell, Philip Larkin, Allen Ginsberg, Peter Porter and Sylvia Plath.

MASTER OF ARTS (PASS)—HISTORY

Candidates enrolled for the Pass MA degree in History will participate in a minimum of two seminar discussion hours each week for two academic years. They will be required to write such essays as may be set.

The following topics will be discussed during the four sessions of the course:

- Historical Methodology
- Late eighteenth-century British intellectual history
- Winston Churchill: some aspects of his career
- Some aspects of Southeast Asian history (yet to be decided).

The second and third of these four topics will be offered in 1973.
MASTER OF ENGINEERING SCIENCE (Mechanical Engineering)

The School of Civil, Mechanical and Mining Engineering offers a course leading to the degree of Master of Engineering Science in Mechanical Engineering.

This course provides advanced study and research in selected areas, and is made up of a programme of formal work selected from the subjects listed below together with research work.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Advanced Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>Advanced Heat Transfer I</td>
<td>4</td>
</tr>
<tr>
<td>Advanced Heat Transfer II</td>
<td>4</td>
</tr>
<tr>
<td>Advanced Mechanics of Solids I</td>
<td>4</td>
</tr>
<tr>
<td>Advanced Mechanics of Solids II</td>
<td>4</td>
</tr>
<tr>
<td>Computational Methods in Mech. Eng I</td>
<td>2</td>
</tr>
<tr>
<td>Computational Methods in Mech. Eng. II</td>
<td>2</td>
</tr>
<tr>
<td>Gas Dynamics and Compressible Fluid Flow</td>
<td>6</td>
</tr>
<tr>
<td>Optimum Design for Mechanical Engineers</td>
<td>2</td>
</tr>
<tr>
<td>Statistical Thermodynamics</td>
<td>4</td>
</tr>
<tr>
<td>Theory of Elasticity</td>
<td>4</td>
</tr>
<tr>
<td>Systems Engineering I</td>
<td>3</td>
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<tr>
<td>Systems Engineering II</td>
<td>3</td>
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<tr>
<td>Systems Engineering III</td>
<td>3</td>
</tr>
</tbody>
</table>

The normal length of the course is one full-time year (two sessions) or two part-time years, amounting in each case to approximately forty-two credit hours (one credit hour being normally equal to one hour per week for one session). Of this, not more than thirty-six credit hours shall be devoted to formal course work. Students for whom additional prerequisite or co-requisite courses have been prescribed must expect their course to exceed the minimum period. The maximum period allowed for completion of the course is two years for full-time students and four years for part-time students.

It is expected that no less than two-thirds of the formal credit hours will be earned within a single field of engineering science, which will be regarded as the student's major field of study.

Areas from which research topics may be selected are to some extent indicated by the foregoing list of subjects. The topic will be determined after discussion between the student and his proposed Supervisor (who is nominated after the student has indicated his area of interest).

Students should recognise that they must be prepared to spend a number of hours regularly each week on their research, a matter of some difficulty for part-time students, unless they are willing and able to devote at least some day-time hours to the purpose. This will be considered essential in the case of experimental research.
DESCRIPTION OF SUBJECTS

ADVANCED DYNAMICS
(4 credit hrs.)

Kinematics and dynamics of particles and rigid bodies in three-dimensional motion: Fixed and moving reference frames; Newtonian dynamics; inertia tensor; Euler’s equations of motion; general motion of gyrosopes and rigid bodies in space.

Calculus of variations: Functions and functionals; stationary values of integrals; Euler-Lagrange equation; constraints and Lagrange multipliers; fixed and variable end points; problems of Lagrange Mayer and Bolza.

Variational dynamics: Performance optimisation; generalised co-ordinates; Lagrange equation; Hamilton’s principle; impulsive motion; oscillatory motion.

ADVANCED HEAT TRANSFER I
(4 credit hrs.)

