WOLLONGONG UNIVERSITY COLLEGE

HANDBOOK 1970

the university of new south wales
Aug p. 22
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Looking south. The Engineering Building is on the right, and the building in the background is the Science and Metallurgy Building.
Introduction

Wollongong University College was established as a College of the University of New South Wales in May, 1961, under the provisions of The Technical Education and University of New South Wales Act, 1949, as amended, which gives the Council the power to ‘establish and maintain branches, departments or colleges of the University at Wollongong, Broken Hill or such other place in the State as the Council deems fit’. The Council has established the Wollongong University College Council to advise it on all matters affecting the College; and a Board of Studies to consider and report upon matters relating to the academic programme of Wollongong University College.

In March, 1962, the College moved to its present site at North Wollongong. The site, which occupies about fifty-five acres, is approximately two miles from the centre of the City of Wollongong.

At present, the first year or early years of most courses (with the exception of Architecture, Building, Town Planning, Surveying and Social Work) offered by the University of New South Wales are available at Wollongong. In addition, complete undergraduate courses and postgraduate study in an expanding number of areas may also be undertaken at Wollongong University College. Specific details regarding the availability of courses at Wollongong are listed in another section of this handbook.

The identity of the courses at the College with those offered by the University of New South Wales at other centres makes possible the ready transfer of students, and the proximity to Sydney enables the staff of the College to be in close association with the parent University at Kensington.

This handbook has been specially designed as a source of reference for students at Wollongong, and will prove useful for consultation throughout the first year. However, it should be read in conjunction with the University calendar where complete details regarding courses, staff membership, scholarships, etc., can be found.
## Principal Dates 1970

<table>
<thead>
<tr>
<th>Term 1 (11 weeks)</th>
<th>2nd March to 16th May.</th>
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<tr>
<td>Term 2 (10 weeks)</td>
<td>1st June to 8th August.</td>
</tr>
<tr>
<td>Term 3 (9 weeks)</td>
<td>30th August to 31st October.</td>
</tr>
</tbody>
</table>

### Annual Examinations
- 30-week courses: 7th November to 28th November.

#### January
- Monday 19: Last day for acceptance of applications to enrol by new students and students repeating first year.
- Monday 26: Australia Day—Public Holiday.
- Tuesday 27 to Saturday 7 February: Deferred Examinations.

#### February
- Monday 16 to Friday 19: Enrolment period for new first year students.
- Monday 23 to Friday 27: Enrolment period for re-enrolling students.

#### March
- Monday 2: First term lectures commence.
- Friday 13: Last day for acceptance of enrolment for new students (late fee payable).
- Friday 27 to Monday 30: Easter Holidays.
- Tuesday 31: Last day of acceptance of enrolments of students re-enrolling (late fee payable).

#### April
- Friday 10: Graduation Ceremony.
- Wednesday 29: Captain Cook Bi-Centenary Day—Public Holiday.

#### May
- Saturday 16: First term ends.

#### June
- Monday 1: Second term commences.
- Monday 15: Queen's Birthday—Public Holiday.

#### July
- Friday 17: Last day for acceptance of corrected enrolment details forms.

#### August
- Saturday 8: Second term ends.
- Monday 31: Third term begins.
October
Monday 5 ........................................... Eight Hour Day—Public Holiday.
Saturday 31 ......................................... Third term lectures cease.

November
Saturday 7 to Saturday 28 .................... Annual examinations—30-week courses.

1971
Term 1 (11 weeks) .............................. 1st March to 15th May.
Term 2 (10 weeks) .............................. 31st May to 7th August.
Term 3 (9 weeks) .............................. 30th August to 30th October.

January
Monday 25 ......................................... Australia Day—Public Holiday.
Tuesday 26 to Saturday 6 February ........... Deferred examinations.

March
Monday 1 ............................................ First term lectures commence.

COMMITTEE MEETINGS

Board of Studies
Meets on the following Fridays at 2.15 p.m.:
13th March, 12th June,
11th September, 11th December.

Executive Committee of Board of Studies
Meets on the following Fridays at 9.15 a.m.:
6th March, 29th May, 28th August,
27th November.

Higher Degree Committee
Meets on the following Thursdays at 9.15 a.m.:
5th February, 5th March, 2nd April,
7th May, 4th June, 2nd July, 6th August,
3rd September, 1st October,
5th November, 3rd December.

College Council
Meets on the following Fridays at 2 p.m.:
6th February, 3rd April, 5th June,
7th August, 2nd October, 4th December.

Union Board of Management
Meets on the following Tuesdays at 5 p.m.:
20th January, 17th February, 17th March,
21st April, 19th May, 16th June,
21st July, 18th August, 15th September,
20th October, 17th November, 15th December.
MEMBERS OF COUNCIL

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

Mrs. H. Beacham,
President,
Wollongong University College
Students’ Union

Mr. E. Beale,
Solicitor

Mrs. J. P. Brown,
Business and Professional
Women’s Association

Mr. J. K. Doherty,
Field Engineer,
Coalcliff Collieries

Mr. B. J. Doyle,
Director of Artificial Stock
Breeding

Mr. T. K. Duncan,
General Manager,
Australian Iron & Steel Pty. Ltd.

Professor P. K. Elkin,
Professor of English and Head
of Division of Literature and
Language,
Wollongong University College

Mr. R. G. Gole,
Accountant

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

Mr. H. H. Hartley,
Manager,
Electrolytic Refining and
Smelting Company of Australia
Ltd.

Mr. M. P. McCartney,
Secretary,
Vehicle Builders’ Employees
Federation of Australia

Mr. W. C. McGrath,
Principal,
Wollongong Teachers’ College

Mr. R. J. Pearson,
General Manager,
Port Kembla Works,
Metal Manufactures Ltd.

Mr. I. C. Young,
Director,
South Coast Directorate,
Department of Education

Ex Officio:

Professor C. A. M. Gray,
Warden,
Wollongong University College

Professor A. Keane,
Chairman,
Wollongong College Board of
Studies

Professor A. H. Willis,
Pro-Vice-Chancellor,
The University of New South
Wales
Staff

WARDEN
Professor C. A. M. Gray, Hon.JMN, BSc ME Syd., MIMechE, AMICE, AMIEAust, Emeritus Professor, University of Malaya

SECRETARY

ADMINISTRATIVE OFFICER
M. J. Boland, AASA

ADMINISTRATIVE ASSISTANT
J. F. White, BA N.E.

LIBRARIAN
D. A. R. Kemp, BA Durh., DipLib Lond., FLA, ALAA

DIVISION OF BIOLOGICAL AND CHEMICAL SCIENCE

ASSOCIATE PROFESSOR AND ACTING HEAD OF DIVISION
E. Gellert, DrPhil Basle, FRACI

DEPARTMENT OF CHEMISTRY

PROFESSOR OF CHEMISTRY
Vacant

SENIOR LECTURERS
P. D. Bolton, BSc Exe., PhD Lond., ARIC, ARACI
F. M. Hall, MSc N.S.W., ASTC., ARACI

LECTURERS
J. Ellis, BSc Syd., PhD N.S.W.
W. K. Hannan, MSc Syd.
E. Kokot, BSc PhD N.S.W., ARACI
G. M. Mockler, BSc PhD N.S.W., ARACI

SENIOR TUTORS
D. J. Campbell, BSc DipEd Tas.
R. Rudzats, MSc N.S.W., ASTC, ARACI, ARIC

DIVISION OF COMMERCE

PROFESSOR OF ECONOMICS AND HEAD OF DIVISION
K. A. Blakey, BA N.Z., MSc Lond., MCom Melb., DPhil Oxon.

DEPARTMENT OF ACCOUNTANCY

LECTURERS
C. T. Heazlewood, BCom DipEd Melb., AASA
E. D. Moore, BCom N.S.W., AASA, ACIS

DEPARTMENT OF ECONOMICS

LECTURERS
S. Ali, MCom Melb., DEc Hasanuddin
R. R. Piggott, MAgEc N.E.
J. C. Steinke, MA Calif.

TUTOR
Mrs. Julie Irving, BA N.S.W.
DIVISION OF ENGINEERING AND METALLURGY

Professor of Metallurgy and Head of Division
G. Brinson, MSc Melb., PhD Sheff., FIM, AMAusIMM

DEPARTMENT OF ELECTRICAL ENGINEERING

Professor of Electrical Engineering
B. H. Smith, BE Adel.

Senior Lecturer
O. J. Tassicker, MEE Melb., FIEAust, FIEE

Lecturers
W. H. Charlton, BE N.S.W., ASTC, FIEE, CEng, MIEAust
Z. Herceg, DipEng Zagreb, MIEAust

DEPARTMENT OF MECHANICAL, CIVIL AND MINING ENGINEERING

Professor of Engineering
Professor C. A. M. Gray, Hon.JMN, BSc ME Syd., CEng, FIMechE, MIE, MIEAust, Emeritus Professor, University of Malaya

Associate Professors
S. E. Bonamy, BE Syd., MSc Birm., PhD N.S.W., ASTC, FIMechE, CEng, MIEAust.
A. W. Roberts, BE PhD N.S.W., ASTC, CEng, MIEAust, MIMechE

Senior Lecturers
R. W. Upfold, ME PhD N.S.W., CEng, ASTC, MIEAust, MIMechE
P. Van der Werf, ME PhD N.S.W., ASTC, MIEAust

Lecturers
P. C. Arnold, BE, PhD, N.S.W., CEng, MIMechE, MIEAust
M. J. Lowrey, ME N.S.W., ASTC, MIEAust
R. T. Wheway, BE PhD N.S.W., GradIEAust

Professional Officer
R. M. Kinnell, ASTC, CEng, MIEAust

DEPARTMENT OF METALLURGY

Senior Lecturers
N. F. Kennon, MSc PhD N.S.W., FRMTC, AIM, AMAusIMM
N. Standish, MSc N.S.W., PhD Otago, ASTC, AMAusIMM

Lecturers
M. Atkinson, BSc(Eng) Lond.
T. W. Barnes, MSc N.S.W., ASTC, AIM, AMAusIMM
N. Salasoo, BSc N.S.W., ASTC, AMAusIMM

DIVISION OF LITERATURE AND LANGUAGE

Professor of English and Head of Division
P. K. Elkin, BA DipEd Syd., BLitt DPhil Oxon.
DEPARTMENT OF ENGLISH

Lecturer
C. Nightingale, BA BLitt Oxon.

Senior Tutor

Tutor
Mrs. Isabel S. Sharp, BA DipEd Syd.

DEPARTMENT OF GENERAL STUDIES

Lecturer
D. J. Dillon-Smith, MA DipEd Syd.

DIVISION OF PHYSICAL SCIENCE

Professor of Mathematics and Head of Division
A. Keane, MSc Syd., PhD N.S.W., FRAS

DEPARTMENT OF GEOLOGY

Senior Lecturer
A. C. Cook, MA Cantab., AMAusIMM, FGS

Lecturers
R. A. Facer, BSc Syd.
E. R. Phillips, BSc PhD Qld.

Tutor
G. Gibson, BSc Syd.

DEPARTMENT OF MATHEMATICS

Senior Lecturers
A. E. Chapman, MSc Lond.
K. P. Tognetti, BE MEngSc N.S.W.

Lecturers
M. W. Bunder, BSc N'cle(N.S.W.), MA N.E., PhD Amst.
D. J. Clarke, BSc W.Aust., MSc Adel.
T. S. Horner, BSc DipEd Syd.

DEPARTMENT OF PHYSICS

Professor of Physics
R. G. Giovanelli, DSc Syd., FAA, FAIP, FRAS

Senior Lecturer
K. J. Ausburn, BSc Syd., MSc Lond., PhD N.S.W., DIC, AInstP

Lecturers
J. N. Mathur, MSc Alig., DrRerNat Kiel
A. I. Segal, BSc Melb., GradAIP
J. N. Stephens, MA Cantab., PhD N.S.W., AMInstF, AInstP, AAIP, IMEPS

Tutor
J. L. K. Lising, BSc N.S.W., GradIP, GradAIP
DIVISION OF SOCIAL SCIENCE

PROFESSOR OF HISTORY AND HEAD OF DIVISION
R. Duncan, MA Adel.

DEPARTMENT OF EDUCATION

SENIOR LECTURER
B. V. Hill, BA BEd W.Aust., MA Syd., MACE

LECTURER
P. R. de Lacey, MA Auck., BSc N.S.W., MACE

DEPARTMENT OF GEOGRAPHY

SENIOR LECTURER
F. Beavington, BA PhD Lond., MScAberd., CertEd Cantab.

LECTURERS
E. Dayal, MA PhD Delhi
R. Robinson, BA N.E., MA DipEd N.S.W., PhD Br.Col.

DEPARTMENT OF HISTORY

SENIOR LECTURERS
J. S. Hagan, BA DipEd Syd., PhD A.N.U.
A. M. Healy, BA Syd., PhD A.N.U.
C. P. Kiernan, MA Cantab. and Melb., PhD N.S.W.

TUTOR
Josephine A. Jeffrey, BA Syd.

DEPARTMENT OF HISTORY AND PHILOSOPHY OF SCIENCE

LECTURER
R. D. Francis, MA N.Z. and Melb., ABPsS, MAPsS

DEPARTMENT OF PSYCHOLOGY

SENIOR LECTURER

LECTURER
N. L. Adams, BSc N.S.W.

TUTOR
C. G. Cupit, BA Syd.

THE UNION

SECRETARY MANAGER
I. L. Dunn, LLB Lond.
General Information

REQUIREMENTS FOR ADMISSION

INTRODUCTORY INFORMATION

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.

It should be noted that compliance with these conditions does not in itself entitle a candidate to enter upon a course. While it is the policy of the University to endeavour to admit all properly qualified applicants who have lodged applications by the appropriate closing date, it may be necessary at times to restrict the entry to one or more faculties because of lack of facilities.

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

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

Section A

GENERAL MATRICULATION AND ADMISSION REQUIREMENTS

(for entry to the University in 1969 and until further notice)

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

4. A candidate who has qualified to matriculate in accordance with the provisions of Clauses 1, 2 and 3 may be admitted to a particular Faculty, Course or Subject provided that:

- (a) his qualification includes a pass at the level indicated in the subject or subjects specified in Schedule A as Faculty, Course or Subject Pre-Requisites;

- or

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

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

NOTE

1. For the purposes of clause 2 (a), Mathematics and Science BOTH PASSED at First Level or Second Level Full Course shall together count as three subjects.

2. For the purposes of clause 2 (b), Mathematics and Science TAKEN either singly or together at First Level or Second Level Full Course shall each count as one and one half subjects.
SCHEDULE A

<table>
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<th>FACULTY OR COURSE</th>
<th>FACULTY OR COURSE PRE-REQUISITES</th>
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<tr>
<td>Applied Science (excl. Wool Technology course)</td>
<td>(a) Science at Level 2S or higher AND (b) either Mathematics at Level 2F or higher OR Mathematics at Level 2S, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board.</td>
</tr>
<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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<td>Military Studies (Engineering course and Applied Science course)</td>
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<td>Science</td>
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<tr>
<td>Bachelor of Science (Education)</td>
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<tr>
<td>Architecture</td>
<td>(a) Science at Level 2S or higher AND (b) Mathematics at Level 2S or higher</td>
</tr>
<tr>
<td>Wool Technology Course (Faculty of Applied Science)</td>
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<tr>
<td>Sheep and Wool Technology (Education option) course</td>
<td></td>
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<tr>
<td>Arts</td>
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<tr>
<td>Social Work Degree Course</td>
<td>(a) Mathematics at Level 2S or higher AND (b) either English at Level 2 or higher OR English at Level 3, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board.</td>
</tr>
<tr>
<td>Commerce</td>
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<tr>
<td>Military Studies (Arts course)</td>
<td>English at Level 2 or higher; OR English at Level 3, provided that the candidate's performance in this subject and his general level of attainment are at standards acceptable to the Professorial Board, and provided that a candidate so qualified shall not enrol in a course in English literature.</td>
</tr>
<tr>
<td>SUBJECT</td>
<td>SUBJECT PRE-REQUISITES</td>
</tr>
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<td>------------------------------------------------------------</td>
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<tr>
<td>1.011—Higher Physics I</td>
<td>As for Faculty of Science</td>
</tr>
<tr>
<td>1.001—Physics I</td>
<td>Science at Level 2S or higher</td>
</tr>
<tr>
<td>1.041—Physics IC</td>
<td>Mathematics at Level 2F or higher</td>
</tr>
<tr>
<td>2.011—Higher Chemistry I</td>
<td>Either Mathematics at Level 2F or higher</td>
</tr>
<tr>
<td>2.001—Chemistry I</td>
<td>OR Mathematics at Level 2S, provided that the candidate's</td>
</tr>
<tr>
<td>17.001—General and Human Biology</td>
<td>performance in the subject and</td>
</tr>
<tr>
<td>25.001—Geology I</td>
<td>his general level of attainment are at standards acceptable</td>
</tr>
<tr>
<td>10.011—Higher Mathematics I</td>
<td>to the Professorial Board</td>
</tr>
<tr>
<td>10.001—Mathematics I</td>
<td>Mathematics at Level 2S or higher</td>
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<tr>
<td>10.021—Mathematics IT</td>
<td>As for Faculty of Commerce</td>
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<tr>
<td>15.102—Economics II</td>
<td>English at Level 2 or higher</td>
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<tr>
<td>15.102W—Economics II</td>
<td>French at Level 2 or higher</td>
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<tr>
<td>50.111—English I</td>
<td>Russian at Level 2 or higher</td>
</tr>
<tr>
<td>51.111—History I</td>
<td>German at Level 2 or higher</td>
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<tr>
<td>56.111—French I</td>
<td>Spanish at Level 2 or higher</td>
</tr>
<tr>
<td>59.111—Russian I</td>
<td>A foreign language, other than that in which enrolment is</td>
</tr>
<tr>
<td>64.111—German I</td>
<td>sought, at Level 2 or higher</td>
</tr>
<tr>
<td>65.111—Spanish I</td>
<td></td>
</tr>
<tr>
<td>59.001—Russian IZ</td>
<td></td>
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<tr>
<td>64.001—German IZ</td>
<td></td>
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<tr>
<td>65.001—Spanish IZ</td>
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</tbody>
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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 had 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.

