THE UNIVERSITY OF NEW SOUTH WALES

FACULTY OF APPLIED SCIENCE HANDBOOK

UNDERGRADUATE
AND POST-GRADUATE STUDY

1963

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THE UNIVERSITY OF NEW SOUTH WALES
P.O. Box 1, Kensington. Phone: 663-0351

Foreword

The importance of the Applied Sciences in this University's development has always been recognised, and is especially referred to in our Act of Incorporation.

Undergraduate courses in the fields of Chemical Engineering, Chemical Technology, Metallurgy, Mining Engineering and Applied Geology, Textile Technology and Wool Technology are well established, and many of the Faculty's research contributions have achieved international recognition.

It is hoped that students who enter the Faculty will share the enthusiasm and the dedication of those who have taken part in its development. It is of the greatest importance that students should acquire, from the very beginning, the right approach to their studies, and that they should achieve a proper balance between their work and their extra-curricular activities.

In addition to this Handbook, pamphlets and brochures issued in conjunction with the enrolment period and Orientation Week are available. These should be consulted, together with the University Calendar, for further information on problems associated with courses.

This is the first Applied Science Handbook, and it is hoped that it will be of value to present and prospective students and to employers.

M. CHAIKIN,
Dean,
Faculty of Applied Science.

Table of Contents

Section 3 — Post-graduate Study

CALENDAR OF DATES

1963

First Term: March 4 to May 11.

Second Term: May 27 to August 3.

Third Term: August 26 to November 2.

February—

Monday 18	Enrolment week begins for new first-year students.
Monday 25	Enrolment week begins for students re-enrolling.

March—

Monday 4	Public Holiday.
Tuesday 5	Lectures commence.
Wednesday 27	Faculty of Applied Science meets.
Friday 29	Conferring of Degrees—Wollongong University College. Last day for acceptance of enrolments.

April—

Friday 5	Conferring of Degrees—Newcastle University College.
Friday 12 to Monday 15	Easter Holidays.
Friday 19	Conferring of Degrees—First Ceremony.
Wednesday 24	Conferring of Degrees—Second Ceremony.
Thursday 25	Anzac Day—Public Holiday.

May—

Wednesday 1	Conferring of Degrees—Third Ceremony.
Saturday 11	First term ends.
Monday 13 to Saturday 25	Vacation (2 weeks).
Monday 27	Second term commences.

June—

Monday 10	Queen's Birthday—Public Holiday.
Saturday 29	Last day for acceptance of applications for examinations—24-week courses.

July—

Wednesday 3	Faculty of Applied Science meets.

August—

Friday 2	Last day for acceptance of applications for examinations—30-week courses.
Saturday 3	Second term ends.
Monday 5 to Saturday 24	Vacation (3 weeks).
Monday 26	Third term commences.

September—

Wednesday 18	Faculty of Applied Science meets.
Saturday 21	Annual examinations commence — 24-week courses.

October—

Saturday 5	Annual examinations end—24-week courses.
Monday 7	Six-Hour Day—Public Holiday.
Monday 7 to Friday 11	One-week Survey Camp.
Monday 14	Industrial training begins—students attending one-week Survey Camp.
Monday 14 to Friday 18	One-week Geology Excursion.
Wednesday 30	Faculty of Applied Science meets.

November—

Saturday 2	Lectures cease.
Saturday 9	Annual examinations begin—30-week courses.
Saturday 30	Annual examinations end—30-week courses.

1964

January—

Tuesday 28 to Saturday, February 8	Deferred examinations.

February—

Monday 17	Enrolment week commences for new first-year students.
Monday 24	Enrolment week commences for students re-enrolling.

March—

Monday 2	First term lectures commence.

FACULTY OF APPLIED SCIENCE

ACADEMIC STAFF

Dean and Chairman
Professor M. Chaikin.

SCHOOL OF CHEMICAL ENGINEERING

Professor of Chemical Engineering and Head of School
R. T. Fowler, B.Sc. (Wales), Ph.D. (Lond.), D.Sc.Eng. (Syd.), A.R.I.C., M.I.Chem.E., M.Inst.F., A.I.M.