Fluid Dynamics: Mass continuity equations; Navier-Stokes equations, their general properties and exact solutions; boundary layer theory; laminar, transition and turbulent flow; equations of motion; exact solutions of boundary layer parameters for laminar flow; turbulence; Reynolds stresses; eddy diffusivity theory; mixing length theories; Prandtl’s momentum transfer theory; Taylor’s vorticity transfer theory; Von Karman’s similarity hypothesis; boundary layer parameters for turbulent flow; velocity defect law; universal velocity distribution; application to turbulent flow in circular pipes; velocity distributions and resistance formulae for hydraulically smooth and rough pipes; integral method for approximate boundary layer analysis; Von Karman’s momentum equation; application to laminar and turbulent boundary layers; boundary layers with pressure gradient; separate and vortex formation; boundary layer control; drag and pressure distribution relationships for bluff bodies.

HEAT TRANSFER BY CONVECTION

A. General: Introduction; heat, mass and momentum transport; methods of evaluation of the convective heat transfer coefficient; dimensional analysis; physical interpretation of parameters; correlation of experimental data; theory of similarity in heat transfer; energy equation; thermal boundary layers in laminar flow; general properties; exact solutions of temperature distributions; integral method as an approximate analyses of thermal boundary layers in laminar flow; heat and momentum transfer in turbulent flow; the Reynolds analogy; the Taylor-Prandtl analogy; the Von Karman analogy; the turbulent Prandtl number, the Stanton number.

B. Free Convection: Similarity parameters; velocity and temperature fields; correlation of data for vertical, horizontal and sloping surfaces; evaluations of heat flow for geometric shapes of practical interest; laminar and turbulent flow cases; convection caused by centrifugal forces; convection from rotating bodies.
C. Forced Convection: Velocity and temperature fields in closed conduits; effect of similarity parameters on heat transfer; heat transfer coefficients for laminar and turbulent flow; semi-empirical equations and working formulae; flow over exterior surfaces; separated flow; application to flow over a bank of tubes; heat exchanger design and selection; flow arrangements and effectiveness; fouling factors; heat transfer in high-speed flow, in rarefied gases and in free molecule flow.

D. Heat Transfer with change of Phase: Condensation; Nusselt’s liquid-film theory; turbulent film condensation; super-heated vapours; multicomponent vapours; non-condensable gases; dropwise condensation; experimental results and working formulae; condensation in tubes; evaporation; surface evaporation; nucleate boiling of a sub-cooled liquid; nucleate pool boiling; film boiling; burnout; experimental results and working formulae; boiling in tubes.

ADVANCED HEAT TRANSFER II
(4 credit hrs.)
Conduction: Unidimensional heat flow; analysis of extended surfaces; two and three-dimensional conduction; unsteady conduction in one or more dimensions; analytical, numerical and analogical methods of solution; transient systems; initial value and boundary value problems; nonhomogeneous bodies; anisotropic bodies; variable material properties.

Radiation: Thermal radiation properties of materials, black bodies—characteristics of real solids, liquid and gases; radiation exchange between infinite surfaces and between finite surfaces shape factor for various configurations; radiation shields; re-radiating surfaces and electrical analogies; radiation behaviours of gases and vapours; pyrometry; solar radiation.

ADVANCED MECHANICS OF SOLIDS I
(4 credit hrs.)
Stresses in normally loaded flat plates and shells: Bending and deflection of long rectangular plates; bending and deflection of circular plates; bending stresses in thin-walled vessels; thermal stresses in thin-walled vessels.

Buckling: Lateral buckling of prismatic bars; energy method of calculating critical compressive loads; buckling of bars of variable cross section; effect of shearing force on the critical load; inelastic buckling of straight columns; buckling of circular rings and tubes under external pressure; buckling of beams without lateral supports; buckling of shafts by torsion; twistbend buckling, twist buckling of columns; buckling of rectangular plates.

Stresses and deformation of rotating discs: Uniform and varying thickness; uniform stress; sum and difference method; temperature gradients.
Effect of small inelastic strains on load-carrying capacity: Notched bar in tension; residual stress; beam of rectangular cross-section; torsion of prismatical bars; ultimate load analysis—simple cases; thick cylinders.

ADVANCED MECHANICS OF SOLIDS II
(4 credit hrs.)
Plasticity and metal forming: Theories of plasticity; plane strain problems in cartesian and polar co-ordinates; axially-symmetrical problems in cylindrical and spherical co-ordinates; effect of temperature strain rate and external friction on plastic deformation; applications to certain metal forming problems.

Elastic bodies in contact: Point and line contact; contact stresses; deflection of bodies in contact; effect of friction on contact stresses.