* 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.
(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.
UNDERGRADUATE COURSES OF STUDY AND DEGREES AWARDED

The basic undergraduate programme of studies available at Wollongong constitutes a selection of those subjects of study most in demand to qualify for the degrees of Bachelor of Arts, Bachelor of Commerce, Bachelor of Science and Bachelor of Science (Technology). The full requirements for these degrees are set out in the University Calendar, and the following abridged information should be read in conjunction with the detailed particulars contained in the Calendar.

The subjects of study required for these degrees are being introduced progressively at Wollongong as the demand for them becomes evident, and as facilities and staff become available. At this stage, however, it is possible for students at Wollongong to take the first year of all undergraduate courses offered by the University in the Faculties of Applied Science, Arts, Biological Sciences, Commerce, Engineering (Mechanical and Industrial, Electrical, Civil), Medicine and Science. The accompanying tables show the full range of courses and the extent to which they can be taken at Wollongong.

Where the subjects of the advanced years for any degree offered by the University are not available at Wollongong, the student may transfer to Kensington with full credit, in most cases, for work completed at Wollongong.

In 1970, the subjects listed in the following pages will be available at Wollongong, subject to staff and facilities being available and to the number of enrolling students justifying the provision of such subjects.

BACHELOR OF ARTS (B.A.)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours per week for 3 terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.111W</td>
<td>English I</td>
<td>3</td>
</tr>
<tr>
<td>50.112W</td>
<td>English II</td>
<td>3</td>
</tr>
<tr>
<td>50.122</td>
<td>English II Honours</td>
<td>3</td>
</tr>
<tr>
<td>50.113</td>
<td>English III</td>
<td>3</td>
</tr>
<tr>
<td>51.111W</td>
<td>History I</td>
<td>3</td>
</tr>
<tr>
<td>51.112W</td>
<td>History II</td>
<td>3</td>
</tr>
<tr>
<td>51.113W</td>
<td>History IIIA</td>
<td>3</td>
</tr>
<tr>
<td>51.133W</td>
<td>History IIIIB</td>
<td>3</td>
</tr>
<tr>
<td>15.101W</td>
<td>Economics I</td>
<td>3</td>
</tr>
<tr>
<td>15.102W</td>
<td>Economics II</td>
<td>4</td>
</tr>
<tr>
<td>15.123W</td>
<td>Economics IIIA</td>
<td>4</td>
</tr>
<tr>
<td>15.133W</td>
<td>Economics IIIB</td>
<td>2</td>
</tr>
<tr>
<td>15.402W</td>
<td>Economics IIIIM</td>
<td>3</td>
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<td>15.112W</td>
<td>Economics II Honours</td>
<td>4</td>
</tr>
<tr>
<td>15.143</td>
<td>Economics IIIA Honours</td>
<td>4</td>
</tr>
<tr>
<td>15.153</td>
<td>Economics IIIB Honours</td>
<td>4</td>
</tr>
<tr>
<td>12.001</td>
<td>Psychology I</td>
<td>5</td>
</tr>
<tr>
<td>12.022</td>
<td>Psychology II</td>
<td>6</td>
</tr>
<tr>
<td>12.032</td>
<td>Psychology II Honours</td>
<td>8</td>
</tr>
</tbody>
</table>
The Bachelor of Arts course was introduced at Wollongong in 1964. A programme of studies consistent with the rules set out in the University Calendar may be chosen from the above-listed subjects in 1970, but it should be noted that not all these will necessarily be offered. Subject to their availability, and class timetables permitting, subjects may be taken on a full-time or part-time basis. Details concerning the subjects available and the relevant timetables are available from the Secretary. Full-time students normally take four subjects in their first year, while part-time students normally limit their programme in any year to no more than two subjects. The minimum time for completion of requirements for the full-time degree is three years. Part-time students may qualify in five years. However, dependent on the programme selected and the capacity of the student, the duration of the course may vary.

BACHELOR OF COMMERCE (B.COM.) — PASS DEGREE
ACCOUNTANCY — FULL-TIME COURSE

<table>
<thead>
<tr>
<th>Year I</th>
<th>Lec.</th>
<th>Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.111</td>
<td>Accounting I</td>
<td>2</td>
</tr>
<tr>
<td>14.211</td>
<td>Commercial Law</td>
<td>2</td>
</tr>
<tr>
<td>15.101W</td>
<td>Economics I</td>
<td>2</td>
</tr>
<tr>
<td>15.401W</td>
<td>Statistics (Economics)</td>
<td>5</td>
</tr>
</tbody>
</table>

Hours per week for 3 terms

22
### BACHELOR OF COMMERCE (B.COM.) — PASS DEGREE  
**ECONOMICS — FULL-TIME COURSE**

#### Year I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Lec.</th>
<th>Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.111</td>
<td>Accounting I</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>15.101W</td>
<td>Economics I</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10.001W</td>
<td>Mathematics I</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>15.401W</td>
<td>Statistics (Economics)</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12.001</td>
<td>Psychology I</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>14.211</td>
<td>Commercial Law</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Year II

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Lec.</th>
<th>Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.102W</td>
<td>Economics II</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>15.402W</td>
<td>Economics IIM</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>15.102W</td>
<td>Economics II or Economics Option I</td>
<td>2</td>
<td>0</td>
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<tr>
<td>15.102W</td>
<td>General Option</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.102W</td>
<td>Humanities I</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Year III

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Lec.</th>
<th>Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.103W</td>
<td>Economics III</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.103W</td>
<td>General Option or Economics Option I</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.103W</td>
<td>Economics II</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.103W</td>
<td>Economics II or Economics Option I</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.103W</td>
<td>General Option</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.103W</td>
<td>Humanities I</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

### BACHELOR OF COMMERCE (B.COM.)—HONOURS DEGREE  
**ECONOMICS—FULL-TIME COURSE**

#### Year I

As for pass degree.

#### Year II

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Lec.</th>
<th>Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.112W</td>
<td>Economics II</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>15.402W</td>
<td>Economics IIM</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>15.112W</td>
<td>Economics II or Economics Option I</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.112W</td>
<td>General Option</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>15.112W</td>
<td>Humanities I</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

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23
The general option requirements may be satisfied by enrolment in any subject available at Wollongong other than those offered by the Schools of Accountancy and Economics as electives, and provided that both Economic History I and History II (Honours) are not taken. This provision is, of course, subject to the meeting of pre-requisites (for example, English I is a pre-requisite for English II) and to the approval of the Head of the School concerned.

Full-time students take the full year’s programme as listed above, while part-time students select a programme which permits the completion of the year in two stages spread over two years.

The Humanities Options may be selected from first-year subjects in English, History, History and Philosophy of Science, and General Studies.

The Economics Options include two advanced level subjects offered by the Department of Economics. A thesis on an approved topic may be offered in place of one of these options.

The two other Economics Options may be chosen from a list of approved subjects in Accounting, Mathematics, Psychology, History and Geography.

For Economics II the prerequisites are Economics I and Higher School Certificate Mathematics at 2S level or the equivalent; 15.401W Statistics (Economics) is an acceptable equivalent. For Economics III and other third-year subjects in Economics, the prerequisite is Economics II. For optional third-year subjects in Economics, Economics III is a co-requisite.
CIVIL, MECHANICAL AND MINING ENGINEERING—
FULL-TIME COURSE

Bachelor of Engineering
FIRST YEAR
(30 weeks’ day course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Lect.</th>
<th>Lab./Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.001W</td>
<td>Physics I</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5.001W</td>
<td>Engineering I</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>10.001W</td>
<td>Mathematics I</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2.001*</td>
<td>Chemistry I or Materials</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>10</td>
</tr>
</tbody>
</table>

*Compulsory subject for Mining Engineering.

SECOND YEAR
(30 weeks’ day course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Lect.</th>
<th>Lab./Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.111W</td>
<td>Design I</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.311W</td>
<td>Applied Mechanics I</td>
<td>1½</td>
<td>½</td>
</tr>
<tr>
<td>5.611W</td>
<td>Engineering II</td>
<td>2½</td>
<td>3</td>
</tr>
<tr>
<td>10.421W</td>
<td>Mathematics</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>69.002W*</td>
<td>Strength and Properties of Materials</td>
<td>3</td>
<td>1½</td>
</tr>
<tr>
<td>69.021W/1</td>
<td>Applied Electricity I, Part 1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>General Studies Electives</td>
<td>1</td>
<td>½</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>10½</td>
</tr>
</tbody>
</table>

*25.101/1 Geology for Engineers may be substituted for Part B of this subject by Mining Engineering students.

THIRD YEAR
(30 weeks’ day course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Lect.</th>
<th>Lab./Tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.003W</td>
<td>Applied Mechanics II</td>
<td>1½</td>
<td>½</td>
</tr>
<tr>
<td>69.004W</td>
<td>Design II</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>69.005W</td>
<td>Materials and Structures</td>
<td>2½</td>
<td>1½</td>
</tr>
<tr>
<td>69.006W</td>
<td>Fluid Mechanics II</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>69.007W</td>
<td>Control Systems</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>69.008W</td>
<td>Engineering III</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td></td>
<td>General Studies Elective</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13½</td>
<td>9½</td>
</tr>
</tbody>
</table>

25
Forth Year  
(30 weeks' day course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.009W</td>
<td>Engineering Management</td>
<td>1\frac{1}{2}</td>
</tr>
<tr>
<td>69.010W</td>
<td>Systems Analysis</td>
<td>1\frac{1}{2}</td>
</tr>
<tr>
<td></td>
<td>General Studies Electives</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Project</td>
<td>5</td>
</tr>
</tbody>
</table>

PLUS AT LEAST 7 HOURS PER WEEK FROM THE FOLLOWING ELECTIVES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.011W</td>
<td>Fluid Mechanics III</td>
<td>1\frac{1}{2}</td>
</tr>
<tr>
<td>69.012W</td>
<td>Surveying</td>
<td>1\frac{1}{2}</td>
</tr>
<tr>
<td>69.013W</td>
<td>Geotechnics</td>
<td>2\frac{1}{2}</td>
</tr>
<tr>
<td>69.021W/2</td>
<td>Applied Electricity I, Part II</td>
<td>1\frac{1}{2}</td>
</tr>
<tr>
<td>69.014W</td>
<td>Applied Dynamics</td>
<td>2\frac{1}{2}</td>
</tr>
<tr>
<td>69.015W</td>
<td>Thermodynamics III</td>
<td>1\frac{1}{2}</td>
</tr>
</tbody>
</table>

Selection of option is subject to the approval of the Head of Division of Engineering and Metallurgy.

CIVIL, MECHANICAL AND MINING ENGINEERING—PART-TIME COURSE

Bachelor of Science (Technology)

First Stage  
(30 weeks' part-time Course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.001W</td>
<td>Physics I</td>
<td>3</td>
</tr>
<tr>
<td>10.001W</td>
<td>Mathematics I</td>
<td>4</td>
</tr>
</tbody>
</table>

Second Stage  
(30 weeks' part-time Course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.001W</td>
<td>Engineering I</td>
<td>4</td>
</tr>
<tr>
<td>69.001W</td>
<td>Materials or Chemistry*</td>
<td>3</td>
</tr>
<tr>
<td>2.001</td>
<td>Chemistry*</td>
<td>7</td>
</tr>
</tbody>
</table>

*Compulsory subject for Mining Engineering.
### Third Stage
(30 weeks' part-time Course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course</th>
<th>Hours per week for 3 terms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lec.</td>
</tr>
<tr>
<td>5.311W</td>
<td>Applied Mechanics I</td>
<td>1(\frac{1}{2})</td>
</tr>
<tr>
<td>10.421W</td>
<td>Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>69.021W/1</td>
<td>Applied Electricity, Part I</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>General Studies Elective</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7(\frac{1}{2})</td>
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</table>

### Fourth Stage
(30 weeks' part-time Course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lec.</td>
</tr>
<tr>
<td>5.111W</td>
<td>Design I</td>
<td>1</td>
</tr>
<tr>
<td>5.611W</td>
<td>Engineering II</td>
<td>2(\frac{1}{2})</td>
</tr>
<tr>
<td>*69.002W</td>
<td>Strength and Properties of Materials</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6(\frac{1}{2})</td>
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</tbody>
</table>

*25.101/1 “Geology for Engineers” may be substituted for Part B of this subject by Mining Engineering students.

### Fifth Stage
(30 weeks' part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lec.</td>
</tr>
<tr>
<td>69.003W</td>
<td>Applied Mechanics II</td>
<td>1(\frac{1}{2})</td>
</tr>
<tr>
<td>69.004W</td>
<td>Design II</td>
<td>1</td>
</tr>
<tr>
<td>69.007W</td>
<td>Control Systems</td>
<td>2</td>
</tr>
<tr>
<td>69.006W</td>
<td>Fluid Mechanics II</td>
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<tr>
<td></td>
<td>General Studies Elective</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7(\frac{1}{2})</td>
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</table>

### Sixth Stage
(30 weeks' part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lec.</td>
</tr>
<tr>
<td>69.005W</td>
<td>Materials and Structures</td>
<td>2(\frac{1}{2})</td>
</tr>
<tr>
<td></td>
<td>General Studies Elective</td>
<td>1</td>
</tr>
</tbody>
</table>

**PLUS AT LEAST 7 HOURS PER WEEK SELECTED FROM THE FOLLOWING ELECTIVES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lec.</td>
</tr>
<tr>
<td>69.008W</td>
<td>Engineering III</td>
<td>2(\frac{1}{2})</td>
</tr>
<tr>
<td>69.021W/2</td>
<td>Applied Electricity I, Part II</td>
<td>1(\frac{1}{4})</td>
</tr>
<tr>
<td>69.012W</td>
<td>Surveying</td>
<td>1(\frac{1}{4})</td>
</tr>
<tr>
<td>69.013W</td>
<td>Geotechnics</td>
<td>2</td>
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</table>

27
# Electrical Engineering—Full-Time Course

## Bachelor of Engineering

### First Year

(30 weeks' day course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Lec</th>
<th>Lab./Tut.</th>
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</thead>
<tbody>
<tr>
<td>1.001W</td>
<td>Physics I</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2.001</td>
<td>Chemistry I or Engineering I</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5.001W</td>
<td>Mathematics I</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>69.001W</td>
<td>Materials</td>
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### Second Year

(30 weeks' day course)

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<th>Lec</th>
<th>Lab./Tut.</th>
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</thead>
<tbody>
<tr>
<td>5.311W</td>
<td>Applied Mechanics I</td>
<td>1½</td>
<td>½</td>
</tr>
<tr>
<td>5.611W</td>
<td>Engineering II or Physics II</td>
<td>2½</td>
<td>3</td>
</tr>
<tr>
<td>10.421W</td>
<td>Mathematics</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>69.002W</td>
<td>Strength and Properties of Materials</td>
<td>3</td>
<td>1½</td>
</tr>
<tr>
<td>69.021W</td>
<td>Applied Elec., Parts I and II</td>
<td>3</td>
<td>2½</td>
</tr>
<tr>
<td>26.501</td>
<td>English</td>
<td>1</td>
<td>½</td>
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### Third Year

(30 weeks' day course)