Department of Chemical Engineering

Senior Lecturers
R. H. Buchanan, B.Sc. (Corn.), Ph.D., A.R.A.C.I.
J. R. Norman, B.Sc., Ph.D., A.M.I.Chem.E., A.R.A.C.I.
G. H. Roper, M.Sc., Ph.D., A.S.T.C., A.R.I.C., A.R.A.C.I.

Lecturers
J. H. Bowen, M.A. (Cantab.), Ph.D. (Lond.), A.M.I.Chem.E., G.I.Mech.E., Grad.R.I.C.
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P. Souter, M.Sc. (Syd.).

Tutor
P. Barber.

Department of Food Technology

Associate Professor of Food Technology
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Lecturers
R. A. Edwards, B.Sc., A.S.T.C.
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Department of Industrial Chemistry

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SCHOOL OF METALLURGY

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Demonstrator

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School of Chemical Technology

Laboratory Manager

J. R. Gatenby, A.S.T.C.

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J. E. McLennan, A.S.T.C., L.I.M.
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W. A. Oates, B.Met. (Sheff.).

Head of the Division of Science

Professor J. A. Allen, M.Sc. (Qld.), Ph.D. (Brist.), F.R.A.C.I.

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A. S. Ritchie, M.Sc., A.S.T.C.

Lecturer

B. A. Engel, M.Sc. (N.E.).

Senior Demonstrator

C. F. K. Diessel, Dipl.Gel., Dr.rer.nat. (Ber.).

TECHNICAL STAFF

J. A. Grahame, A.S.T.C. (Metallurgy).
D. D. Todd, B.Sc., A.S.T.C.

WOLLONGONG UNIVERSITY COLLEGE

Department of Metallurgy

Senior Lecturer

G. Brinson, M.Sc. (Melb.), Ph.D. (Sheff.).

Lecturers

T. W. Barnes, A.S.T.C., A.I.M.
N. F. Kennon, M.Sc., F.R.M.T.C., L.I.M.
R. G. Robins, M.Sc., Ph.D., A.R.A.C.I., A.M.I.Chem.E.

BROKEN HILL DIVISION

School of Mining Engineering

Lecturers

D. R. Cooley, B.E., A.M.Aus.I.M.M., A.M.I.E.Aust.
W. E. Baker, B.Sc. (Tas.).

SECTION I

General Information

ADMISSIONS OFFICE

The Admissions Office provides intending students with information regarding courses, admission requirements, scholarships and enrolment.

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

The Admissions Office will receive applications from students who wish to defer or resume courses of study, to transfer from one course to another, or seek any concession in relation to a course in which they are enrolled. These applications should, wherever possible, be lodged before the commencement of the academic year in which the concession is to apply. Students in doubt as to whether an application is necessary to cover their own particular situation should inquire at the Admissions Office.

The Admissions Office operates an Enrolment Bureau for undergraduate students enrolling in the University for the first time. Details of the procedure to be followed by such students will be published in the preamble to the Leaving Certificate Examination results.

The Admissions Office is located in the Main Building at Kensington, telephone 663-0351. Office hours are from 9 a.m. to 5 p.m. Monday to Friday. An evening service is provided during the enrolment period.

REQUIREMENTS FOR ADMISSION

Candidates may qualify for entry to undergraduate courses by complying with matriculation requirements at the New South Wales Leaving Certificate Examination, or the University of Sydney Matriculation Examination.

Matriculation Requirements

(To operate from January 1, 1961)

1. (i) A candidate for any first degree of the University must satisfy the conditions for admission before entering upon the prescribed course for a degree. Compliance with these conditions does not in itself entitle a student to enter upon a course.

(ii) A candidate who has satisfactorily met the conditions for

admission and has been accepted by the University shall be classed as a "matriculated student" of the University after enrolment.

(iii) 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 matriculation fee.

2. (i) For the purpose of matriculation approved subjects* are grouped as follows:—

A. English.

B. Latin, Greek, French, German, Italian, Hebrew, Chinese, Japanese, Russian, Dutch, Geography, Ancient History, Modern History, Economics.

C. Mathematics I, Mathematics II, Mathematics III.

D. Agriculture, Applied Mathematics, General Mathematics, Biology, Botany, Chemistry, Physics, Geology, Physics and Chemistry, Physiology, Zoology.