Fluctuating stresses: Endurance test; fatigue; effect of stress concentration on fatigue; mean stress, variable stress; fatigue under combined loading; theories of fatigue failure; factor of safety; corrosion fatigue.

Mechanical properties of materials at high temperature: Introduction to the mechanics of creep; deformation by creep; steady creep under general state of stress; creep under alternating stress; effect at temperature variations; stress relaxation due to creep; creep recovery.

Mechanical properties of materials at low temperature: Brittle fracture; propagation of brittle cracks; ductile-brittle transition; fracture toughness; notch ductility.

COMPUTATIONAL METHODS IN MECHANICAL ENGINEERING I
(2 credit hrs.)
Programming languages, including Fortran and automatic differential equation solvers; solution of single non-linear equations; iteration; extension to simultaneous equations; systems of linear equations; direct, matrix and iterative methods; relaxation; empirical analysis; least squares, differential correction; introduction to linear programming; ordinary differential equations; series and stepwise methods; partial differential equations; solution by finite differences; iterative methods in boundary value and initial value problems.

COMPUTATIONAL METHODS IN MECHANICAL ENGINEERING II
(2 credit hrs.)
Deals with the solution of engineering problems employing the methods of systems analysis. Both lumped parameter and distributed systems are discussed. The following topics are treated:—
Problem formulation, classical time domain methods, frequency domain analysis, Fourier, Laplace and Z transforms, matrix methods and introduction to state-space analysis; phase-plane analysis applied to non-linear systems, analogue computation.

GAS DYNAMICS AND COMPRESSIBLE FLUID FLOW
(6 credit hrs.)
Thermodynamics, conservation equations, kinematics, vorticity; acoustic waves; mach number; isentropic and isenergetic flow; nozzle; wind tunnel; diffusers.
Method of characteristics; influence of friction and heat transfer; combustion in a duct; rocket motor; general one-dimensional flows; potential flow small perturbation theory; linearised theory of steady plane flow for wings and bodies; shock waves; shock polar; conical shocks; moving shocks; Prandtl-Meyer flow; Busemann series expansion method.

OPTIMUM DESIGN FOR MECHANICAL ENGINEERS
(2 credit hrs.)
Introduction, discussion of methods of optimization; mathematical functions in engineering; principles of optimum design; normal, redundant and incompatible specifications; problems with more than one primary design equation; optimum design of axially loaded members (with static and variable load); optimum design of torsion shaft for minimum weight, minimum cost, maximum cost, maximum energy absorption, maximum torque felt by machine frame, maximum power transmission; optimum design of shaft with combined loading; optimum design of gears for maximum torque transmission capability, for maximum power transmission capability for minimum size; some typical examples of optimum design; optimization by linear programming—simplex method.

STATISTICAL THERMODYNAMICS
(4 credit hrs.)
History and review of classical thermodynamics; kinetic theory of an ideal monatomic gas; equations of state; statistical mechanics for systems of independent particles; concept of entropy; Maxwell, Boltzmann, Bose-Einstein and Fermi-Dirac statistics; partition function; velocity and energy distributions; classical-statistical comparisons; quantum mechanics; Schrödinger wave equation and applications; electronic states; the photon gas; the Einstein solid; diatomic and polyatomic gases; low temperature effects; statistical mechanics for systems of dependent particles; behaviour of real gases and liquids; irreversible processes; thermoelectric and thermochemical phenomena.
THEORY OF ELASTICITY
(4 credit hrs.)

Basic concepts: Notation; components of stress and strain; plane stress and plane strain; equations of equilibrium and compatibility; Airy’s stress function; applications to the solution of two-dimensional problems in rectangular co-ordinates; polar co-ordinates; stress distributions symmetrical about an axis; application to the solution of various problems.

Torsion: Prismatical bars, St. Venant’s theory; membrane and other analogies; torsion of rectangular bars, angles, channels, etc.; hollow shafts and thin tubes.

Stress concentration: Mathematical and experimental methods; stress concentration in tension and compression members; stress concentration in torsion; circular shafts of variable diameter; stress concentration in bending; investigation of stress concentration with models; photoelastic method of stress measurements.