<table>
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<th>Course Title</th>
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<th>Lab./Tut.</th>
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<tbody>
<tr>
<td>EE III (a)</td>
<td>Field, Circuit and System Theory</td>
<td>2½</td>
<td>1½</td>
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<tr>
<td>EE III (b)</td>
<td>Electric Machines and Transformers</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td>EE III (c)</td>
<td>Electronic Devices, Circuits and Systems</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td>EE III (d)</td>
<td>Power and Control Systems</td>
<td>2½</td>
<td>2½</td>
</tr>
<tr>
<td></td>
<td>General Studies Electives</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Applied Mechanics II</td>
<td>1½</td>
<td>½</td>
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<td></td>
<td>13½</td>
<td>11½</td>
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FOURTH YEAR  
(30 weeks’ day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours per week</th>
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<tbody>
<tr>
<td>General Studies Elective</td>
<td>1 Lec., 1 1/2 Lab./Tut.</td>
</tr>
<tr>
<td>Engineering III</td>
<td>2 1/2</td>
</tr>
<tr>
<td>Four Electives from E.E. IV*</td>
<td>6</td>
</tr>
<tr>
<td>Thesis</td>
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<tr>
<td></td>
<td>9 1/2</td>
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<td></td>
<td>21</td>
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*E.E. IV Electives

- EE IV (a) Circuit and Signal Analysis 1 1/2 1 1/2
- EE IV (b) Electrical machines 1 1/2 1 1/2
- EE IV (c) Electronics 1 1/2 1 1/2
- EE IV (d) Automatic Control Systems 1 1/2 1 1/2
- EE IV (e) Measurements and Instrumentation 1 1/2 1 1/2
- EE IV (f) Solid State and Gaseous Physics 1 1/2 1 1/2
- EE IV (g) Computing 1 1/2 1 1/2

ELECTRICAL ENGINEERING—PART-TIME COURSE  
Bachelor of Science (Technology)  
FIRST STAGE  
(30 weeks’ part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.001W Physics</td>
<td>3 Lec., 3 Lab./Tut.</td>
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<tr>
<td>10.001 Mathematics I</td>
<td>4</td>
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<td></td>
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SECOND STAGE  
(30 weeks’ part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours per week</th>
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<tbody>
<tr>
<td>5.001W Engineering I</td>
<td>4 Lec., 2 Lab./Tut.</td>
</tr>
<tr>
<td>69.001W Materials or</td>
<td>3</td>
</tr>
<tr>
<td>2.001 Chemistry</td>
<td>3</td>
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THIRD STAGE  
(30 weeks’ part-time course)

<table>
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<th>Course</th>
<th>Hours per week</th>
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<tbody>
<tr>
<td>5.311W Applied Mechanics I</td>
<td>1 1/2</td>
</tr>
<tr>
<td>69.021W/1 Applied Electricity, Part I</td>
<td>2</td>
</tr>
<tr>
<td>10.421W Mathematics</td>
<td>4</td>
</tr>
<tr>
<td>26.501 English</td>
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<td></td>
<td>8 1/2</td>
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29
### FOURTH STAGE
(30 weeks’ part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.611W</td>
<td>Engineering II</td>
<td>Lec. 2\⅓, Lab./Tut. 3</td>
</tr>
<tr>
<td>69.021W/2</td>
<td>Applied Elec., Part II</td>
<td>Lec. 1\⅓, Lab./Tut. 1</td>
</tr>
<tr>
<td>69.002</td>
<td>Strength and Properties of Materials</td>
<td>Lec. 3, Lab./Tut. 1\⅔</td>
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<td><strong>Total</strong> 7, 5\⅔</td>
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### FIFTH STAGE
(30 weeks’ part-time course)

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours per week</th>
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</thead>
<tbody>
<tr>
<td>EE III (a)</td>
<td>Field, Circuit and System Theory</td>
<td>Lec. 2\⅓, Lab./Tut. 2\⅓</td>
</tr>
<tr>
<td>EE III (b)</td>
<td>Electric Machines and Transformers</td>
<td>Lec. 2\⅔, Lab./Tut. 1</td>
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<td></td>
<td>General Studies Electives</td>
<td><strong>Total</strong> 7, 6</td>
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### SIXTH STAGE
(30 weeks’ part-time course)

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<th>Course Name</th>
<th>Hours per week</th>
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</thead>
<tbody>
<tr>
<td>EE III (c)</td>
<td>Electronic Devices, Circuits and Systems</td>
<td>Lec. 2\⅔, Lab./Tut. 2\⅔</td>
</tr>
<tr>
<td>EE III (d)</td>
<td>Power and Control Systems</td>
<td>Lec. 2\⅔, Lab./Tut. 1</td>
</tr>
<tr>
<td></td>
<td>Applied Mechanics II</td>
<td><strong>Total</strong> 7\⅔, 5\⅔</td>
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### METALLURGY—FULL-TIME COURSE
Bachelor of Science

Only the first three years at present available at Wollongong

### FIRST YEAR
(30 weeks’ day course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours per week</th>
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<tbody>
<tr>
<td>1.001W</td>
<td>Physics I</td>
<td>Lec. 3, Lab./Tut. 3</td>
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<tr>
<td>2.001</td>
<td>Chemistry I</td>
<td>Lec. 3, Lab./Tut. 3</td>
</tr>
<tr>
<td>5.001W</td>
<td>Engineering I</td>
<td>Lec. 4, Lab./Tut. 2</td>
</tr>
<tr>
<td>10.001W</td>
<td>Mathematics I</td>
<td>Lec. 4, Lab./Tut. 2</td>
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<td></td>
<td><strong>Total</strong></td>
<td>14, 10</td>
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<td>Lec.</td>
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<tr>
<td>2.022W</td>
<td>Chemistry IIIM</td>
<td>3</td>
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<tr>
<td>4.011W</td>
<td>Metallurgy I</td>
<td>5</td>
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<td>10.031</td>
<td>Mathematics</td>
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<tr>
<td>25.201</td>
<td>Mineralogy</td>
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<tr>
<td>69.902W</td>
<td>Design M</td>
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<td>General Studies Elective</td>
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<th>Course Title</th>
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<tbody>
<tr>
<td>4.012W</td>
<td>Metallurgy II</td>
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<td>69.021W/1</td>
<td>Applied Electricity I, Part I</td>
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<td>Two General Studies Electives</td>
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**METALLURGY—PART-TIME COURSE**

*Bachelor of Science (Technology)*

**FIRST STAGE**

*(30 weeks’ part-time course)*

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<th>Lab./Tut.</th>
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<tbody>
<tr>
<td>1.001W</td>
<td>Physics I</td>
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<td>3</td>
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<td>10.001</td>
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**SECOND STAGE**

*(30 weeks’ part-time course)*

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<th>Lab./Tut.</th>
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<td>Chemistry I</td>
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<td>5.001W</td>
<td>Engineering I</td>
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### THIRD STAGE
(30 weeks' part-time course)

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<tr>
<td>2.022W</td>
<td>Chemistry IIM</td>
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<td>3</td>
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<tr>
<td>10.031</td>
<td>Mathematics</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>69.902W</td>
<td>Design M</td>
<td>1</td>
<td>2</td>
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<td>General Studies Elective</td>
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<td>4</td>
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### FOURTH STAGE
(30 weeks' part-time course)

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<th>Course Name</th>
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<th>Lab./Tut.</th>
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### FIFTH STAGE
(30 weeks' part-time course)

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<tbody>
<tr>
<td>4.012/IW</td>
<td>Metallurgy IIA</td>
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<tr>
<td>69.021W/1</td>
<td>Applied Electricity I, Part I</td>
<td>1</td>
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<td>4</td>
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### SIXTH STAGE
(30 weeks' part-time course)

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<tbody>
<tr>
<td>4.012/2W</td>
<td>Metallurgy IIB</td>
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</table>

### SCIENCE COURSE

Students should note that there has been a change in the presentation of subjects within the Science course. In many cases whole-subjects have been replaced by units, and the minimum number of units now required for graduation will be 23, in place of the previous nine Science subjects. For further details students should consult the combined Faculty of Biological Sciences and Faculty of Science handbook and the Head of the appropriate School.
## BACHELOR OF SCIENCE (B.Sc.)

### Science Subjects

#### Level I

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Hours per year</th>
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<tbody>
<tr>
<td>1.001AW</td>
<td>Mechanics</td>
<td>90</td>
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<tr>
<td>1.001BW</td>
<td>Electricity and Magnetism</td>
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<tr>
<td>1.011</td>
<td>Higher Physics I</td>
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<td>2.001</td>
<td>Chemistry I</td>
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<td>2.011</td>
<td>Higher Chemistry I</td>
<td>180</td>
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<td>5.001W</td>
<td>Engineering I</td>
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<td>10.001</td>
<td>Mathematics I</td>
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<td>10.011W</td>
<td>Higher Mathematics I</td>
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<td>17.001</td>
<td>General and Human Biology</td>
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<td>25.001</td>
<td>Geology I</td>
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<td>Geography I</td>
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#### Level II

<table>
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<th>Hours per year</th>
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<tbody>
<tr>
<td>1.112AW</td>
<td>Electromagnetism, Optics Relativity</td>
<td>90</td>
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<tr>
<td>1.112BW</td>
<td>Atomic Physics, Nuclear Physics, Wave Mechanics</td>
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<tr>
<td></td>
<td>Solid State</td>
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<tr>
<td>1.112CW</td>
<td>Thermodynamics, Mechanics</td>
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</tr>
<tr>
<td>2.302W</td>
<td>Physical Chemistry</td>
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<td>2.402W</td>
<td>Inorganic Chemistry</td>
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<td>2.602W</td>
<td>Organic Chemistry</td>
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<td>2.702W</td>
<td>Applied Chemistry</td>
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<tr>
<td>10.111AW</td>
<td>Calculus and Differential Equations</td>
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<tr>
<td>10.111BW</td>
<td>Vector and Matrix Algebra</td>
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<tr>
<td>10.111CW</td>
<td>Analytical and Projective Geometry</td>
<td>30</td>
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<tr>
<td>10.111DW</td>
<td>Theory of Functions I</td>
<td>60</td>
</tr>
<tr>
<td>10.211AW</td>
<td>Dynamics and Vibrations</td>
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<td>10.211BW</td>
<td>Probability and Statistics</td>
<td>30</td>
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<td>10.211CW</td>
<td>Numerical Analysis</td>
<td>30</td>
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<tr>
<td>10.211DW</td>
<td>Computing A</td>
<td>30</td>
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<tr>
<td>10.211EW</td>
<td>Computing B</td>
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<td>12.012</td>
<td>Psychology II</td>
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<td>Geology II</td>
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#### Level III Part (a)

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<th>Subject</th>
<th>Hours per year</th>
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</thead>
<tbody>
<tr>
<td>1.113AW</td>
<td>Electromagnetic Theory, Nuclear Physics</td>
<td>90</td>
</tr>
<tr>
<td>1.113BW</td>
<td>Thermodynamics, Solid State Statistical Mechanics</td>
<td>90</td>
</tr>
<tr>
<td>1.113CW</td>
<td>Plasma Physics, Spectroscopy</td>
<td>90</td>
</tr>
<tr>
<td>1.113DW</td>
<td>Classical Mechanics, Quantum Mechanics</td>
<td>90</td>
</tr>
<tr>
<td>2.303W</td>
<td>Physical Chemistry A</td>
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<td>2.353W</td>
<td>Physical Chemistry B</td>
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<td>2.373W</td>
<td>Physical Chemistry C</td>
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<td>2.403W</td>
<td>Inorganic Chemistry</td>
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<td>2.503W</td>
<td>Chemical Analysis</td>
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<td>2.603W</td>
<td>Organic Chemistry A</td>
<td>90</td>
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<td>2.653W</td>
<td>Organic Chemistry B</td>
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<td>2.773W</td>
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<tr>
<td>10.112AW</td>
<td>Integral Transforms and Special Functions</td>
<td>90</td>
</tr>
<tr>
<td>10.112BW</td>
<td>Abstract Algebra</td>
<td>60</td>
</tr>
<tr>
<td>10.112CW</td>
<td>Differential Geometry</td>
<td>30</td>
</tr>
<tr>
<td>10.112DW</td>
<td>Theory of Functions II</td>
<td>60</td>
</tr>
<tr>
<td>10.212AW</td>
<td>Dynamics of Continuous Media</td>
<td>60</td>
</tr>
<tr>
<td>10.212BW</td>
<td>Potential Theory and Methods</td>
<td>60</td>
</tr>
<tr>
<td>10.212CW</td>
<td>Stochastic Processes</td>
<td>60</td>
</tr>
<tr>
<td>10.212DW</td>
<td>Operations Research</td>
<td>60</td>
</tr>
<tr>
<td>25.003W</td>
<td>Geology IIIW</td>
<td>391</td>
</tr>
</tbody>
</table>

#### Part (b)

<table>
<thead>
<tr>
<th>Code</th>
<th>Subject</th>
<th>Hours per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.133</td>
<td>Mathematical Physics</td>
<td>180</td>
</tr>
</tbody>
</table>

33
A selection of subjects qualifying for the degree of Bachelor of Science by way of the Science Course (as distinct from the specific courses such as, for example, those in Applied Chemistry, Metallurgy, etc., which also lead to this degree) have been available at Wollongong for some time. Currently, however, the full requirements of the Science Course may be taken at Wollongong if the student elects to major in Chemistry, Physics or Mathematics (Pass or Honours), or in Geology (Pass).