E. Accountancy, Art, Descriptive Geometry and Drawing, Music, Theory and Practice of Music.

(ii) In order to satisfy the conditions for admission to undergraduate courses leading to a degree candidates must pass the New South Wales Leaving Certificate Examination conducted by the Department of Education, or the University of Sydney Matriculation Examination, in at least five approved subjects at the one examination; provided that:—

I. either (a) the five subjects include English and at least one subject from each of Groups B and C, but do not include more than one subject from Group E, except that candidates may qualify for admission to the Faculty of Arts only, by passing in one subject from Group D in lieu of the subject from Group C,

or (b) the five subjects include English, and at least one subject from either Group B or Group C, but do not include more than one subject from Group E, and provided further that the five passes include either one first class Honours and two A's or two Honours of which one is first class,

and further provided that:—

II. (a) neither Physics nor Chemistry is offered with the combined subject Physics and Chemistry;

(b) neither Botany nor Zoology is offered with Biology;

(c) neither Botany nor Zoology nor Biology is offered with Physiology;

* It should be noted that certain subjects taken for the Leaving Certificate are not approved subjects for admission to the University of New South Wales.

(d) neither Mathematics I, Mathematics II nor Mathematics III is offered with General Mathematics;
(e) neither Mathematics I nor Mathematics II is offered with Mathematics III;
(f) Mathematics I or Mathematics II may be counted as an approved subject only if the candidate presented himself for examination in both Mathematics I and Mathematics II;
(g) Theory and Practice of Music is accepted only in cases where the pass was obtained at an examination in 1946 or subsequent years;
(h) Ancient History is accepted only in cases where the pass was obtained at an examination held in 1945 or subsequent years; and further both Modern History and Ancient History may be offered as qualifying subjects at the examinations held at the end of 1951 and subsequent years;
(i) Agriculture is accepted only in cases where the pass was obtained at an examination held in 1945 or subsequent years;
(j) Economics is accepted only in cases where the pass was obtained at an examination held in 1947 or subsequent years;
(k) Descriptive Geometry and Drawing is accepted only in cases where the pass was obtained at an examination held in 1954 or subsequent years.

(iii) Candidates who have satisfactorily met the matriculation requirements of the University of Sydney, but who have not obtained the requisite pass in Mathematics where prescribed for entrance to the University of New South Wales, will be permitted to complete their qualifications to enter the University of New South Wales by passing only in a Mathematics subject from Group C, at a subsequent Leaving Certificate Examination or University of Sydney Matriculation Examination.

Old Requirements Current to March, 1964

Compliance with these requirements will qualify for entry to the University in faculties other than Arts until March, 1964.

I. Applicants for entry to undergraduate courses leading to a degree may satisfy entrance requirements by passing the New South Wales Leaving Certificate Examination or University of Sydney Matriculation Examination, in at least five subjects at the one examination,* of which one must be English and one other must be Mathematics I, or Mathematics II, or Mathematics III, three

* It should be noted that certain subjects taken for the Leaving Certificate are not approved subjects for admission to the University of New South Wales.

other subjects being chosen from the following groups, at least one of the three being from Group A:—

Group A.—Latin, French, Greek, German, Italian, Hebrew, Chinese, Japanese, Russian, Dutch, Geology, Geography, Agriculture, Economics, Modern History, Ancient History, Combined Physics and Chemistry, Physics, Chemistry, Physiology, Biology, Botany or Zoology.

Group B.—Applied Mathematics, Music, Theory and Practice of Music, General Mathematics, Mathematics I, Mathematics II, Mathematics III or Descriptive Geometry and Drawing.

II. Candidates who have presented themselves for the Leaving Certificate Examination or University of Sydney Matriculation Examination in five or six subjects selected in accordance with the requirements prescribed in I and who have passed in English and a Mathematics and two other of the subjects may be granted admission provided that they have been awarded A passes or passes with Honours in at least three of these four subjects.

The other provisions set out in the new requirements above also apply.

ENROLMENT PROCEDURE FOR UNDERGRADUATE COURSES

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

First Enrolments—Application for enrolment in first year must, wherever possible, be made in person to the Student Enrolment Bureau, Kensington, as soon as the results of the Leaving Certificate Examination are published, but in any event not later than *January 25*.