Thermal stresses: One-dimensional temperature distributions; rectangular plate, turbine blade; two-dimensional temperature distributions; circular disc, turbine disc; allowable stresses at elevated temperatures; creep, fatigue, thermal shock.

Stress waves: Longitudinal waves in prismatic bars; longitudinal impact of bars.

SYSTEMS ENGINEERING I
(3 credit hrs.)


SYSTEMS ENGINEERING II
(3 credit hrs.)


SYSTEMS ENGINEERING III
(3 credit hrs.)

MASTER OF ENGINEERING SCIENCE (Electrical Engineering)

The Department of Electrical Engineering offers graduate subjects which may be taken as part of a graduate course leading to the degree of Master of Engineering Science in Electrical Engineering. The course may be completed in one year of full-time or two years of part-time study. The maximum period allowed for completion of the course is two years for full-time students and four years for part-time students.

The academic requirement for this degree is 42 credit hours (one credit hour is normally equal to one hour per week for one session). Not less than 24 credit hours must be accumulated from formal subjects. In addition to the formal course work, each student in the MEngSc course normally undertakes a research project carrying 18 credit hours. With the approval of the Head of Department the project may be replaced by graduate subjects.

Prospective students are advised that:

(i) the approval of the Head of Department of Electrical Engineering for a particular programme of graduate subjects must be obtained in advance of registration;

(ii) not all electives will necessarily be available during a given year;

(iii) part-time candidates may be required to attend lectures on one half-day a week in addition to evenings;

(iv) up to 9 credits may be earned from subject(s) offered by another Department provided that the replacement is of equivalent duration and level and subject to the approval of the Head of Department of Electrical Engineering.

List of elective graduate subjects:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematical Methods in Electrical Eng I</td>
<td>3</td>
</tr>
<tr>
<td>Mathematical Methods in Electrical Eng II</td>
<td>3</td>
</tr>
<tr>
<td>Matrix Analysis of Electrical Machines</td>
<td>3</td>
</tr>
<tr>
<td>Static Convertors</td>
<td>3</td>
</tr>
<tr>
<td>Machines as Control System Elements</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Power Systems I</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Power Systems II</td>
<td>3</td>
</tr>
<tr>
<td>Control System Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Optimal Control I</td>
<td>3</td>
</tr>
<tr>
<td>Nonlinear Control I</td>
<td>3</td>
</tr>
<tr>
<td>Control Systems with Discrete Time Data</td>
<td>3</td>
</tr>
<tr>
<td>High Voltage Properties of Materials &amp; Techniques I</td>
<td>3</td>
</tr>
<tr>
<td>High Voltage Properties of Materials &amp; Techniques II</td>
<td>3</td>
</tr>
<tr>
<td>Atmospheric Pollution Control Techniques</td>
<td>3</td>
</tr>
<tr>
<td>Switching Theory &amp; Digital Electronics I</td>
<td>3</td>
</tr>
<tr>
<td>Control Computing I</td>
<td>3</td>
</tr>
<tr>
<td>Noise and Information Theory</td>
<td>3</td>
</tr>
</tbody>
</table>
DESCRIPTION OF SUBJECTS

MATHEMATICAL METHODS IN ELECTRICAL ENGINEERING I

Review of analysis and design problems arising in electrical engineering context. Mathematical modelling, problems in the analysis of signals circuits and systems.

Complex frequency and spectral analysis methods; properties and uses of Fourier, Laplace and Z transforms signal detection and processing, correlation functions.

MATHEMATICAL METHODS IN ELECTRICAL ENGINEERING II

Analysis in the time domain; linear and non-linear systems, continuous and discrete time, convolution and state-variable methods.

MATRIX ANALYSIS OF ELECTRICAL MACHINES

Mathematical models from coupled circuit viewpoint, direct solutions, properties and applications of transformations, solution methods for transformed equations, non ideal machines.

STATIC CONVERTORS

Rectifiers, invertors, pulse convertors; properties of thyristors; protection and control.

MACHINES AS CONTROL SYSTEM ELEMENTS

Implications of feeding a.c. and d.c. machines from static convertors: stability, transient performance, heating.

ADVANCED POWER SYSTEMS I

An advanced course on industrial and reticulation power systems dealing with topics such as load flow, faults, stability, economic evaluation, effects of load characteristics; application of computers.