### PREREQUISITES AND CO-REQUISITES

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>No. of Units</th>
<th>Prerequisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.001AW</td>
<td>Mechanics</td>
<td>1</td>
<td></td>
<td>10.001</td>
</tr>
<tr>
<td>1.001BW</td>
<td>Electricity and Magnetism</td>
<td>1</td>
<td></td>
<td>10.001</td>
</tr>
<tr>
<td>1.112AW</td>
<td>Electromagnetism, Optics Relativity</td>
<td>1</td>
<td>1.001W or 1.011</td>
<td>any 3 units from 10.111W and 10.211W</td>
</tr>
<tr>
<td>1.112BW</td>
<td>Atomic Physics, Nuclear Physics, Wave Mechanics, Solid State</td>
<td>1</td>
<td>1.001W or 1.011</td>
<td></td>
</tr>
<tr>
<td>1.112CW</td>
<td>Thermodynamics, Mechanics</td>
<td>1</td>
<td>1.001W or 1.011</td>
<td></td>
</tr>
<tr>
<td>1.113AW</td>
<td>Electromagnetic Theory, Nuclear Physics</td>
<td>1</td>
<td>1.112</td>
<td></td>
</tr>
<tr>
<td>1.113BW</td>
<td>Thermodynamics, Solid State Statistical Mechanics</td>
<td>1</td>
<td>1.112</td>
<td></td>
</tr>
<tr>
<td>1.113CW</td>
<td>Plasma Physics, Spectroscopy</td>
<td>1</td>
<td>1.112</td>
<td></td>
</tr>
<tr>
<td>1.113DW</td>
<td>Classical Mechanics, Quantum Mechanics</td>
<td>1</td>
<td>1.112</td>
<td></td>
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<tr>
<td>2.302W</td>
<td>Physical Chemistry</td>
<td>1</td>
<td>2.001 or 2.011</td>
<td>10.001 or 10.011 and 1.001W or 1.011</td>
</tr>
<tr>
<td>2.402W</td>
<td>Inorganic Chemistry</td>
<td>1</td>
<td>2.001 or 2.011</td>
<td>10.001 or 10.011</td>
</tr>
<tr>
<td>2.602W</td>
<td>Organic Chemistry</td>
<td>1</td>
<td>2.001 or 2.011</td>
<td>10.001 or 10.011</td>
</tr>
<tr>
<td>2.702W</td>
<td>Applied Chemistry</td>
<td>1</td>
<td>2.001 or 2.011</td>
<td>10.001 or 10.011</td>
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<tr>
<td>2.303W</td>
<td>Physical Chemistry A</td>
<td>1</td>
<td>2.302W</td>
<td>2.402W and 2.602W</td>
</tr>
<tr>
<td>2.353W</td>
<td>Physical Chemistry B</td>
<td>1</td>
<td>2.302W</td>
<td>2.403W or 2.503W and 2.603W or 2.653W</td>
</tr>
<tr>
<td>2.373W</td>
<td>Physical Chemistry C</td>
<td>1</td>
<td>2.302W, 2.402W and 2.602W</td>
<td>2.303W or 2.353W and 2.603W</td>
</tr>
<tr>
<td>No.</td>
<td>Name</td>
<td>No. of Units</td>
<td>Prerequisites</td>
<td>Co-requisites</td>
</tr>
<tr>
<td>------</td>
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<td>--------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>2.403W</td>
<td>Inorganic Chemistry</td>
<td>1</td>
<td>2.402W</td>
<td>2.302W and 2.602W</td>
</tr>
<tr>
<td>2.503W</td>
<td>Chemical Analysis</td>
<td>1</td>
<td>2.402W</td>
<td>2.302W and 2.602W</td>
</tr>
<tr>
<td>2.603W</td>
<td>Organic Chemistry A</td>
<td>1</td>
<td>2.602W</td>
<td>2.302W and 2.402W</td>
</tr>
<tr>
<td>2.653W</td>
<td>Organic Chemistry B</td>
<td>1</td>
<td>2.602W</td>
<td>2.403W or 2.503W</td>
</tr>
<tr>
<td>2.773W</td>
<td>Techniques in Chemistry</td>
<td>1</td>
<td>2.302W, 2.402W and 2.602W</td>
<td>2.353W and 2.403W and 2.603W</td>
</tr>
<tr>
<td>10.111AW</td>
<td>Calculus and Differential Equations</td>
<td>1</td>
<td>10.001</td>
<td></td>
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<tr>
<td>10.111BW</td>
<td>Vector and Matrix Algebra</td>
<td>½</td>
<td>10.001</td>
<td></td>
</tr>
<tr>
<td>10.111CW</td>
<td>Analytic and Projective Geometry</td>
<td>¼</td>
<td>10.001</td>
<td></td>
</tr>
<tr>
<td>10.111DW</td>
<td>Theory of Function I</td>
<td>1</td>
<td>10.001</td>
<td></td>
</tr>
<tr>
<td>10.112AW</td>
<td>Integral Transforms and Special Functions</td>
<td>1½</td>
<td>10.111AW</td>
<td></td>
</tr>
<tr>
<td>10.112BW</td>
<td>Abstract Algebra</td>
<td>1</td>
<td>10.001</td>
<td></td>
</tr>
<tr>
<td>10.112CW</td>
<td>Differential Geometry</td>
<td>¼</td>
<td>10.001</td>
<td></td>
</tr>
<tr>
<td>10.112DW</td>
<td>Theory of Functions II</td>
<td>1</td>
<td>10.111AW and 10.111DW</td>
<td></td>
</tr>
<tr>
<td>10.211AW</td>
<td>Dynamics and Vibrations</td>
<td>1</td>
<td>10.001</td>
<td>10.111AW and 10.111BW</td>
</tr>
<tr>
<td>10.211BW</td>
<td>Probability and Statistics</td>
<td>½</td>
<td>10.001</td>
<td>10.211DW</td>
</tr>
<tr>
<td>10.211CW</td>
<td>Numerical Analysis</td>
<td>¼</td>
<td>10.001</td>
<td>10.211EW</td>
</tr>
<tr>
<td>10.211DW</td>
<td>Computing A</td>
<td>¼</td>
<td>10.001</td>
<td>10.211BW</td>
</tr>
<tr>
<td>10.211EW</td>
<td>Computing B</td>
<td>½</td>
<td>10.001</td>
<td>10.211CW</td>
</tr>
<tr>
<td>10.212AW</td>
<td>Dynamics of Continuous Media</td>
<td>1</td>
<td>10.111AW and 10.111BW</td>
<td>10.112AW, 10.112BW, 10.212BW</td>
</tr>
<tr>
<td>10.212CW</td>
<td>Stochastic Processes</td>
<td>1</td>
<td>10.211BW</td>
<td>10.112AW</td>
</tr>
<tr>
<td>10.212DW</td>
<td>Operations Research</td>
<td>1</td>
<td>10.211BW</td>
<td>10.211CW</td>
</tr>
</tbody>
</table>

A programme of studies, consistent with the rules set out in the Calendar may be chosen in 1970 from the above-listed subjects, and may be taken on a full or part-time basis subject to the class timetables. Details of time-tables may be obtained from the Secretary at the College.
DEPARTMENT OF CHEMISTRY

Pass and Honours Course in Chemistry within the Science Course

Year I (Stages I and II): 8 units

<table>
<thead>
<tr>
<th>Hours per week</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.001 W Physics I (Wollongong) or 1.011 Physics I Higher</td>
<td>6</td>
</tr>
<tr>
<td>2.001 Chemistry I or 2.011 Chemistry I Higher</td>
<td>6</td>
</tr>
<tr>
<td>10.001 Mathematics I or 10.011 Mathematics I Higher</td>
<td>6</td>
</tr>
</tbody>
</table>

and one of 5.001W Engineering I, 12.001 Psychology I, 17.001 General and Human Biology, or 25.001 Geology I.

Each first year science subject counts as two units.

Year II (Stages III and IV): 8 units and General Studies Subjects

<table>
<thead>
<tr>
<th>Hours for 30 weeks</th>
<th>L</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.302 W Physical Chemistry</td>
<td>45</td>
<td>—</td>
<td>45</td>
</tr>
<tr>
<td>2.402 W Inorganic Chemistry</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.602 W Organic Chemistry</td>
<td>45</td>
<td>—</td>
<td>45</td>
</tr>
<tr>
<td>2.702 W Applied Chemistry</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
</tbody>
</table>

and four other second level science units (two of these four units may be substituted by one first year science subject not already taken).

Year III (Stages V and VI): 8 units and General Studies Subjects

<table>
<thead>
<tr>
<th>Hours for 30 weeks</th>
<th>L</th>
<th>T</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.303 W Physical Chemistry A</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.353 W Physical Chemistry B</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.373 W Physical Chemistry C</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.403 W Inorganic Chemistry</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.503 W Chemical Analysis</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.603 W Organic Chemistry A</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.653 W Organic Chemistry B</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>2.773 W Techniques in Chemistry</td>
<td>30</td>
<td>15</td>
<td>45</td>
</tr>
</tbody>
</table>

Students majoring in Chemistry must pass in four third level chemistry units (the Department recommends passing in six, preferably eight, units). Not more than four of the eight third level science units may be substituted by second level science units. Students wishing to gain admittance to the Honours course should complete eight third level science units.
Year IV Honours

<table>
<thead>
<tr>
<th>Unit</th>
<th>Hours</th>
<th>L</th>
<th>T</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2.114W</td>
<td></td>
<td>40</td>
<td>20</td>
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</tr>
<tr>
<td>2.124W</td>
<td></td>
<td>40</td>
<td>20</td>
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</tr>
<tr>
<td>2.104W</td>
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<td></td>
<td>600</td>
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</tbody>
</table>

and General Studies Subjects.

All chemistry units except 2.104W in years II, III and IV are offered either during the first or second half of the year.

**BACHELOR OF SCIENCE (TECHNOLOGY) (B.Sc. (Tech.))**

The degree of Bachelor of Science (Technology) is the degree awarded on completion of the part-time courses in the Faculties of Applied Science and Engineering. All the courses leading to this degree are offered to at least the level of first year, and, in addition, the full range of subjects in Mechanical Engineering, Electrical Engineering, Metallurgy and Mining Engineering are available at Wollongong so that these courses may be completed entirely at this centre.

While the normal method of completing these courses is through part-time study over a period of six years, it is possible for an accelerated programme to be arranged provided the circumstances of the student's employment require it, and the proposed time-table arrangements permit it.

**GENERAL STUDIES**

It is a requirement of all undergraduate courses, except those for the Bachelor of Arts degree, that the programme of study includes subjects of a general nature as well as those in which a student proposes to specialise.
Descriptions of Subjects

Most courses taught at Wollongong follow the syllabus of the University of New South Wales at Kensington, details of which will be found in the University Calendar.

The following are particulars of courses offered only at Wollongong:

**PHYSICS**

Students are advised to consult their lecturers before purchasing any book listed for a physics course.

**1.001W Physics I**

**TEXTBOOKS**


**1.112W Physics II**

**TEXTBOOKS**


**1.113 Physics III**

**TEXTBOOKS**


**CHEMISTRY**

**2.302W Physical Chemistry**

Introduction to physico-chemical properties of systems. Elementary quantum theory. Molecular energy, chemical thermodynamics (first, second and third laws), application of thermodynamics to chemical systems, nature of electrolyte solutions and electrode processes.

**TEXTBOOK**


**REFERENCE BOOK**

2.303W Physical Chemistry A

**Kinetics:** Transition state theory, complex reactions—homogeneous and heterogeneous catalysis. Exchange processes. **Reaction Mechanism:** A mechanistic study of several organic, involving both organic and inorganic molecules.

**TEXTBOOK**

**REFERENCE BOOKS**

2.353W Physical Chemistry B

**Quantum Chemistry:** Applications of quantum mechanics to chemical systems and problems to demonstrate the methods used in the description and elucidation of atomic and molecular systems. Treatment of systems such as H atom, Hs+ ion, H2 with extension to polyatomic molecules. Computational and other approximate methods for conjugated and related systems.

**Molecular Spectroscopy:** Description of energy states of molecules with reference to vibration, rotation and electronic energies. Selection rules for absorption and emission. Excited states. Life-times and shapes. Electric and magnetic phenomena—Stark Effect—NMR—ESR—ORD. Application of spectra to elucidation of chemical structure.

**TEXTBOOK**

**REFERENCE BOOKS**

2.373W Physical Chemistry C

**Thermodynamics** of non-ideal system—fugacity and chemical potential—thermodynamics of solution—partial molar quantities, activities and activity coefficients—Debye Hückel Theory. **Electrochemistry:** Theories of electrolyte solutions—electrode processes—ionic equilibria. **Surface Chemistry:** Adsorption and molecular films—colloids—emulsions.

**REFERENCE BOOKS**
2.402W Inorganic Chemistry
Systematic chemistry of the elements (metals, non-metals and transition elements). Introduction to co-ordination chemistry. Theories of Blomstrand-Jorgensen and Werner. The co-ordinate bond, stereoisomerism, high and low spin complexes, paramagnetism.

TEXTBOOKS

REFERENCE BOOKS

2.403W Inorganic Chemistry

TEXTBOOK

REFERENCE BOOKS

2.472W Chemistry for Metallurgists
Systematic chemistry of the elements (metals, non-metals and transition elements). Introduction to co-ordination chemistry. Theories of Blomstrand-Jorgensen and Werner. The co-ordinate bond, stereoisomerism, high and low spin complexes, paramagnetism. Surface chemistry, colloids.

TEXTBOOKS

REFERENCE BOOKS

40

2.503W Chemical Analysis
Techniques of Analytical Chemistry—precipitation, organic reagents, solvent extraction, electroanalysis, potentiometry, ion exchange, complex formation. Sampling and methods of solution—role of the solvent. General principles in the quantitative analysis of (a) elements and alloys; (b) functional groups; (c) organic materials.

TEXTBOOKS

REFERENCE BOOKS

2.602W Organic Chemistry

TEXTBOOKS

REFERENCE BOOKS

2.603W Organic Chemistry A

TEXTBOOKS
REFERENCE BOOKS

2.653W Organic Chemistry B

TEXTBOOKS

REFERENCE BOOKS

2.702W Applied Chemistry

TEXTBOOKS

REFERENCE BOOKS

2.773W Techniques in Chemistry
A course in important techniques used in chemistry for structure determination and other applications: Mossbauer Effect; X-ray diffraction; mass spectrometry;

REFERENCE BOOKS
METALLURGY

4.011W Metallurgy I

(a) General Introduction to Metallurgy.

(b) Physical Metallurgy: The crystalline structure and physical properties of solids; structure sensitive and structure insensitive properties; free electron theory; phase equilibrium in alloy systems; thermodynamic and physical aspects of binary systems; mechanism of phase transformations; departures from equilibrium and principles of heat treatment; generation of microstructure; metallography of iron-carbon alloys.

(c) Chemical and Extraction Metallurgy: Principles underlying the unit processes by which metals are extracted from ores and raw materials; the extraction metallurgy of iron and steel, copper, aluminium, lead and zinc, together with the less common metals; an introduction to the principles of fluid flow, metallurgical stoichiometry, energy and mass balances, refractories, fuels and combustion.

(d) Mechanical Metallurgy: Principles, aims and methods of mechanical testing; the mechanical behaviour of solids—elastic and inelastic behaviour; the effects of stress state, temperature and strain rate; creep, fatigue and brittle fracture; metal shaping processes.

TEXTBOOKS

REFERENCE BOOKS
Boas, W. Introduction to the Physics of Metals and Alloys. Melbourne U.P.
Schuhmann, R. Metallurgical Engineering. Addison-Wesley.

4.012W Metallurgy II

(a) Metallurgical Thermodynamics: An introduction to the thermodynamics of metallurgical systems, including a study of equilibria involving liquid metals, slags, gases and the solid state.

(b) Chemical and Extraction Metallurgy: The application of physico-chemical principles to the study of metallurgical processes; electrochemistry and the related topics of corrosion and hydrometallurgy; the engineering basis of extraction metallurgy; heat and mass transfer, high temperature technology.

(c) Physical Metallurgy: Theories of diffusion, phase equilibrium and transformation, and their application to alloying, heat treatment and other metallurgical processes.

(d) Mechanical Metallurgy: Analysis and effects of complex stress states in relation to flow and fracture; stress concentration; residual stresses; creep, fatigue and brittle fracture—metallurgical and engineering aspects.
(e) Mineral Dressing: The principles and practice associated with liberation, beneficiation, froth flotation, hydrometallurgy, materials handling and process engineering.

(f) Theory of Plastic Deformation: Geometry of slip in metal crystals; polycrystalline materials, preferred orientation; introduction to dislocation theory, application of this theory to yielding, strain ageing, work-and solution-hardening.

(g) X-ray Diffraction and Theory of the Metallic State: X-ray diffraction and its application to metallurgy; development of the modern theory of solids based on the zone theory.

(h) Special Topics: Further development of topics from the above sections.

4.012/1W Metallurgy IIA
Comprises sections (a), (b) (part only), (c) and (e) of 4.012W Metallurgy II, together with appropriate laboratory work.

4.012/2W Metallurgy IIB
Comprises section (b) (part only), (d), (f) and (g) of 4.012W Metallurgy II, together with:

(i) Industrial Metallurgy: A course of lectures on the application of metallurgical principles to industrial practice.

(j) Metallurgy Seminar.

TEXTBOOKS
As for 4.011 Metallurgy I, together with
Hull. Introduction to Dislocations. Pergamon.

REFERENCE BOOKS
As for 4.011 Metallurgy I, together with
Brown, G. G. Unit Operations. Wiley.
Cullity, B. D. Elements of X-ray Diffraction. Addison-Wesley.
Herdan, G. Small Particle Statistics. Butterworths.
Mann, J. Y. Fatigue of Materials. Melbourne U.P.
5.001W Engineering I

(a) Principles of Engineering Drawing and Design. 60 hours' lectures and drawing office; limits and fits; elementary riveted, bolted and welded connections; couplings and bearings; brakes, clutches, power screws and springs.

(b) Engineering Mechanics. 70 hours' lectures and tutorials: Two-dimensional force systems; laws of equilibrium; concurrent and non-concurrent forces; funicular polygon; statics applied to rigid bars; statics of pin-joined 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.

(c) Introduction to Engineering. 60 hours' lectures and tutorials.

(i) Engineering Technology (30 hours).
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 operation of common machine tools and illustration of their use.

(ii) Computers—Introduction and Concepts. (10 hours) and will follow Computer work in Mathematics I.
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.

(iii) Systems—Introduction and Concepts. 10 hours.
General introduction to system 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.

TEXTBOOKS
Meriam, J. L. Statics. Wiley.
Meriam, J. L. Dynamics. Wiley.

5.111W Design I
Bolted and welded connections; form and strength of structural members; design and construction of roof trusses and transmission lines; introduction to concrete design—slabs and beams; introduction to design of electro-mechanical devices.
5.311W Engineering Mechanics
Kinematics of particle, rectilinear and curvilinear motions, Coriolis acceleration; kinetics of particle, Newton's laws, d'Alembert's principle work, energy, impulse, momentum, Kepler's laws, satellites; kinematics of rigid body, translation, fixed-axis rotation, general plane motion; kinetics of rigid body, moment of inertia, Steiner's law, centre of percussion, equivalent two-mass system, work, energy, impulse, momentum; kinetics of rigid body in three-dimensional space, steady precession of gyroscope.

TEXTBOOK
Haberman, C. M. Engineering Systems Analysis. Merrill.

5.611W Fluid Mechanics/Thermodynamics I
Dimensional systems, units, dimensional analysis, properties of substances; statics of fluids; one-dimensional flow; mass, energy and momentum equations; laminar and turbulent motion; flow in pipes; elementary boundary layer theory; drag; fluid measurements; angular momentum equations; turbomachines; concepts and conservation principles of thermodynamics first and second laws of thermodynamics; properties of ideal gases, liquids and vapours; non-flow and flow processes; ideal cycles; factors limiting performance of real cycles.

TEXTBOOKS

69.001W Materials
(a) Atomic theory, stoichiometry and structure; states of matter; energy concepts including bond and lattice energies.