Country residents who wish to enrol with the University should write to the Registrar, P.O. Box 1, Kensington, for a form on which to make their preliminary application. This form must be returned not later than *January 25*.

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

Later Year Enrolments—All students enrolling other than for the first time should enrol through the School. This enrolment must be effected during the week before the commencement of First Term.

Conversion Course Enrolments—Enrolment in conversion courses must commence with an application to the Registrar for admission, and the applicant will be notified of the subsequent procedure.

No enrolments will be accepted after March 31 without the express approval of the Registrar which will be given in exceptional circumstances only.

Student Registration Card

When enrolment forms have been submitted to the University Cashier he will return to the student a Registration Card. Students are required to carry this card with them as evidence that they are entitled to the rights and privileges afforded by the University.

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 £1.

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

Fees should be paid during the prescribed enrolment period but will be accepted without incurring a late fee during the first two weeks of First Term. Fees paid between the beginning of the third week of term and March 31 are subject to a late fee of £3. No student is regarded as having completed an enrolment until fees have been paid. *Fees will not be accepted* (*i.e., enrolment cannot be completed*) *after March 31* except with the approval of the Registrar, which will be given in exceptional circumstances only. Where this approval is given a late fee of £5 applies.

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:

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

otherwise a late fee is incurred—£3 on fees paid in the third or fourth weeks of term and £5 on fees paid in the fifth or sixth weeks.

Assisted Students.

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

Extension of Time

Any student who is unable to pay fees by the due date may apply in writing to the Registrar for an extension of time. Such application must give year or stage, whether full-time or part-time, and the course in which the applicant wishes to enrol, state clearly and fully the reasons why payment cannot be made and the extension sought, and must be lodged before the date on which a late fee becomes payable. Normally the maximum extension of time for the payment of fees is until March 31 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 (September 20 in 1963).

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

UNDERGRADUATE COURSE FEES*

Where course fees are assessed on the basis of term hours of attendance the hours of 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.

For the purpose of fee determination for courses in the Faculty of Applied Science 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.

(i) Full-time Course Fee (more than 15 hours' attendance per week)—£48 per term. In courses in which the Third Term is limited to four weeks of formal studies the fees for this term is £24.

(ii) Part-time Course Fee—over 4 hours' and up to 15 hours' attendance per week—£24 per term.

(iii) Part-time Course Fee—4 hours' or less attendance per week—£12 per term.

(iv) Thesis Fee—Students who have completed the final examinations but have a thesis still outstanding are required to pay £10 per annum (no term payment).

Miscellaneous Subjects

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 on an hourly basis in accordance with the schedule above.

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—£3—payable at the beginning of first year.

Library Fee—annual fee—£5.

Graduation or Diploma Fee—£3—payable at the completion of the course.

University of New South Wales Students' Union—annual subscription—£2.

University of New South Wales Sports Association—annual subscription—£1.

University Union—annual subscription—£6.

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

Chemistry Kit deposit—£4 per kit. (Up to £3 refundable on return of kit in a satisfactory condition.)
Excursion Fee—£1 per subject (biology, botany, zoology, entomolgy).

Special Examination Fees

Deferred examination—£2 for each subject.
Examinations conducted under special circumstances—£3 for each subject.
Review of examination result—£3 for each subject.

Cashier's Hours

The cashier's office at Kensington is open for the payment of fees from 9.30 a.m. to 1.00 p.m. and from 2.00 p.m. to 4.30 p.m. Monday to Friday. At Broadway, fees may be paid to the University cashier on Thursdays, 2.00 p.m. to 4.00 p.m. The cashier's office is open for additional periods during the first three weeks of each term.

STUDENT COUNSELLING AND RESEARCH UNIT

The three main functions of this Unit are:

(i) the provision of a wide variety of student counselling services, including both individual and group counselling and some study skills programmes;
(ii) research into the personal, social and environmental factors affecting student progress; and
(iii) reporting of experience and research findings to University and secondary school staffs with a view to the improvement of counselling services generally.

Telephone inquiries should be made to 663-0351, extensions 600-605.