ADVANCED POWER SYSTEMS II

An advanced course on high voltage power systems dealing with topics such as power system transients, insulation co-ordination, stability economic leading; D.C. transmission.

CONTROL SYSTEM ANALYSIS

A unified approach using "classical" and "modern" methods to treat the control problems of identification, representation and solution, stability, design and optimization.
OPTIMAL CONTROL I
Formulation of the problems. Methods of Solution including variational, dynamic programming, Pontryagin's Maximum Principle. Examples of time optimal, fuel optimal and other criteria.

NONLINEAR CONTROL I
Methods of analysis including numerical, series approximations, graphical, describing function. Stability of nonlinear systems using Lyapunov's methods and extensions and functional methods.

CONTROL SYSTEMS WITH DISCRETE TIME DATA
Topics related to the use of digital equipment in control systems. The analysis and synthesis of control systems using sampling techniques.

HIGH VOLTAGE PROPERTIES OF MATERIALS & TECHNIQUES I
Gaseous ionisation and decay. Electric breakdown of gases, Corona applications—particle charging and collection, electric strength of solid and liquid dielectrics.

HIGH VOLTAGE PROPERTIES OF MATERIALS & TECHNIQUES II
Breakdown of a vacuum. Generation of high voltages, measurement of high voltages, non-destructive dielectric test techniques, advanced applications of ionised gases.

ATMOSPHERIC POLLUTION CONTROL TECHNIQUES
Surface, dynamic, optical and adhesive properties of particulates, effect of particulates and gases on air quality, basic theory of particulate collection using electrostatic, inertial and gravitational forces, filtration and measurement methods.

SWITCHING THEORY AND DIGITAL ELECTRONICS I
Analysis and design of combinational and sequential circuits. Application to the design of digital computers, error detecting and correcting codes. Linear sequential feedback circuits.

CONTROL COMPUTING I
Fundamental principles of digital, analogue and hybrid computational methods for the solution of engineering problems. Operation of hybrid computers and interfacing techniques.

NOISE AND INFORMATION THEORY
Principles of coding, channel capacity, redundancy; application of information theory to engineering systems.
MASTER OF SCIENCE IN OPERATIONS RESEARCH

The Department of Mathematics offers a postgraduate course leading to the award of the degree of Master of Science in Operations Research. The course is designed to provide professional training at an advanced level for a techniques oriented specialist who will be using a large scale computer system to produce realistic industrial and management models.

Additionally to the formal course work the student will be required to carry out work on a substantial project either on mathematical methodology or computer modelling. There will be considerable emphasis throughout the course on the development and efficient utilization of Operations Research Software on large scale computers.

The course consists of lectures, seminars, computer laboratory work, case studies and a research thesis. The minimum period of registration before the award of the degree shall be one calendar year in the case of full-time students and two years for students taking the course on a part-time basis. Students for whom additional prerequisite or co-requisite courses have been prescribed must expect their course to exceed the minimum period. The maximum period allowed for completion of the course is two years for full-time students and four years for part-time students.

To qualify for the degree, students must satisfy the examiners in respect of their academic attainments and their skill and competence in relevant aspects of practical professional work.

COURSEWORK FOR MASTER OF SCIENCE IN OPERATIONS RESEARCH

Each subject is presented as a one session unit.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Operations Research 1 (General)</td>
<td>6</td>
</tr>
<tr>
<td>Operations Research 2 (Advanced Deterministics)</td>
<td>6</td>
</tr>
<tr>
<td>Operations Research 3 (Advanced Probabilistic)</td>
<td>6</td>
</tr>
<tr>
<td>Operations Research 4 (Case Studies)</td>
<td>6</td>
</tr>
<tr>
<td>Computational Techniques 1</td>
<td>4</td>
</tr>
<tr>
<td>Computational Techniques 2</td>
<td>4</td>
</tr>
</tbody>
</table>

DESCRIPTION OF SUBJECTS

OPERATIONS RESEARCH 1 (GENERAL)

A general course in which Operations Research will be structured and classified in terms of basic mathematical techniques (linear programming, graph theory, Markov chains, etc.) as well as in terms of the management decisions (inventory control, allocation, competition, queueing, etc.).
OPERATIONS RESEARCH 2 (ADVANCED DETERMINISTICS)

This course together with Operations Research 3 will treat the basic mathematical techniques in considerable depth.