(b) 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.

69.002W Strength and Properties of Materials
(a) Strength of Materials: 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.

(b) Materials: 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.

(c) Materials in Engineering Design: Standard specifications and acceptance tests; measurement of fatigue and impact strengths and hardness; notch sensitivity; application of criterions of failure.

69.003W Applied Mechanics II
Numerical methods; integral transforms; matrices; state variables and linear systems analysis; function space analysis; statistics.

69.004W Design II
Welded design using structural steel of high yield stress; advanced reinforced and prestressed concrete design; the use of analog methods in design, including photoelasticity, and strain measuring techniques; optimum methods in design.
69.005W Materials and Structures
(a) Structures (60 hours)
Analysis of statically indeterminate structures; shells; plastic analysis of steel structures; introduction to two-dimensional elasticity; approximate methods.
(b) Materials (60 hours)
Mechanical behaviour of materials; non-destructive test procedures; concrete technology.

69.006W Fluid Mechanics II
Incompressible fluid flow; jets and trajectories, vortices; laminar and turbulent flow; flow resistance in pipes and channels; pipe networks; model studies; unsteady flow; Hydraulic Machines, One-dimensional gas dynamics. Hydrology; cycles; water and energy balance; atmospheric studies; stream gauging; flood estimation.

69.007W Control Systems
Principles and techniques applicable to the analysis and design of feedback control systems with particular application to industrial processes; time domain, frequency domain and state space methods of analysis of linear continuous and discrete systems; introduction to non-linear systems and techniques of analysis; system stability; introduction to optimal control theory; identification of process parameters using both on-line and off-line methods.

69.008W Engineering III
(a) Thermodynamics II (45 hours).
Vapour and gas power cycles; mixtures; psychrometry; heat pumps and refrigerators; rotodynamic machines; gas turbines; mixed cycles.
(b) Heat Transfer (45 hours).
One- and two-dimensional steady state conduction free and forced convection; radiation; combined heat transfer mechanisms and applications.
(c) Experimental Engineering II (60 hours).
Testing of reciprocating and rotodynamic machines; refrigeration plant; nozzles; heat exchangers; electrical machines; testing of materials; measurements of common non-electric processes.

69.009W Engineering Management
Theory and practice of organization and industry; introduction to cost accounting; general principles of law of contract; industrial relations.

69.010W Systems Analysis
Signal analysis; stochastic processes; linear and non-linear systems; approximations representations and perturbations; system optimization; calculus of variations; linear programming and hill climbing techniques; models and simulation; introduction to dynamic programming.

69.011W Fluid Mechanics III
Compressible fluids; steady and unsteady flow; effects of friction and heat transfer; Navier-Stokes and energy equations; boundary layer theory; radial and axial flow machinery.

69.012W Surveying
Measurements of distances, directly and indirectly; electronic methods; levelling; measurement of angles; traverse surveys and computations; photogrammetry.
69.013W Geotechnics
(a) Soil Mechanics (60 hours).
Properties of soil and soil testing; stability of slopes; retaining walls and sheet piling; bearing capacity.
(b) Geology (75 hours).
Rock forming minerals, clay minerals; rock classification and properties; structural geology; groundwater; application of geology and geophysics in engineering practice.

69.014W Applied Dynamics
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 rigid bodies; dynamic analysis of mechanisms; relativistic dynamics; Lagrangian dynamics and Hamilton's principle; application to particles and rigid bodies; analysis of multi-degree of freedom dynamic systems.

69.015W Thermodynamics III
Behaviour of real gases and gas mixtures; generalized thermodynamic relationships and charts; combustion and thermochemistry; chemical equilibrium; solutions; irreversible processes.

69.902W Design M
Moving loads; influence lines for beams; permissible stresses; design of welded plate web girder; project.

5.105GW Optimum Design for Mechanical Engineers
Introduction, discussion of methods of optimisation; 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; optimisation by linear programming—simplex method.

5.306GW Advanced Dynamics
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 gyroscopes 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.

5.376GW Advanced Mechanics of Solids I
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; twist-bend buckling, twist buckling of columns; buckling of rectangular plates.
Stresses and deformations 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 stresses; beam of rectangular cross-section; torsion of prismatical bars; ultimate load analysis—simple cases; thick cylinders.

5.377GW Advanced Mechanics of Solids II

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.

5.385GW Theory of Elasticity

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.

5.453GW Computational Methods in Mechanical Engineering I

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.

5.454GW Computational Methods in Mechanical Engineering II

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.
5.515GW Gas Dynamics and Compressible Fluid Flow

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.

5.716GW Advanced Heat Transfer I

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; drop-wise 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.

5.717GW Advanced Heat Transfer II

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; non-homogeneous 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 behaviour of gases and vapours; pyrometry; solar radiation.

5.725GW Statistical Thermodynamics

History and review of classical thermodynamics; kinetic theory of an ideal monoatomic 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.

ELECTRICAL ENGINEERING

69.021W Applied Electricity I


E.E. III (a) Field, Circuit and System Theory (150 hours)
Elements of electromagnetic field theory; general network theory, transient and steady state; lumped parameters and distributed systems; network topology and matrix methods; analysis of feedback systems; state descriptions.

E.E. III (b) Electric Machines and Transformers (150 hours)
The principles of steady state and transient operation of rotating machines and transformers.

E.E. III (c) Electronic Devices, Circuits and Systems (150 hours)
Current conduction properties of solids; semiconductor devices, their characteristics and models; signal amplifiers and generators; rectifiers, inverters, power supplies; modulation, transmission reception; switching, wave shaping, logic circuits.

E.E. III (d) Power and Control Systems (150 hours)
Properties of multiconductor transmission systems; symmetrical component analysis; system stability, surges, protection; economic optimisation. Linear control systems, transfer function, block diagram and flow graph analysis; stability, design aspects; non-linear systems.

E.E. IV (a) Circuit and Signal Analysis (90 hours)
Extension of material in III (a). Topics to include network analysis and synthesis; time and frequency domain methods; aspects of signal analysis and information theory.

E.E. IV (b) Electrical Machines (90 hours)
To include matrix methods and transformation techniques in a generalised machine analysis and applications of solid state devices to machine control.
E.E. IV (d) Electronics (90 hours)
An extension of material in E.E. III (c). Topics to include modular equipment design using discrete and integrated circuits; power amplification, control, regulation, conversion; signal processing and measuring units, logic modules, data collection and transmission.

E.E. IV (e) Measurements and Instrumentation (90 hours)
Electronic instruments and measuring techniques—systems approach. Analogue and digital instrumentation; transducers; component and equipment testing—methods.

E.E. IV (f) Solid State and Gaseous Physics (90 hours)
Specialised topics on the electrical properties of semi-conductors, insulators and gases. Electrical discharges and plasmas.

E.E. IV (g) Computing (90 hours)
Elements of switching theory; number systems, codes, error detection; computer organisation, programming; numerical analysis.

MATHEMATICS
Students are advised to consult their lecturers before purchasing any book listed for a mathematics course.

10.001AW Calculus, Introduction to Abstract Algebra
10.001BW Calculus, Abstract Algebra, Linear Algebra, Introduction to Computing
10.001CW Statistics, Computing
Unit A is the prerequisite for Unit B.
Students who wish to proceed to maths units in later years should do units A and B. Students who wish to do a terminating course in maths should do units A and C.

TEXTBOOKS 10.001W and 10.021W

10.111AW Calculus and Differential Equations
Partial differentiation, multiple integrals, Fourier series, complex variable, first and second order differential equations.

10.111BW Vector and Matrix Algebra
Vector algebra, vector calculus, general integral theorems, matrix algebra, eigenvalues and vectors.

10.111CW Analytic and Projective Geometry
Vector functions, conic sections, quadric surfaces, projections and projective properties.

10.111DW Theory of Functions
Fundamental point-set topology and set theory, Riemann integration, Euclidean vector spaces, uniform convergence.
TEXTBOOKS

REFERENCE BOOKS
Ayres, F. *Matrices*. Schaum.
Davis, H. F. *Vector Analysis*. Allyn and Bacon.

10.121W Pure Mathematics II (Wollongong) (Higher)
Calculus, differential equations, algebra, geometry, theory of functions for real variable, topology.

TEXTBOOKS
As for 10.111W and

10.112AW Integral Transforms and Special Functions
Laplace, Fourier, Mellin and Hankel transforms, special functions of mathematical physics.

10.112BW Abstract Algebra
Groups, rings, fields, ideals, algebraic number fields, Galois theory.

10.112CW Differential Geometry
Serret-Frenet formulae, quadratic differential forms, geodesics.

10.112DW Theory of Functions
Metric spaces, function spaces, Labesgue integration, analytic functions and continuation, multiple-valued functions.

TEXTBOOKS
Birkhoff, C. and MacLane, S. *A Survey of Modern Algebra*. Macmillan.
Halmos, P. *Finite Dimensional Vector Spaces*. Van Nostrand.
Willmore, T. J. *An Introduction to Differential Geometry*. Oxford University Press.

REFERENCE BOOKS
Hewitt, E. and Stromberg, K. *Real and Abstract Analysis*. Springer Verlag, N.Y.
Lang, S. *Algebra*. Addison-Wesley.
Rainville, E. D. *Special Functions*. Macmillan.
10.122W  Pure Mathematics III (Wollongong) (Higher)
Integral transforms, special functions, algebra, geometry, theory of functions, topology.

TEXTBOOKS
As for 10.112W

10.211AW  Dynamics and Vibrations
Motion of a particle and of a rigid body; normal modes, vibrations of continuous systems.

10.211BW  Probability and Statistics
Probability, discrete and continuous distributions, expectations, sampling distributions, estimation, tests of hypotheses.

10.211CW  Numerical Analysis
Numerical processes applied to functions, equations, differential equations, integration and matrices; direct methods and least squares.

10.211DW and 10.211EW  Computing A and B
Laboratory project work available in half units and related to the lecture courses.

TEXTBOOKS
Freund, J. E. Mathematical Statistics. Prentice-Hall.

REFERENCE BOOKS
Froberg, C. E. Introduction to Numerical Analysis. Addison-Wesley.

10.221W  Applied Mathematics II (Wollongong) (Higher)
Dynamics, theory of vibrations, probability and statistics, numerical analysis, computing, nuclear reactor theory.

TEXTBOOKS
As for 10.211W

10.212AW  Dynamics of Continuous Media
Infinitesimal elastic strain theory, Euler's equation, two-dimensional motion, compressible flow, water waves including surface, long, capillary and finite amplitude waves, dispersion, perturbation theory, interaction of waves, spectral analysis.

10.212BW  Potential Theory and Methods
Laplace's and Poisson's equation, cartesian tensors, calculus of variations, optimisation of numerical process in solving differential equations, harmonic and data analysis.

10.212CW  Stochastic Processes
Probability measures, random variables, branching processes, renewal processes, markov chains, test of significance, sequential analysis.
10.212DW Operations Research
Linear, non-linear and dynamic programming, queuing theory, theory of games, simulation.

TEXTBOOKS
Bullen, K. E. *Introduction to Seismology*. C.U.P.

REFERENCE BOOKS
Hildebrand, F. B. *Methods of Applied Mathematics*. Prentice-Hall.

10.222W Applied Mathematics III (Wollongong) (Higher)
Dynamics of continuous media, potential theory, stochastic processes, operations research, computing, nuclear reactor theory, meteorology, numerical analysis.

TEXTBOOKS
As for 10.212W

10.411 Mathematics II (Wollongong)
Calculus, differential equations, algebra, probability and statistics, numerical analysis, computing.

10.412W Mathematics III (Wollongong)
Integral transforms, special functions, stochastic processes, operations research, computing, and an elective.

TEXTBOOKS
10.411 and 10.412W
Students will require a selection of the second and third years' books listed above, and should consult their lecturers before purchasing their textbooks.

10.413W Mathematics IV Honours
TEXTBOOK

ECONOMICS

15.101W Economics I
Introduces macroeconomics in terms of national accounts, and develops elementary theory of income determination taking account of monetary and fiscal operations and international transactions. The second half of the year is devoted to microeconomics: competition in markets for goods and services and for factors of production is analysed. Theories of production and price determination are related to Australian conditions.

TEXTBOOKS
Lipsey, R. G. *An Introduction to Positive Economics*.
Stilwell and Lipsey. *Workbook to Accompany an Introduction to Positive Economics*.
**15.102W Economics II**

**TEXTBOOKS**
- Dorfman, R. *Prices and Markets*.
- Grant, Hagger and Hocking. *Economic Institutions and Policy*.

**15.103W Economics III**
The course is based on macroeconomic analysis and growth theory. It is a study of policies designed to influence aggregate incomes, investment and employment, and is concerned mainly with Australian conditions and policies.

**TEXTBOOKS**

**15.401W Statistics (Economics)**
Elementary statistics, including an introduction to computer programming, and a section devoted to the application of statistics to economics.

**TEXTBOOK**

**15.402W Economics IIM**
An introduction to the use of quantitative methods in economics, including statistics and mathematical treatment of problems in economic theory.

**TEXTBOOKS**

**15.112W Economics II Honours**
This includes the content of 15.102W Economics II and more advanced work in the same area.

**TEXTBOOKS**
As for 15.102W Economics II (additional reference material will be prescribed).

**15.113W Economics III Honours**
Includes 15.103W Economics III and more advanced work in the same area.

**TEXTBOOKS**
As for Economics III (additional reference material will be prescribed).

**15.223 Comparative Economic Systems**
Studies the theory of different types of economic systems, actual differences between systems of economic organisation in different countries, and the comparative performances under different systems.
15.243W Economic Development
A study of conditions and policies affecting economic development, with particular regard for selected low income countries.

TEXTBOOKS

15.253W Industrial Economics
A study of factors affecting production and productivity in an industrial environment, with particular regard for prospective industrial development in Australia.

GEOLOGY
Students are advised to consult their lecturers before purchasing any book listed for a geology course.

Prerequisites and co-requisites
Chemistry I, Mathematics I, Physics I are prerequisites for all Geology IIIW units, and Geology I is a prerequisite for all Geology I IW units.

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25.002W GEOLOGY II
UNIT A. Crystallography, Crystal Chemistry, Mineralogy.


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.

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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
Mason, B and Berry, L. G. Elements of Mineralogy. 1st ed. Freeman, 1968.

REFERENCE BOOKS

UNIT B. Petrology.


TEXTBOOK

REFERENCE BOOKS

UNIT C. Palaeontology, Stratigraphic Palaeontology and Mapping.


TEXTBOOKS
REFERENCE BOOKS
Arnold, C. A. *An Introduction to Palaeobotany*. 1942.

FIELDWORK
6 days field tutorial to selected areas in the Lachlan and New England Geosynclines.
3 days local field tutorials on sedimentary and igneous rocks of the Illawarra District.

25.003W GEOLOGY IIIA
UNIT A. Crystallography, Mineralogy and Igneous and Metamorphic Petrology.
**Optical Crystallography:** Oil immersion techniques and mineral determination, 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 of development of X-rays, instrument techniques, powder photographs, cell dimensions.

**Crystal Chemistry:** Solid-solid phase transitions, transformations of secondary co-ordination, transformations of primary co-ordination, transformations of the bond type, transformations of order-disorder, order-disorder reactions and the feldspars. Phase transitions at high pressures. Crystal chemistry of the pyroxenes or amphiboles. Crystal pathology. Aluminium silicates in metamorphism.

**Petrology:** Rock Kindreds. Concept of primary and derivative magmas, crustal anatexis, magma generation in the upper mantle, partial melting. Tholeiitic, alkaline olivine basalt and high-alumina basalt magmas, the basalt tetrahedron. The shoshonite magma. The calc-alkali association. For a more detailed study: Crystallisation of tholeiitic magma, alkali-basalt magma and derivative rocks. Rocks of the shoshonite magma association. High-alumina basalt. Ultramafic rocks. The calc-alkali magma and granitic rocks. Orogenic vulcanicity. The gabbro-eclogite transformation.


TEXTBOOKS

REFERENCE BOOKS

UNIT B. Geophysics and Statistical Methods in Geology.

earth's magnet field, its characteristics and variations; the history of this geomagnetic field especially as recorded in rocks and similar material. Solar-Planetary Relationships, etc.—studies of the sun, planets, moon, meteorites, etc. and their relationships. Geochronology—methods of radiometric dating and correlation. Geothermy—study of some thermal properties of the earth, such as heat flow.

**Practical:** Field work will be undertaken.

**TEXTBOOKS**


**REFERENCE BOOKS**


**Practical:** Preparation of simple computer programmes. Use of library programmes to solve geological problems.

**TEXTBOOKS**


**OR**


**REFERENCE BOOK**


**UNIT C.** Sedimentary rocks, Stratigraphy and Stratigraphic Palaeontology, Vertebrate Palaeontology.

**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 separations of heavy minerals. Clays. Some aspects of sediments as ores.