UNDERGRADUATE AWARDS

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
University of New South Wales	10	Degree	Duration of course	Fees exemption	Completed trade course (Dept. of Technical Education) and qualified for entrance at L.C. examination within three years of completion.	Registrar, University of New South Wales.
"	"	"	"	"	Completed Q. & M. course (Dept. of Technical Education) and qualified for entrance at L.C. examination.	"
"	15	"	"	"	Leaving Certificate.	"
Commonwealth Scholarships (Open Entrance)	*	Degree full-time or part-time	"	Tuition, examination, matriculation, degree and other compulsory fees. Living allowance—up to £247 p.a. (£383/10/- if away from home)	Leaving Certificate, under 25 years of age. Applicant and parents residents of Australia.	Officer in Charge, University Branch Office, Dept. of Education, University of Sydney.
(Second or later years)	*	"	"	"	Completion of at least one year of full-time course, or two years of part-time course without failure. Under 25 years of age. Applicant and parents residents of Australia.	"

* Not specified.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
Commonwealth Scholarships (Mature Age)	*	Degree full-time	Duration of course	As above, plus additional benefits for dependants	Over 25 and under 30 years of age at commencement of course. Resident of Australia for at least two years.	Officer in Charge, University Branch Office, Dept. of Education, University of Sydney.
N.S.W. Government Exhibition	*	,,	,,	Fees exemption	Leaving Certificate.	Bursary Endowment Board, c/- Dept. of Education, Bridge St., Sydney.
N.S.W. Government Bursary	*	,,	,,	£65 p.a. (£104 p.a. if living away from home) £10 p.a. book allowance	N.S.W. Government Exhibition.	,,
Scholarship in Food Technology	*	Degree full-time in Food Technology	One year renewable	£400 p.a.	As required by University. Under 22 years of age.	Registrar, University of N.S.W.,
Scholarships in Textile Technology	*	Degree full-time in Textile Technology	Four years	£500 p.a.	As required by University.	,,

* Not specified.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
Wool Research Trust Fund Scholarships	2	Degree full-time in Wool Technology	Four years	£400 p.a.	As required by University.	Registrar, University of New South Wales
„	6	Degree full-time in Textile Technology	„	„	„	„
Wool Industry Undergraduate Scholarships in Wool Technology	*	Degree full-time in Wool Technology	„	£500 p.a.	„	„
Mining and Metallurgical Bursaries	*	Degree full-time in Mining Engineering, Applied Geology, Metallurgy and other fields	One year	£50 p.a.	British subjects. Completed first two years of course with minimum of one distinction or equivalent.	„

* Not specified.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
John Heine Memorial Scholarship	1	Degree full- or part-time in Chemical Engineering, Metallurgy and other fields	Varies with type of course	Maximum total value £250	Qualified for admission to third year (fourth year for Chemical Engineering). Medically fit.	The Secretary, The John Heine Memorial Foundation, c/- Metal Trades Employers' Association, 101 Walker Street, North Sydney.
N.S.W. Public Service Board Traineeship	*	Degree full-time in Chemical Engineering, Applied Geology, Wool Technology and other fields	"	Fees paid. Textbook allowance £21 p.a. Allowance of £235-336 p.a., £364-£476 if living away from home. Married students receive additional allowances	As required by University.	N.S.W. Public Service Board.

* Not specified.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
Dept. of Railways Cadetships	*	Degree part-time in Metallurgy and other fields	Varies with type of course.	Fees paid. Allowance £532 p.a. (1st year), £643 (2nd), £731 (3rd), £806 (4th), £901 (5th), £935 at 21 years	£500 Bond (5 years).	Employment Personnel Officer Department of Railways, 509 Pitt Street, Sydney.
Dept. of Railways Scholarships	*	Degree full-time in Metallurgy and other fields	"	"	Cadet or employee; £1000 Bond (5 years). Under 23 and completed first year or under 25 and completed diploma.	"
South Sydney Junior Rugby League Scholarship	2	Degree full-time	One year	£75 p.a.	Male resident of South Sydney. As required by University.	Registrar, University of New South Wales.
Mount Lyell Mining and Railway Co.	*	"	Four years	£350 p.a.	As required by University.	Mount Lyell Mining and Railway Co. Ltd., Queenstown, Tasmania.