OPERATIONS RESEARCH 3 (ADVANCED PROBABILISTIC)


OPERATIONS RESEARCH 4 (CASE STUDIES)

Case histories with particular emphasis on local industries.

COMPUTATIONAL TECHNIQUES 1

High level programming languages such as SIMSCRIPT II. List processing. Information storage and retrieval. Comparison of Mathematical Programming packages for very large problems. Design of files and data banks for commercial information systems.

COMPUTATIONAL TECHNIQUES 2

POSTGRADUATE STUDY

DIPLOMA IN EDUCATION

The Diploma in Education is a professional course in education for graduates of this or another approved university who seek teacher qualifications. It also serves as an introduction to the research disciplines of education for those who will later pursue higher studies in the field. At present the course is for one year full-time, but it is anticipated that in the near future it will be available on a part-time basis over two years. The various subjects involve lectures, seminars, tutorials, individual assignments and group exercises. Demonstrations of teaching methods and practice teaching are provided in co-operation with the Wollongong College of Advanced Education and local schools.

COURSE OUTLINE

Except where shown, all subjects are single session subjects. Hours per week are indicated in brackets. The decision as to whether subjects are offered in first or second session is taken at enrolment time in the light of staff availability.

Education

- Australian Education (2)
- Educational Practice (2)
- Educational Psychology (2)
- Sociology of Education (2)
- Philosophy and Theory of Education (2)
- Seminars in both sessions (2)

Methods of Teaching

All method subjects are double subjects. Students must study two methods, occupying 6-8 hours weekly including demonstration lessons.

Selected Topics

- Physical Education (double session subject) (1)
- Communication Skills (2)
- Health and Health Education (2)
- Electives (4)

Supervised Teaching Practice

Eight weeks in term time. Two weeks of unsupervised teaching practice is also required. This is usually undertaken before the first session lectures begin, and students not on teachers' scholarship are advised to contact the Head of Department before February to make arrangements.

AUSTRALIAN EDUCATION

This subject seeks to lift student awareness of problems in Australian education above the level of opinion and limited personal experience, by presenting them in their historical and comparative setting. Various developments in secondary and
tertiary education are discussed, with a view to understanding the interplay of social, economic, political and ideological factors, and the need to subject them to more rigorous research.

TEXTBOOKS

REFERENCE BOOKS

SELECTED JOURNALS
*The Australian University*. Australian Vice-Chancellors' Committee.

EDUCATIONAL PRACTICE
An appreciation of guiding principles common to the teaching of secondary school children will be gained through study of preparation at course, topic and lesson levels and the utilisation of school and community resources; aspects of classroom control and discipline; individual and group techniques of teaching; and evaluation procedures including the construction and administration of tests and examinations.

REFERENCE BOOKS
POSTGRADUATE STUDY


EDUCATIONAL PSYCHOLOGY

A study of psychology as it bears on the educational process, through a treatment of learning, motivation and the development of adult modes of thinking. Although attention is paid to cognitive development throughout the school years, the cognition of the adolescent is especially considered.

TEXTBOOKS

REFERENCE BOOKS

SELECTED JOURNALS
British Journal of Educational Psychology.
Education Research.
Harvard Education Review.
SOCIOLOGY OF EDUCATION

The sociological aspects of education are studied with special reference to the school. The school is seen both as a unit in the social structure and as a social system in itself. Topics will be allocated within these two broad areas of study.

TEXTBOOKS

REFERENCE BOOKS

SELECTED JOURNALS
Sociology of Education. The American Sociological Assoc.
Sociometry. The American Sociological Assoc.
Journal of Personality and Social Psychology.
PHILOSOPHY AND THEORY OF EDUCATION

A study of the nature and scope of educational theory. By tracing the development of educational ideas in western culture, it is seen how the various disciplines of educational theory have emerged to cope with problems of value, knowledge and public education.

REFERENCE BOOKS

SELECTED JOURNALS
- *Educational Philosophy and Theory*. Univ. of N.S.W.

COMMERCE METHOD

The aim is to develop competent and critical teachers of economics and commerce. These subjects are discussed in relation to a general theory of education, problems of programming, lesson preparation and presentation.