**Practical:** Study of sedimentary rocks in hand-specimen and thin-section. Heavy mineral and provenance studies.

**TEXTBOOKS**

Folk. *Petrology of Sedimentary Rocks*.


**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. A detailed treatment of the history of the Tasman, Caledonian and Alpine geosynclines.

**Practical:** Demonstrations of suites of strata 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
Arkell, W. J. *The Jurassic System in Great Britain*. 1933.

UNIT D. Structural Geology and Geotectonics, Economic Geology.

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 "Earth 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.

Practical: Advanced mapping. Study of deformed rocks in hand-specimen (and thin-section). Introduction to the stereographic projection in structural geology, and the application of such methods to mapping. Field work.

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 affecting existing ore deposits. Metallogenic analysis — the distribution of ores in space and time. Appraisal techniques.

Practical: An introductory course in ore microscopy especially of Australian examples.

TEXTBOOK

REFERENCE BOOKS
FIELD WORK
Two weeks' field tutorials in New South Wales and about 8 days' field work in the local area. Students must complete the mapping camp course before they can be credited with Geology 111. This camp is usually held at the end of the Summer vacation prior to the commencement of the third year course.

GEOGRAPHY

27.041W Geography I
The aim of this introductory course is to provide systematic studies, including studies of interdependencies, in the physical and biological fields of geography on the one hand, and in the locational aspects of agricultural, manufacturing and tertiary systems on the other. General concepts and principles will be exemplified from south-east Australia and south-east Asia.

Practical work will be conducted concurrently with these courses and will be closely connected with them. Exercises will involve the interpretation of topographical, soils, geological maps together with air photo interpretation and the cartographical representation of data. Field work will be an essential part of the course.

TEXTBOOKS

One of the following atlases is also essential:

REFERENCE BOOKS
GEOGRAPHY II

Geography II and Geography II Honours comprise respectively 120 hours and 150 hours of lectures, tutorials and practical classes. Both courses consist of three strands: studies in biogeography, locational analysis, and regional concepts and methods. A practical course of 20 two-hour periods involves quantitative and applied work in the three areas of the year's course. Field work will be an essential part of the work.

Part I: Biogeography

Studies in plant growth relationships, vegetation dynamics, and plant geography lead to the central part of this course, the study of ecosystems. The role of man in the ecosystem and problems of conservation, in the context of Australian examples, constitute a major theme.

TEXTBOOKS

REFERENCE BOOKS
Poulmin, N. *Introduction to Plant Geography*.

PART II: LOCATIONAL ANALYSIS

This segment of the course is concerned with an analysis of the spatial distribution and location of economic activities. The examination of locational patterns is oriented towards the formulation and testing of spatial theory.

TEXTBOOK

REFERENCE BOOKS
PART III: REGIONAL CONCEPTS AND METHODOLOGY

This part of the course examines and exemplifies the development of the regional concept and method in Geography.

TEXTBOOKS
Dobby, E. H. G. Southeast Asia.

REFERENCE BOOKS
Stamp, L. D. & Wooldridge, S. W. eds. London Essays in Geography.

PART IV: PRACTICAL

This work will be concurrent with the other sections of the course.

REFERENCE BOOKS
In 1970 the Department of English will offer English I, II and III Pass, and English II and III Honours, in the B.A. degree course, and also the first year of the M.A. Pass course in English.

The courses leading to the B.A. degree are divided into 14-week units, each of which involves approximately 27 hours of lectures, seminars and tutorials. Not all the proposed units will necessarily be offered, this depending on availability of staff, class timetables and the like.

Some of the units are optional. In principle, students may choose those that interest them most. Not all units, 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 units, and to advise students on the units best suited to their qualifications and purposes.

Pass students are required to take FOUR, and Honours students, SIX units in each year. Honours students and Pass students following a three-year sequence in English, are required to take at least one of the following units: Unit 5 (English II), Shakespeare's History Plays; and/or Unit 5 (English III), Shakespeare's Tragedies. In addition to those units designated as compulsory in the descriptions of English II and English III courses (see pp. 3 and 4), Honours students must take at least one of the following: Unit 9, Introduction to Old English; Unit 10, Old English Prose and Verse; Unit II, Chaucer's Canterbury Tales (English II); Unit 9, Further Study of Old English Literature; Unit 10, English Literature and Language in the Fourteenth Century (English III).

In all units, students will be required to hand in written assignments and sit for examinations during the year.

ENGLISH I—50.111W

Students are required to take FOUR of the units set out below.

1. Modern English: the spoken language and phonetics; the language of literary expression and the elements of literary criticism.

   TEXTBOOKS
   (ii) Pyles, T. *The Origin and Development of the English Language*. Harcourt, Brace and World.

2. Background of Modern English: the English language in its earlier stages: selected works by Chaucer and Shakespeare.

   TEXTBOOKS
   (i) Pyles, T. *The Origin and Development of the English Language*. Harcourt, Brace and World.
   (iii) Shakespeare. *Much Ado About Nothing*.


   TEXTBOOKS
   Pinter. *The Caretaker; The Dumb Waiter*. Methuen.

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**TEXTBOOKS**
Hemingway. *Men Without Women; A Farewell to Arms; For Whom the Bell Tolls*. Penguin.
Fitzgerald. *The Diamond as Big as the Ritz and Other Stories; The Great Gatsby; Tender is the Night*. Penguin.

5. Twentieth Century Poetry: selected poems by Yeats, Eliot, Auden and some more recent American, Australian and English poets.

**TEXTBOOKS**

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**ENGLISH II—50.112W**

Pass students are required to take FOUR, and Honours students SIX, of the units set out below. Units 1 and 2 are compulsory for both Pass and Honours students. Honours students may take EITHER but not BOTH Units 7 and 8.

No textbooks are prescribed, except for Units 9, 10 and 11 (see below). Students purchasing their own copies of the poetry are advised to buy the edition in the Oxford Standard Authors, where available, or for Crabbe, *Tales, 1812 and Other Selected Poems, ed. Mills* (C.U.P.); for Wordsworth, *Selected Poetry, ed. Mark Van Doren* (Modern Library College Edition); for Coleridge, *Selected Poetry and Prose, ed. Stauffer* (Modern Library C.E.); for Keats, *Complete Poetry and Selected Prose, ed. Briggs* (Modern Library C.E.); and for Whitman, *Leaves of Grass and Selected Prose, ed. Bradley* (Rinehart). For Shakespeare, students may use any good complete edition, e.g. Alexander (Collins) or Sisson (Odhams), or in the separate volumes of e.g. the New Arden edition (Methuen), the Signet Classics, the New Shakespeare (C.U.P.), or the New Penguin edition.

1. (Compulsory). Victorian Poetry: the poetry of Tennyson, Browning and Arnold.


**BASIC READING**
Dickens. *Oliver Twist; Martin Chuzzlewit; Our Mutual Friend*.
Thackeray. *Vanity Fair; Henry Esmond*.


4. Poetry from Crabbe to Shelley: selected poems by Crabbe, Blake, Wordsworth, Coleridge, Byron, Keats and Shelley.

5. Shakespeare's History Plays: *Richard III; King John; Richard II; Henry IV* (both parts); and *Henry V*.

6. Nineteenth Century American Literature: selected works by Melville, Whitman and Samuel Langhorne Clemens ("Mark Twain").

**BASIC READING**
Whitman. *Leaves of Grass*.
Melville. *Moby Dick; Billy Budd and selected short stories*.
Twain. *Tom Sawyer; Life on the Mississippi; Huckleberry Finn*.


8. The Irish Dramatic Revival: selected plays by Lady Gregory, W. B. Yeats, J. M. Synge and Sean O'Casey.

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66
9. Introduction to Old English.
TEXTBOOKS
(i) Sweet's Anglo-Saxon Primer, revised N. Davis. O.U.P.
(ii) Pyles, T. The Origin and Development of the English Language. Harcourt, Brace and World.

“Introduction to Old English” is a prerequisite for this course.
TEXTBOOKS
(i) Sweet’s Anglo-Saxon Reader in Prose and Verse, revised Dorothy White­lock, O.U.P.

11. Chaucer’s Canterbury Tales.
TEXTBOOK

ENGLISH III—50.113W
Pass students are required to take FOUR, and Honours students SIX, of the units set out below. Units 1 and 2 are compulsory for both Pass and Honours students.

REFERENCE BOOK
Sutherland, J. A Preface to Eighteenth Century Poetry. O.U.P.

No textbooks are prescribed except for Units 6, 9 and 10 (see below). Students are advised to purchase standard editions such as the Oxford Standard Authors, where available, or for Pope, The Poems, ed. Butt (“Twickenham” one-volume edition, Methuen); for Swift, Gulliver’s Travels and Other Writings, ed. Quintana (Modern Library College Edition); for Johnson, Rasselas, Poems and Selected Prose, ed. Bronson (Holt, Rinehart and Winston); and for The Comedy of Manners Restoration Plays, ed. Gosse (Everyman), and Four English Comedies, ed. Morrell (Penguin). For Shakespeare’s Tragedies students may use any good complete edition (e.g. Alexander (Collins) or Sisson (Odhams) or the separate volumes of e.g. the New Arden edition (Methuen), the Signet Classics, the New Shakespeare (C.U.P.) or the New Penguin edition).

   BASIC READING
   Defoe. Robinson Crusoe; Moll Flanders.
   Richardson. Pamela; Clarissa.
   Sterne. Tristram Shandy.
4. The Comedy of Manners: selected works by playwrights from Etherege to Sheridan.
5. Shakespeare’s Tragedies: Romeo and Juliet; Macbeth; Hamlet; King Lear; Timon of Athens; Antony and Cleopatra; and Coriolanus.
TEXTBOOKS
Sutherland, J. English Satire. C.U.P.

7. (Available in 1970 for Honours students only.) Elizabethan Drama: selected plays by Lyly, Peele, Kyd, Marlowe, Greene; Shakespeare's early plays, Comedies and "Problem Plays".


TEXTBOOKS
(i) *Sweet's Anglo-Saxon Reader in Prose and Verse*, revised Dorothy White-lock, O.U.P.
(iii) Blair, P. H. *An Introduction to Anglo-Saxon England*. C.U.P.

10. (Available in 1970 for Honours students only.) English Literature and Language in the Fourteenth Century: a study of important writers other than Chaucer; a survey of the dialects of Middle English. "Chaucer's *Canterbury Tales*" (see English II syllabus) is a prerequisite for this course.

TEXTBOOKS
(i) Sisam, K. *Fourteenth Century Verse and Prose*. O.U.P.

PASS DEGREE OF MASTER OF ARTS

Candidates must complete two courses (one in each of two years). Each course will involve at least 60 hours of seminars, together with such supplementary study of criticism, research-materials and methods as may be prescribed from time to time. Candidates 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 to be taken at the end of each year.

Two courses will be offered in 1970 if necessary staff is available; and new courses 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 courses, and to advise candidates on the courses best suited to their qualifications and purposes.

1. Twentieth Century English, American and Australian Fiction: a study of modern fiction in English, with particular attention to novels by Cary, Golding, Greene, Joyce, Lawrence, Orwell, Evelyn Waugh, Bellow, Dos Passos, Faulkner, Fitzgerald, Hemingway, Salinger, Keneally, Stead, Stow and White.

2. Fourteenth Century Verse and Prose, and Medieval Drama: a study of selected works by Chaucer and his contemporaries and of some late medieval plays.
BASIC READING
Piers the Plowman. ed. W. W. Skeat. O.U.P. (Shorter edition.)
Pearl, Sir Gawain and the Green Knight, ed. A. C. Cawley. Everyman’s Library.
Sisam, K. Fourteenth Century Verse and Prose. O.U.P.

HISTORY

51.111W History I
European History, 1700-1950
The chief events in European history from the age of Louis XIV to present times with emphasis on the growth of the state; the relationship of state and society; and the development of nationalism, liberalism and imperialism as forces shaping the modern world.

TEXTBOOKS

51.112W History II
English Social History, 1750-1950
The course discusses, in lectures and tutorials, principally the latter, changes in the structure of English society from the period of the Industrial Revolution to the early years of the twentieth century. Topics of particular concern include class ideologies, religion, education, the emergence of a labour movement and economic development. The study of documentary extracts is regarded as important.

SOME IMPORTANT BOOKS


Students may take History IIIA, IIIB or both.

**51.113W History IIIA**

**Australian Social History**

This course examines themes in Australian social history at different stages of development. The principal themes for study are the relations between social classes, demographic change and social welfare. These involve discussion of industrial relations, the trade union movement, racial prejudice, education, social services and the problems of social democracy. The course will examine each theme in the periods 1800-1850, 1850-1900 and 1900-1950.

**TEXTBOOKS**


**51.133W History IIIB**

**Modern South-east Asia and New Guinea**

The first section of the 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 South-east Asian politics. The main part of the course will involve study of three key South-east 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 discussion 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 South-east Asia will also be briefly analysed.

**IMPORTANT BOOKS**


DIPLOMA IN EDUCATION

58.011W 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
Bean, C. E. W. Here, My Son. Angus and Robertson, 1950.

SELECTED JOURNALS
The Australian Journal of Education. A.C.E.R.
The Australian University, Australian Vice-Chancellors' Committee.
The Forum of Education. Sydney Teachers' College.

58.012W 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 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

58.013W 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.
Educational Research.
Harvard Educational Review.

58.014W 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 include the relation of personality and culture, home and school, teacher and community, and the problems of migrant assimilation.

TEXT BOOKS
REFERENCE BOOKS
Havighurst, R. J. and Neugarten, B. L. Society and Education. Allyn and Bacon, 1962.

SELECTED JOURNALS

58.015W 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.

58.021W 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. The course includes specific aspects of classroom practice in bookkeeping.

REFERENCE BOOKS
Musselman and Hanna, J. *Teaching Bookkeeping and Accounting.*

**SELECTED JOURNALS**
*Economica.* London School of Economics.

**58.022W 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 linguistics 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.

**58.024W 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.

**58.027W 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.

58.029W Mathematics Methods
Mathematics First Method (58.029A) 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 take this course.

Mathematics Second Method (58.029B) deals with a selection of these topics from an advanced standpoint, and is for students taking mathematics as a double method.


SELECTED JOURNALS
*Australian Mathematics Teacher*.
*N.S.W. Department of Education Mathematics Bulletin*.

58.030W Science Method
Science First Method (58.030A) 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 (58.030B) 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, n.d.
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 Teachers' College include:

(i) 58.044W 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) 58.043W Health and Health Education. Students are given guidance concerning physical and mental health, and informed of resources available in the schools.

(iii) 58.041W Communication Skills. Students are made more aware of problems of communication in the classroom, and their own personal competence is improved.

(b) 58.042W 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.

58.050W 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 in formal 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


The Library

GENERAL STUDIES IN 1970

It is a requirement of all undergraduate courses* that the programme of study includes certain subjects of a general nature in addition to those vocational courses in which the student must specialise.

The normal general studies requirements for full-time courses of at least four years are four components of 45 hours' duration, and for part-time courses and for three-year full-time courses, three components of 45 hours' duration.

The General Studies programme at Wollongong University College consists of fourteen-week units, each of which in turn consists of fourteen lectures and eight tutorials. In a part-time course or a three-year full-time course the number of such units to be taken is six.

The programme is designed to cover various aspects of the modern world, its thought and artistic expression. The units to be offered in 1970 are:

67.001W Our Living Language and the Modern Writer
67.011W Two Aspects of Modern Psychology
67.012W Contemporary History
67.022W Architecture for Today
67.032W Population Geography
67.042W Art in the Twentieth Century
67.013W Developments in Present Day Music
67.023W Some Modern Books of Note

For honours students an advanced elective is offered:
67.043W Asia in the Twentieth Century

* i.e. in this connection all undergraduate courses except those for the Bachelor of Arts Degree.
67.001W Our Living Language and the Modern Writer
The course is made up of both language and literature. It first takes a brief look at language and communication in the present-day world and the nature and development of Modern English; then considers the differing languages of science and literature and the problem of "the two cultures" by way of introduction to a study of some significant works by modern writers.

TEXTBOOKS
Camus, A. The Outsider. Pelican.
Golding, W. Lord of the Flies. Faber.
Snow, C. P. The Two Cultures and a Second Look. Mentor.

67.011W Two Aspects of Modern Psychology
This course introduces students to psychology through two of its major areas. The course aims not only to impart information about two areas of modern psychology but also to be sufficiently stimulating as to encourage further study.

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

67.012W Contemporary History
Contemporary history takes problems that are actual in the world today, and examines them from the time they first take recognisable shape. It deals with the world scene after World War II, the emergence of Asia, the changing face of Communism, the problems of colour, the thermonuclear stalemate and the development of supra-national and international organisations.