* Not specified.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
Broken Hill Proprietary Co. Ltd.	10†	Degree in Engineering, Science, Commerce, Economics	Duration of course or completion of a course	Annual grant, increments in successive years	As required by University. Preference given to Commonwealth Scholarship holders. Completion of at least one year of Degree course.	Nearest office of Broken Hill Pty. Co. Ltd. or subsidiaries.
Broken Hill South Ltd.	1	Degree (unrestricted)	Duration of course	Annual Grant Fees paid	As required by University. Restricted to residents of Broken Hill district.	Broken Hill South Ltd., Broken Hill, N.S.W.
Zinc Corporation Ltd. and New Broken Hill Consolidated Ltd.	3	,,	,,	Annual Grant	,,	Zinc Corporation Ltd., P.O. Box 444, Broken Hill, N.S.W.
Zinc Corporation Ltd.	1	,,	One or two years	Annual Grant	Completion of degree course at Broken Hill Division. Restricted to students of Broken Hill Division.	,,

† Approximately.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
Broken Hill Proprietary Co. Ltd. (Steel Industry Trainee Scholarships)	2 or 3	Degree in Engineering, Commerce, Economics	Completion of a course	Annual Grant, increments in successive years	At least two years as B.H.P. trainee, or at least two years in diploma or part-time degree course.	Nearest office of Broken Hill Pty, Co. Ltd., or subsidiaries. Applications not later than June 30.
Broken Hill Proprietary Co. Ltd.	*	Degree	Duration of course	Normal salary. Fees refunded on passing exams. Living-away-from-home allowance	Trainee. As required by University.	Nearest office of Broken Hill Pty. Co. Ltd. or subsidiaries.
Zinc Corporation Ltd. (Trainee)	*	,,	Five to six years	Normal salary; time off for classes; assistance with fees	As required by University. Tenable at Broken Hill Division.	Zinc Corporation Ltd., Broken Hill, Melbourne, Adelaide, Sydney.
Joint Coal Board and Australian Coal Association (Research) Limited	*	Degree full-time in Mining Engineering, Fuel Technology and other fields	Duration of course	Allowance of £50 for books, instruments, living allowance of £300-£550 p.a.	As required by University. Medically fit.	Secretary, Joint Coal Board, Box 3842, G.P.O., Sydney.

* Not specified.

RULES OF PROGRESSION

PROGRESSION IN FULL-TIME COURSES WHERE PROGRESSION IS BY THE YEAR

1(a) Students will not be permitted to attend lectures or to sit for examination in any subject in any year until they have passed in all subjects of the previous year, unless special permission has been granted by the faculty in which they are enrolled.

1(b) Such permission must be applied for, and, if allowed, will be for one subject only in any year. The student must then, during the subsequent year, pass the examination in the subject for which the special permission has been granted.

1(c) A student availing himself of the provisions of this section will not be eligible for any prizes or scholarships at the annual examinations.

2. A student who fails to qualify to progress to the next year of a course where progression is by years may be granted, by the Head of the School conducting the course, exemption from further attendance and examination in any subject in which he has achieved a pass at a satisfactory standard.

3. Any student not granted such concession as provided in 2 and who elects to transfer to the related part-time course may not qualify for progression to the next year of the full-time course merely by completing the part-time equivalents of the subjects in which he has failed.

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

RULES RELATING TO COMMON FIRST YEAR SUBJECTS

1. Each student intending to follow any course leading to the degree of Bachelor in the faculty of Applied Science, must have satisfied the examiners in the subjects of 1.001 Physics I, 2.001 Chemistry I, 10.001 Mathematics I, and in a fourth subject (elective) chosen from 5.001 Engineering I, 7.511 Geology I, 12.011 Psychology I or 17.001 General Biology, before progressing further in his course, except that progression may be permitted with outstanding subjects if faculty regulations permit.

2. Notwithstanding faculty regulations to the contrary, full-time students will be required to complete the four subjects of Rule 1 in not more than two years' study and part-time students in not more than four years' study.

The re-enrolment of students who have not complied with this rule shall be subject to the general rules governing re-enrolment.

3. At enrolment, each student to whom Rule 1 applies will be

required to nominate and apply for admission to the course which he desires to follow.

Although application for transfer from one course to another within these faculties may be made at any time students are advised that such transfers are most readily effected prior to re-enrolment in the second year of full-time courses and the third stage of part-time courses.

RESTRICTIONS UPON STUDENTS RE-ENROLLING

(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.)