REFERENCE BOOKS

SELECTED JOURNALS
- *Economica*. London School of Economics.
ENGLISH METHOD

This course deals with the aspects of language, expression and literature that concern the teacher in the secondary school. Language work examines contemporary theories and practice and the changing nature of linguistic studies. Expression themes include the fostering of responsive writing and aims and methods in oral practice. In the examination of literature the need is stressed to foster enjoyment and understanding at various levels. Some attention is given to testing, the programming of work and the interpretation of curricula.

REFERENCE BOOKS


SELECTED JOURNALS

English in Australia. Australian Association for the Teaching of English, Melbourne.
The Teaching of English. English Teachers' Association of N.S.W.

GEOGRAPHY METHOD

A survey of the principles and problems underlying the selection, organisation and presentation of geographical knowledge. Topics include: the place of geography in the secondary school, the nature and organisation of programmes, the inter-relationship of systematic and regional geography, and specific aspects of classroom practice and field studies.

REFERENCE BOOKS


SELECTED JOURNALS

Australian Geographer. Geographical Society of N.S.W.
HISTORY METHOD
Students are introduced to the theory and practice of the teaching of history at the secondary school level through a study of the principles and problems underlying the selection, organisation and presentation of historical information. Topics include the nature of history; the purposes behind its teaching; programming; practical aspects of classroom work.

REFERENCE BOOKS

SELECTED JOURNALS
English-History Bulletin. N.S.W. Department of Education.
Teaching History. Journal of the N.S.W. History Teachers' Association.

MATHEMATICS METHODS
Mathematics First Method seeks to develop in students an awareness of various methods possible in secondary school. Emphasis is placed on the development of concepts, use of discovery and grading of material. Aims for different age and ability groups are related to these. Students doing another subject method as well will take this course.

Mathematics Second Method deals with a selection of these topics from an advanced standpoint, and is for students taking mathematics as a double method.

REFERENCE BOOKS

SELECTED JOURNALS
Australian Mathematics Teacher.
N.S.W. Department of Education Mathematics Bulletin.
SCIENCE METHOD

Science First Method seeks to prepare graduates to teach at all high school levels, especially in the areas of physics, chemistry, biology and geology. Topics include: science in the school curriculum; aims, procedures and programme planning; teaching aids; pupils' records and assessment; safety precautions. Where previous studies have covered some areas inadequately, students may be required to gain additional content knowledge. Students doing another subject method as well will take this course.

Science Second Method deals with the above topics and others from an advanced standpoint, and is for students taking science as a double method.

REFERENCE BOOKS

A Biology Course for Teachers. Correspondence course prepared in the School of Biological Sciences, University of Sydney.


McDonald, Massey & Tebbutt. Enquiring into the Earth.


Notes on Biology—Forms V and VI. Dept. Education, N.S.W., In-service Training Branch.


SELECTED JOURNALS


Science Education News. Science Teachers’ Association of N.S.W.
SELECTED TOPICS

The selected topics are of two kinds: professional skills and academic electives.

(a) Lectures and exercises in certain professional skills given generally at the Wollongong College of Advanced Education include:

(i) **Physical Education.** The aim is to encourage personal physical fitness in the Diploma student, as well as to prepare him for the duties in this area that fall to the general teacher.

(ii) **Health and Health Education.** Students are given guidance concerning physical and mental health, and informed of resources available in the schools.

(iii) **Communication Skills.** Students are made more aware of problems of communication in the classroom, and their own personal competence is improved.

(b) **Electives.** Lectures and tutorials are offered in a variety of electives designed to provide opportunity for students to pursue some studies at greater depth. While the composition of the student group from year to year will partly determine which electives are offered, it is intended to provide a range representative of the main disciplines of education. Students are expected to choose electives that enable them to draw in some way on their previous studies.

SUPERVISED TEACHING PRACTICE

Students engage in the equivalent of eight weeks' full-time teaching practice in schools. They are expected to plan learning units, observe and take individual lessons, develop classroom routines and controls, test and evaluate pupil learnings, and become acquainted with the general school duties of a teacher. As the practice situation is meant to be the application in the field of principles studied and informal subjects already described, a detailed reference list is not appropriate, but a specific orientation to Teaching Practice is provided by the following books.

REFERENCE BOOKS