TEXTBOOKS
67.022W Architecture for Today
This course is designed to demonstrate that modern architecture is a mirror of our times, just as the architecture of any earlier age is a mirror of that age. The course will be focused on "the walls around us" now, but it will necessarily include reference to the architectural styles of earlier ages.

TEXTBOOKS

REFERENCE BOOKS
Cichy, B. *Architecture of the Ancient Civilisations in Colour*. Thames & Hudson.
Freeland, J. M. *Architecture in Australia*. Cheshire.

67.032W Population Geography
This course is intended to present a world picture of population, 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.

TEXTBOOKS
Wilson, A. *Population Geography*. N.A.P.

REFERENCE BOOKS

67.042W Art in the Twentieth Century
The course will begin with a survey of the traditions obtaining in art in the nineteenth century, and then pursue such subsequent developments as the following: Cubism, Fauvism, Expressionism, Dada, Surrealism, Abstract Art, Abstract Expressionism, Post-Painterly Abstraction, Op Art, Pop Art, Minimum Art and Kinetic Art.

TEXTBOOKS
Clark, K. *Landscape into Art*. Pelican.
Clark, K. *The Nude*. Pelican.
Newton, E. *European Painting and Sculpture*. Pelican.

REFERENCE BOOKS
Dorival, B. *The School of Paris*. Thames & Hudson.
Elgar, R. *Picasso*. Thames & Hudson.
Waldberg, P. *Surrealism*. Skira.
67.013W Developments in Present Day Music

The course 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

67.023W Some Modern Books of Note

This course is designed to promote a knowledge of the most important books of modern times and to cultivate the habit of wider reading beyond the set syllabuses. Only those students will be permitted to enrol who are taking as one of the "professional" subjects in their degree courses the equivalent of one of the courses in the General Studies programme.

Classroom instruction will not normally form any part of the course, but special lectures on some of the books will be given by visiting lecturers and members of the University staff. Students will be required to select three of the following books and read and prepare assignments on them under supervision.

TEXTBOOKS
Brecht. The Threepenny Novel.
Faulkner. The Sound and the Fury.
Freud. A General Introduction to Psychoanalysis.
Joyce. Ulysses.
Kafka. The Trial.
Marx & Engels. The Communist Manifesto.
Nabokov. Lolita.
Russell, B. The Problems of Philosophy.
White, P. Riders in the Chariot.

67.043W Asia in the 20th Century

The course 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 as type cases of new theories of warfare.

Finally, Australia as an extension of Asia will be discussed.

TEXTBOOKS
Buss, C. A. South East Asia & The World Today. Anvil.
Wallbank, T. W. A Short History of India & Pakistan. Mentor.
<table>
<thead>
<tr>
<th>Faculty</th>
<th>Course</th>
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<td><strong>Applied Science</strong></td>
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<td>Applied Geology</td>
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<td>Ceramic Engineering</td>
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<td>Metallurgy</td>
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<td>Mining Engineering</td>
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<td></td>
<td>Electrical Engineering</td>
<td>B.E.</td>
<td>4</td>
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<tr>
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<td>Industrial Engineering</td>
<td>B.E.</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mechanical Engineering</td>
<td>B.E.</td>
<td>4</td>
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</tr>
<tr>
<td></td>
<td>Naval Architecture</td>
<td>B.E.</td>
<td>4</td>
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</tr>
<tr>
<td><strong>Medicine</strong></td>
<td>Medicine</td>
<td>M.B.</td>
<td>6</td>
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<tr>
<td></td>
<td>B.S.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Military Studies</strong></td>
<td>Arts</td>
<td>B.A.</td>
<td>4</td>
<td>NIL</td>
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<tr>
<td></td>
<td>Engineering</td>
<td>B.Sc.</td>
<td>4</td>
<td>NIL</td>
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<tr>
<td></td>
<td>Science</td>
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<tr>
<td><strong>Science</strong></td>
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<td>B.Sc.</td>
<td>3</td>
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<td>Optometry</td>
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<tr>
<td></td>
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<td>B.Sc.</td>
<td>3</td>
<td>3</td>
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<tr>
<td><strong>Board of Vocational Studies</strong></td>
<td>Health Administration</td>
<td>B.H.A.</td>
<td>3</td>
<td>NIL</td>
</tr>
<tr>
<td></td>
<td>Industrial Arts</td>
<td>B.Sc.</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Science (Education)</td>
<td>B.Sc.</td>
<td>4</td>
<td>NIL</td>
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<tr>
<td></td>
<td>Sheep and Wool Technology</td>
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<td>4</td>
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<td>(Education Option)</td>
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<td>4</td>
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<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>Course</td>
<td>Award</td>
<td>Duration (Years)</td>
<td>Stages (years) available at W'gong in 1970</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>---------------------------------------------</td>
</tr>
<tr>
<td>Applied Science</td>
<td>Ceramics</td>
<td>B.Sc. (Tech)</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Chemical Engineering</td>
<td>B.Sc. (Tech)</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Food Technology</td>
<td>B.Sc. (Tech)</td>
<td>6</td>
<td>2</td>
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<tr>
<td></td>
<td>Fuel Engineering</td>
<td>B.Sc. (Tech)</td>
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<td>Metallurgy</td>
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<tr>
<td></td>
<td>Mining Engineering</td>
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<td>6</td>
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<td>Polymer Science</td>
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<tr>
<td>Architecture</td>
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<td>Building</td>
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<tr>
<td>Arts</td>
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<td>B.A.</td>
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</tr>
<tr>
<td>Biological Sciences</td>
<td>Applied Psychology</td>
<td>B.Sc.</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Commerce*</td>
<td>Accountancy</td>
<td>B.Com</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Applied Psychology</td>
<td>B.Com</td>
<td>6</td>
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</tr>
<tr>
<td></td>
<td>Economics</td>
<td>B.Com</td>
<td>6</td>
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<tr>
<td></td>
<td>Economic History</td>
<td>B.Com</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Industrial Relations</td>
<td>B.Com</td>
<td>6</td>
<td>1</td>
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<tr>
<td></td>
<td>Marketing</td>
<td>B.Com</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>B.Com</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Wool Commerce</td>
<td>B.Com</td>
<td>6</td>
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</tr>
<tr>
<td>Engineering</td>
<td>Aeronautical Engineering</td>
<td>B.Sc. (Tech)</td>
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<tr>
<td></td>
<td>Civil Engineering</td>
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<td>6</td>
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<td>Industrial Engineering</td>
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<td>6</td>
<td>2</td>
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<tr>
<td></td>
<td>Mechanical Engineering</td>
<td>B.Sc. (Tech)</td>
<td>6</td>
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<td></td>
<td>Naval Architecture</td>
<td>B.Sc. (Tech)</td>
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<td>Surveying</td>
<td>B.Surv.</td>
<td>7</td>
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<tr>
<td>Science</td>
<td>Pure and Applied Chemistry</td>
<td>B.Sc.</td>
<td>6</td>
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<tr>
<td></td>
<td>Science (including Biological Sciences subjects)</td>
<td>B.Sc.</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Board of Vocational Studies</td>
<td>Health Administration</td>
<td>B.H.A.</td>
<td>6</td>
<td>NIL</td>
</tr>
<tr>
<td></td>
<td>Industrial Arts</td>
<td>B.Sc. (Tech)</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Social Work</td>
<td></td>
<td>6</td>
<td>NIL</td>
</tr>
</tbody>
</table>

* With the approval of the Head of School concerned, each of the part-time Commerce courses may be completed in five years.
Facilities are available for post-graduate studies at the College leading to the several degrees of M.A., M.Com., M.E., M.Sc., M.Eng.Sc., and Ph.D. It is also possible to undertake at Wollongong some of the studies leading to the Master of Education within the School of Education at Kensington. In addition, a postgraduate course in education was offered for the first time in 1968. The research interests of the staff cover a wide range of topics and persons interested in pursuing postgraduate studies should contact the appropriate Head of the Department.

Some current fields of interest are:

**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 and measurement of thermodynamic acidity constants.
Chemical spectroscopy.
Magnetochemistry of copper II complexes.
Catalytic deuterium exchange reactions.

**GEOLOGY**
The geology of the regional coal measures.

**MATHEMATICS**
Nuclear reactor theory and related stochastic processes.
Oceanography.
Urban population distributions.

**PHYSICS**
Astronomy—photoelectric observations in the infra-red.
High current electron beams.
Mössbauer studies of alloys.

**CIVIL AND MECHANICAL ENGINEERING**
Propagation of waves in air in small bore tubes.
Losses across valves of reciprocating air compressors.
Flow of granular materials.
Theoretical analysis of engine cycles.
Applied mechanics and photo elasticity.
ELECTRICAL ENGINEERING
Automatic control.
Plant identification.
Electrostatic precipitation.

METALLURGY
Deformation and fracture at elevated temperatures.
Solidification of metals.
Metallographic and x-ray studies of structure changes in alloys.
Model studies of fluid flow in shaft furnaces.
Metal forming, with particular reference to the fabrication of sheet metals.

ACCOUNTANCY
Business finance and capital budgeting.
Cost classification for decision making and cost control.

HISTORY
European history during the period 1660-1800.
Nineteenth and twentieth century British history.
Any area of Australian history.
Any aspect of modern colonial history, especially the history of Africa, the Pacific and South East Asia.

ECONOMICS
Industrial economics.
Regional studies.
Economic development.
Labour economics.

EDUCATION
The teaching of social studies.
Moral education.
Classificatory ability in Australian children.

PSYCHOLOGY
Sensory deprivation.
Factors affecting academic achievement of senior school pupils.
Vocational and personnel selection.
Factors related to the perceptual influences of sensory deprivation.
DIPLOMA IN EDUCATION

Since 1966, courses leading to the Diploma in Education and Master of Education have been offered through the School of Education, at Kensington. Details of Masters’ courses may be found in Section C of the University of New South Wales Calendar. Since 1968, a Diploma course has been available in Wollongong also. Intended as a professional course in education for graduates of this or another approved university preparing to teach in secondary schools, it also serves as an introduction to the research disciplines of education for students who will later pursue higher studies in education. As present, the course is for one year full-time, but it is anticipated that in the near future it will be possible for this course to be taken over two years on a part-time basis. 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 Teachers’ College and local schools.

COURSE OUTLINE

<table>
<thead>
<tr>
<th>Hours per week</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>6–8</td>
</tr>
<tr>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

Methods of Teaching
Students must study two methods (including demonstration lessons)

Selected Topics

Supervised Teaching Practice
Eight weeks in term time. Two weeks of unsupervised teaching practice is also required.

RADIO COURSES

The University’s radio station, VL2UV, which broadcasts on a frequency of 1750Kc’s, began operating in May, 1961, and now offers programmes five nights a week. The University also has its own postgraduate television network, VITU, but at present it is not possible for programmes from the University television station to be received at home. Students enrolling in radio courses receive printed notes which are essential for an understanding of the lectures. Seminars conducted in conjunction with the radio courses give students an opportunity to discuss with the lecturers 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, 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, and subjects covered range from specialities in Medicine and Dentistry to Operations Research and Computer Programming. School-University bridging courses, another service of Radio University, are meeting a pressing need. These courses are designed to assist students who are proceeding from secondary school to first year university studies, but they are also helpful to students taking the Higher School Certificate.

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

IDENTIFICATION OF SUBJECTS BY NUMBERS

Each subject provided by a School has an identifying number. The integer is the identifying number of the School and the numbers after the decimal point distinguish the subject from others conducted by that School, some of which may have the same name. For example, the subject number for Psychology in the first year Arts Course is 12.001 whereas the Psychology course taught as a General Studies elective has the number 26.121.

Another example is 5.301S Engineering Mechanics where the "S" indicates that the subject is taught over twenty-four weeks with a final examination held in the September period. The same subject is also taught over thirty weeks with the examination in November, and in this case has the number 5.301.

As well as providing an unambiguous means of identifying subjects with the same or similar names, the subject number is also used in the recording of enrolment and examination information on machine data processing equipment. It is therefore essential that students should cite both the correct subject name and the correct subject number in all correspondence or on forms dealing with subjects.
You should become familiar with the identifying numbers of the Schools in which you will be studying, according to the following list:

<table>
<thead>
<tr>
<th>Identifying Number</th>
<th>School or Department</th>
<th>Identifying Number</th>
<th>School or Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>School of Physics</td>
<td>41</td>
<td>School of Biochemistry</td>
</tr>
<tr>
<td>2</td>
<td>School of Chemistry</td>
<td>42</td>
<td>School of Biological Technology</td>
</tr>
<tr>
<td>3</td>
<td>School of Chemical Engineering</td>
<td>43</td>
<td>School of Botany</td>
</tr>
<tr>
<td>4</td>
<td>School of Metallurgy</td>
<td>44</td>
<td>School of Microbiology</td>
</tr>
<tr>
<td>5</td>
<td>School of Mechanical and</td>
<td>45</td>
<td>School of Zoology</td>
</tr>
<tr>
<td></td>
<td>Industrial Engineering</td>
<td></td>
<td>School of English</td>
</tr>
<tr>
<td>6</td>
<td>School of Electrical Engineering</td>
<td>46</td>
<td>School of History</td>
</tr>
<tr>
<td>7</td>
<td>School of Mining Engineering</td>
<td>47</td>
<td>School of Philosophy</td>
</tr>
<tr>
<td>8</td>
<td>School of Civil Engineering</td>
<td>48</td>
<td>School of Sociology</td>
</tr>
<tr>
<td>9</td>
<td>School of Wool and Pastoral</td>
<td>49</td>
<td>School of Political Science</td>
</tr>
<tr>
<td></td>
<td>Sciences</td>
<td></td>
<td>School of Librarianship</td>
</tr>
<tr>
<td>10</td>
<td>School of Mathematics</td>
<td>50</td>
<td>School of French</td>
</tr>
<tr>
<td>11</td>
<td>School of Architecture and</td>
<td>51</td>
<td>School of Drama</td>
</tr>
<tr>
<td></td>
<td>Building</td>
<td>52</td>
<td>School of Education</td>
</tr>
<tr>
<td>12</td>
<td>School of Applied Psychology</td>
<td>53</td>
<td>School of Russian</td>
</tr>
<tr>
<td>13</td>
<td>School of Textile Technology</td>
<td>54</td>
<td>Special Wollongong Subjects</td>
</tr>
<tr>
<td>14</td>
<td>School of Accountancy</td>
<td>55</td>
<td>School of History and Philosophy of Science</td>
</tr>
<tr>
<td>15</td>
<td>School of Economics</td>
<td>56</td>
<td>School of Social Work</td>
</tr>
<tr>
<td>16</td>
<td>School of Health Administration</td>
<td>57</td>
<td>School of German</td>
</tr>
<tr>
<td>17</td>
<td>Biological Sciences</td>
<td>58</td>
<td>School of Spanish</td>
</tr>
<tr>
<td>18</td>
<td>Department of Industrial</td>
<td>59</td>
<td>Wollongong General Studies</td>
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<tr>
<td></td>
<td>Engineering</td>
<td>60</td>
<td>Wollongong General Studies Subjects</td>
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<tr>
<td>19</td>
<td>School of Traffic Engineering</td>
<td>61</td>
<td>School of Anatomy</td>
</tr>
<tr>
<td>20</td>
<td>School of Highway Engineering</td>
<td>62</td>
<td>School of Medicine</td>
</tr>
<tr>
<td>21</td>
<td>Department of Industrial Arts</td>
<td>63</td>
<td>School of Pathology</td>
</tr>
<tr>
<td>22</td>
<td>School of Chemical Technology</td>
<td>64</td>
<td>School of Physiology</td>
</tr>
<tr>
<td>23</td>
<td>School of Nuclear Engineering</td>
<td>65</td>
<td>School of Surgery</td>
</tr>
<tr>
<td>24</td>
<td>School of Applied Geology</td>
<td>66</td>
<td>School of Obstetrics and Gynaecology</td>
</tr>
<tr>
<td>25</td>
<td>Department of General Studies</td>
<td>67</td>
<td>School of Paediatrics</td>
</tr>
<tr>
<td>26</td>
<td>Geography</td>
<td>68</td>
<td>School of Psychiatry</td>
</tr>
<tr>
<td>27</td>
<td>Surveying</td>
<td>69</td>
<td>School of Human Genetics</td>
</tr>
<tr>
<td>28</td>
<td>Department of Marketing</td>
<td>70</td>
<td>Public Health and Social Medicine</td>
</tr>
<tr>
<td>29</td>
<td>Department of Optometry</td>
<td>71</td>
<td>Division of Postgraduate Extension</td>
</tr>
<tr>
<td>30</td>
<td>Graduate School of Business</td>
<td>72</td>
<td>Studies</td>
</tr>
</tbody>
</table>

In Section D of the Calendar a short syllabus is given for each subject. The subjects are grouped under the name of the School providing them and the Schools are listed in their numerical order.
UNDERGRADUATE SCHOLARSHIPS
AVAILABLE AT THE COLLEGE

Various scholarships, bursaries and cadetships are tenable at The University of New South Wales and Wollongong University College.

Except where otherwise specified, applications on the forms obtainable from the Secretary must be lodged with him within seven days of the publication of the results of the Higher School Certificate Examination.

A separate application must be lodged for each category of scholarship listed below except that applicants for scholarships in Textile Technology and Wool Technology will automatically be considered for the scholarships which are offered in the same field by the Wool Research Trust Fund.

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

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

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 in the year immediately preceding that for which the scholarship is desired. Full particulars and application forms may be obtained from the Officer-in-Charge, Sydney 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 Secretary, must be lodged with him within seven days of the publication of the results of the New South Wales Higher School Certificate Examination.

Food Technology Scholarships

A number of scholarships are usually made available by firms in the food processing industries. These scholarships have a value of from $800 per annum, payable as a living allowance to students enrolled full-time in the Food Technology degree course. These scholarships may be held concurrently with a Commonwealth University Scholarship.

Mining Scholarships

The Joint Coal Board is offering scholarships to male students who desire to enter the full-time degree courses in Mining Engineering and Applied Geology. The value of these scholarships ranges from $700 to $1,200 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 headmasters 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 Higher School Certificate results.
Textile Technology Scholarships

The textile industry provides a number of scholarships for students wishing to enrol in courses leading to the degree of Bachelor of Science (Pass and Honours) in Textile Technology. Each scholarship has a value of $1000 per annum and may be held concurrently with a Commonwealth University Scholarship. An applicant for this scholarship will also receive consideration for the Wool Research Trust Fund Scholarships in Textile Technology.

Wool Technology Scholarships

Several firms and banks associated with the wool industry endow scholarships in courses leading to the Bachelor of Science degree in Wool Technology. Valued at $1000 per annum, these scholarships are normally tenable for four years, and may be held concurrently with a Commonwealth University Scholarship. An applicant for these scholarships will also receive consideration for the Wool Research Trust Fund Scholarships in Wool Technology.

Wool Research Trust Fund Scholarships in Wool Technology and Textile Technology

Several scholarships for courses in Wool Technology and Textile Technology have been made available by the Wool Research Trust Fund (Commonwealth Government). The scholarships provide an allowance of $1000 per annum for living expenses for four years, and successful applicants may hold a Commonwealth University Scholarship concurrently.

Scholarship in Wool Commerce

One scholarship is available for students proceeding to the degree of Bachelor of Commerce in Wool Commerce. It is being provided by Felt and Textiles of Australia Ltd., and is tenable for four years at a value of $200 per annum. It may be held concurrently with a Commonwealth University Scholarship.

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.

Manufacturers’ Mutual Insurance Company Scholarship in Commerce

The Manufacturers’ Mutual Insurance Company offer 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 Industrial Arts

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

Scholarships in Electrical Engineering

The Tyree Electrical Company Pty. Ltd. provides two 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.
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 scholarship is $900 per annum, and applicants are expected to apply for a Commonwealth University Scholarship to cover course and other fees.

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.

Australian Iron and Steel Pty. Ltd. Scholarships in Metallurgy

Australian Iron and Steel Pty. Ltd. has undertaken to provide two scholarships for students wishing to enrol in the full-time course for the Bachelor of Science degree in Metallurgy. The scholarships are valued at between $360 and $700 per annum, and applicants are expected to apply for a Commonwealth University Scholarship to cover course and other fees.

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 $1,000 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.

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 for Wollongong University College is bounded by a line drawn through and including Helensburgh, Braidwood and Moruya and whose training can be adequately undertaken at Wollongong University College.

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.

Application should be made to the Secretary, Bursary Endowment Board, c/o Department of Education, Bridge Street, Sydney.

**C.S.I.R.O. Postdoctoral Studentships**

The Commonwealth Scientific and Industrial Research Organisation provides studentships which are tenable for one year at overseas universities. Successful candidates would be expected to take up their awards no later than the commencement of the overseas 1970-71 academic year. University academic staff on sabbatical or study leave with pay and travel allowance are not eligible to receive assistance under the scheme.

Studentships are awarded in fields of specific interest to the C.S.I.R.O.

Benefits include the payment of return air or sea fares between Australia and the country of study. Return fares will also be paid for the wife and family of married students.

Further information and application forms may be obtained at the Student Enquiries Office of this College.

**PRIZES**

A number of prize awards, made possible by the generosity of sponsors, are available for competition by students at the College.
The Austin Keane Prize
Awarded to the student who most excels in the subject Applied Mathematics III.
1968 G. W. Peady

The S. A. Senior Prize
Awarded to the student who most excels in the subject Pure Mathematics III.
1968 G. W. Peady

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.
1968 G. Lang, T. Miller

The Peter Beckmann Memorial Prize
Awarded to the most deserving student in Chemistry III.
1968 B. I. Noyce, C. R. Pidgeon

The Illawarra Branch of the N.S.W. Association of University Women Graduates’ Prize for Women Students
Awarded to the final year woman graduate with the best academic record.
1968 Miss P. S. D. Lesmana

The G. W. Daniels Memorial Prize
Awarded to the student who most excels in the subject Chemistry II.
1968 B. Worth

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.
1968 D. E. Roach

Darryl Condon Memorial Prize
Awarded to the student proceeding to an undergraduate degree in Metallurgy who most excels in the subject Metallurgy I.
1968 D. Flynn

The Royal Australian Chemical Institute (N.S.W. Branch) Prize
1968 C. R. Pidgeon
THE UNIVERSITY COLLEGE UNION

Situated at the southwest end of the campus, the Union building was opened in 1965. The Union provides opportunities for the development of social and intellectual intercourse between members.

Membership is compulsory for all students, and many of the staff elect to become members. The building includes a large common room and a number of small rooms, all of which are available to members for recreational and cultural purposes. Light refreshments are provided during term time. The Union is managed by a board comprising Council, Advisory Committee, Student and Staff representatives.

THE LIBRARY

Emphasis is placed by the College on instruction to help students make the best use of the library facilities. Special courses to assist students in the preparation of laboratory reports, essays and seminars are conducted by the library staff.

The library, which contains over 20,000 books, is open on Monday to Thursday from 8.45 a.m. to 8 p.m., on Friday from 8.45 a.m. to 5 p.m., and on Saturday from 9 a.m. to 1 p.m.

For additional information on the library, consult the leaflet, "Enrolment Procedure for New Students".

CHAPLAINCY SERVICE

A Chaplaincy Service is provided within the College for the benefit of students and staff by three 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. They may be contacted at their private addresses.

Anglican: Rev. J. Baxter,
8 Banool Street,
Keiraville, N.S.W., 2500.

Roman Catholic: The Rev. Father S. A. Mitchell, S.M., B.A.,
St. Paul's College,
Bellambi, N.S.W., 2518. Tel.: 84-2564.
STUDENTS’ TRAVELLING CONCESSION PASSES

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

Application forms for these concessions may be obtained at the Cashier’s Office, Main Building.

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.

LOST PROPERTY

All enquiries concerning lost property should be made to the Cashier’s Office.

ACCOMMODATION

Accommodation for male students is available at Illawarra House, a student residence operated by the Y.M.C.A. At present accommodation, in single and double rooms, is limited to sixty-two. The construction of a residential college affiliated with Wollongong University College has been approved, and it is anticipated that this will be opened for students, both male and female, in 1971. This college, which will accommodate eighty-one students, will also be under the management of the Y.M.C.A. Tutors in residence will provide tutorial assistance.

Students requiring other types of accommodation should apply to the Secretary.

CASUAL EMPLOYMENT

A list of vacancies is displayed on the main College notice boards. For further information students should contact the Secretary.
Procedures
PAYMENT OF 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 $7.

Fees should be paid during the prescribed enrolment period but will be accepted during the first two weeks of First Term. (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 term (13th March, 1970), and after 31st March from students who are re-enrolling except with the express approval of the Secretary, which will be given in exceptional circumstances only.

Payment of Fees by Term

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

Assisted Students

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

Extension of Time

Any student who is unable to pay fees by the due date may apply in writing to the 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 31st
March for fees due in First Term and for one month from the date on which a late fee becomes payable in Second and Third Terms.

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

Failure to Pay Fees

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

No student is eligible to attend the annual examinations in any subject where any portion of his course fees for the year is outstanding after the end of the fourth week of Third Term (25th September, 1970).

In very special cases the 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 term 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 degree courses in Industrial Arts and Sheep and Wool Technology.

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

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

*Fees quoted in this schedule are current at the time of publication and may be amended by the Council without notice.
(i) Full-time Course Fee (more than 15 hours’ attendance per week)—$132 per term. In courses where attendance in 3rd term, either at lectures or survey camp, is less than five weeks, the fee for this term is $66.

(ii) Part-time Course Fee—over 6 hours’ and up to 15 hours’ attendance per week—$66 per term.

(iii) Part-time Course Fee—6 hours’ or less attendance per week—$33 per term.

(iv) Course Continuation Fee—A fee of $28 per annum (no term 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’ Union, the Sports Association and the Library fee.)

(b) Commerce Courses.

For the purpose of fee determination assessment is on a term basis. A full-time course fee will be charged for any term where more than 11 hours’ per week instruction, etc., is involved.

(i) Full-time Course Fee (more than 11 hours’ attendance per week)—$110 per term.

(ii) Part-time Course Fee—over 4 hours’ and up to 11 hours’ attendance per week—$66 per term.

(iii) Part-time Course Fee—4 hours’ or less attendance per week—$33 per term.

(iv) Course Continuation Fee—A fee of $28 per annum (no term 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’ Union, the Sports Association and the Library fee.)
(c) Arts Courses

(i) Pass—$99 per annum per subject or $33 per term per subject.

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

(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 $33 per annum per subject. Where a full subject at the honours level is taken, the fee payable is $132 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.

OTHER FEES

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

Matriculation Fee—$8 payable at the beginning of first year.
Library Fee—annual fee—$14.
College Union—entrance fee—$20; annual fee—$26.
Sports Association—$4—annual subscription.
Students’ Union—$5—annual subscription.

*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.
Miscellaneous—annual fee—$2.
Graduation Fee—$8—payable at the completion of the course.

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—$6 for each subject.
Examinations conducted under special circumstances—$8 for each subject.
Review of examination result—$8 for each subject.

LATE FEES

First Enrolments—

Fees paid on the late enrolment session and before commencement of term ........................................................... $7
Fees paid during the 1st and 2nd weeks of term ............. $14
Fees paid after the commencement of the 3rd week of term with the express approval of the Secretary and Head of the School concerned ........................................................... $28

Re-Enrolments

First Term—

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

Second and Third Terms—all enrolments—

Fees paid in 3rd and 4th weeks of term ........................................ $14
Fees paid thereafter ..................................................................... $28

Late lodgement corrected Enrolment Details Forms (late applications will be accepted for three weeks only after prescribed dates) ....................................................................................... $6
WITHDRAWAL FROM COURSE

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

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

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

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

On notice of withdrawal a partial refund of other fees is made on the following basis:

- Wollongong University College Union—$4.33 in respect of each half term.
- Wollongong University College Students' Union—where notice is given prior to the end of the fifth week of first term $2, thereafter no refund.
- Wollongong University College 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.

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 each term. Details of these additional times may be obtained from notices posted at the College before the commencement of term.

CHANGES IN COURSE PROGRAMMES AND WITHDRAWAL FROM SUBJECTS

Students seeking approval to substitute one subject for another or add one or more subjects to their programme must make application to the Head of the School responsible for the course on a form available from
School offices. In the case of students wishing to withdraw from subjects or terminate their enrolment, the application must be lodged with the Secretary. He will inform students of the decision. Approval of withdrawal from subjects is not automatic, each application being determined after considering the circumstances advanced as justifying withdrawal. It is emphasised that withdrawal from subjects after Term I or failure to sit for the examinations in any subjects for which the student has enrolled is regarded as failure to pass the subjects unless written approval to withdraw has been obtained from the Secretary.

RESUMPTION OF COURSES

Students wishing to resume their studies after an absence of twelve months or more are required to apply to the Secretary for permission to re-enrol by 19th January, 1970. 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.

CHANGE OF ADDRESS

Students are requested to notify the 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 Secretary of a change of address.
Rules Affecting Students

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 Secretary.

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

Applications to the 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 School. The granting of an exemption from attendance does not carry with it exemption from payment of fees.

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

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

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

ANNUAL EXAMINATIONS

The annual examinations take place in November-December for students in 30-week courses, and in September for students in 21-24-week courses. 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 term addresses of students. No results will be given by telephone.

Examination results may be reviewed for a fee of $8 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 work in laboratory and class exercises and to any term 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 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 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 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 Secretary for special provision when examinations are taken. The student may be required to support his request with medical evidence.

All students will receive an enrolment details form by 30th June. It is not necessary to return this form unless any information recorded there is incorrect. Amended forms must be returned to the Examinations Branch by 17th July. Amendments notified after the closing date will
not be accepted unless exceptional circumstances exist and approval is obtained from the Secretary. Where a late amendment is accepted, a late fee of $6 will be payable. Amended forms returned to the Secretary will be acknowledged in writing within fourteen days.

**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

Deferred examinations may be granted in the following cases:—

(i) When a student, through illness or some other acceptable circumstance, has been prevented from taking the annual examination or has been placed at a serious disadvantage during the annual examinations. Applications for deferred examination in this category must be lodged with the Secretary with appropriate evidence of the circumstances (e.g., medical certificate) not later than seven days after the examination concerned. All such applications shall be reported to the Head of the School responsible for the subject. Before a deferred examination is granted on medical grounds, regard shall be paid to the student’s class and assignment work in the subject, to his general performance in the year, and to the significance of the annual examination in compiling the composite mark.

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

(iii) To allow a student by further study to reach the required standard in a subject. The granting of a deferred examination in such cases will be based on the general quality of the student’s performance.

(iv) Where a student’s standing at the annual examinations is such that his progression or graduation could depend on his failure in one subject only, then his position in that subject shall be again reviewed with a view to determining whether a deferred examination may be granted notwithstanding his failure otherwise to qualify for such concession.

Deferred examinations must be taken at the centre in which the student is enrolled, unless he has been sent on compulsory industrial training to remote country centres or interstate. An application to take an examination away from the centre in which enrolled must be lodged with the Secretary immediately examination results are received. Normally, the student will be directed to the nearest University for the conduct of the deferred examination.

A student eligible to sit for a deferred examination must lodge with the Cashier an application accompanied by the fee of $6 per subject, by the date indicated on the notification of results.
APPLICATION FOR ADMISSION TO A DEGREE

Applications for admission to a degree of the University must be made on the appropriate form by 14th January. Applicants should ensure that they have completed all requirements for the degree, 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 will be applied retrospectively from 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.

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

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

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

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

(5) Any student excluded under any of the Clauses 1-3 may apply for 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 Secretary. Any such application shall be considered by the Professorial Board, which shall determine whether the cause shown is adequate to justify his being permitted to continue his course or re-enrol as the case may be.

(7) The Vice-Chancellor may on the recommendation of the Professorial Board 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 Board 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 Professorial Board 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) A student may appeal to an Appeals Committee constituted by Council for this purpose, against his exclusion by the Professorial Board from any subject or course.

**RE-ADMISSION AFTER EXCLUSION**

Applications for re-admission must be made on the standard form and lodged with the 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.
It should be noted that a person under exclusion may not be enrolled in miscellaneous subjects unless he has received the approval of the Professorial Board.

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

**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 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”.
Extra-Curricular Activities

This section provides brief details only of the extra-curricular activities which are open to students.

SPORTING FACILITIES

The College has constructed a sporting oval at the north-eastern end of its campus to provide first class facilities for the playing of various sports. Hockey fields and tennis courts are also available.

THE STUDENTS' UNION

The Students' Union is a body elected by and from the students to promote student welfare and interests. Membership of the Students' Union is compulsory for all students.

"Tertangala"—the journal of the Wollongong University College Students' Union is published at least once each term.

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
Chess Club
Cricket Club
Debating Society
Drama Society
Geological Society
Historical Society
Liberal Club
Literary Society
Men's Hockey Club
Metallurgical Society
Music Society
National Union of Australian University Students.

Newman Society
Outdoors Club
Rugby Union Club
Science Faculty Association
Squash Club
Students for the A.L.P.
Table Tennis Club
Tennis Club
Women's Basketball Club
Women's Hockey Club
W.U.C. Christian Union