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

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

(iii) 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.

(iv) 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.

(v) Any student excluded under any of the clauses (i)-(iii) may apply for readmission after two academic years and such application shall be considered in the light of any evidence submitted by him.

(vi) A student wishing "to show cause" under these provisions shall do so in writing to the Registrar. 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.

(vii) The Vice-Chancellor may, on the recommendation of the Professorial Board, exclude from attendance in any particular course 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.

ANNUAL EXAMINATIONS

The annual examinations take place in November-December for students in 30-week courses, and in September for students in 24-week courses.

A student desiring to sit for an annual examination must lodge an application with the Registrar on the appropriate form by the prescribed date. The prescribed dates by which applications are to be lodged are:

(a) Annual examinations for 24-week courses—June 30.
(b) Annual examinations for three-term courses—last Friday of Second Term.
(c) Annual examinations for other courses—14 weeks prior to date of first examination.

The Accountant is authorised to receive application forms during the three weeks immediately following the prescribed closing dates if they are accompanied by a late fee of £2. Applications forwarded more than three weeks after the closing date will not be accepted except in very exceptional circumstances and with the approval of the Registrar.

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

Applications for deferred examinations in the first category must be lodged with the Registrar with appropriate evidence of the circumstances (e.g. medical certificate) not later than seven days after the examination concerned.

A student eligible to sit for a deferred examination must, within seven days following the announcement of his results either in the daily Press or by notice posted at the University, lodge with the Accountant an application accompanied by the fee of £2 per subject.

Application for Admission to Degree or Diploma

Applications for admission to a degree or diploma must be

made on the appropriate form by February 28 and March 31 respectively. Applicants should ensure that they have completed all requirements for the degree or diploma, including industrial training where necessary.

CONDITIONS FOR THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE (TECHNOLOGY)

The courses leading to the award of the degree of Bachelor of Science (Technology) are normally programmed over six years of part-time study in the University whilst the student is employed in industry. The regulations governing the award of this degree are as follows:

1. A candidate for degree of B. Sc. (Tech.) shall—
   (i) comply with the requirements for admission;
   (ii) follow the prescribed course of study in the appropriate school and pass the necessary examinations;
   (iii) complete an approved programme of industrial training over a period of not less than three years concurrently with attendance in the course.

2. During each year a student shall perform laboratory, drawing office and field work, attend demonstrations and excursions to such an extent and in such a manner as is prescribed from time to time by the Professorial Board on the recommendation of the Faculty and, in addition, undertake industrial training as approved by the Head of the School.

3. A student may be granted advanced standing by the Professorial Board on the recommendation of the appropriate Faculty but in each case a student must follow an approved course for at least three years with concurrent approved industrial training before being eligible for admission to the degree.

4. The degree of B. Sc. (Tech.) shall be awarded in the pass grade only.

5. Students shall be required to conform with the general rules relating to progression in University courses.

CONDITIONS FOR THE AWARD OF THE DEGREE OF BACHELOR OF ENGINEERING

(a) A candidate for the degree of Bachelor of Engineering shall—
   (i) comply with the requirements for admission;
   (ii) follow the prescribed course of study in the appropriate School, and satisfy the examiners in the necessary subjects;
   (iii) complete an approved programme of industrial training of not less than thirty-six weeks in the case of Civil, Mechanical and Industrial Engineering students and not less than twenty-eight weeks in the case of Electrical Engineering and Mining Engineering students. In general,

this training must be completed before January 31 in the year in which the degree is to be awarded.

(b) During each year a student shall perform laboratory, drawing office and field work, attend demonstrations and excursions to such an extent and in such a manner as is prescribed from time to time by the Professorial Board on the recommendation of the Faculty.

(c) A student shall be required to complete the first year of the course in not more than two years. Re-enrolment thereafter will be governed by the general regulations of the Professorial Board.

(d) A student may be granted advanced standing by the Professional Board on the recommendation of the appropriate Faculty, but in each case must complete an adequate period of approved industrial training before being eligible for the degree. In addition to the above requirements a student coming from another institution must follow an approved course of study in this University for at least two years.

(e) The degree shall be awarded in the pass or honours grade. Candidates for honours must take any extra subjects prescribed for the third year of the course and must obtain the permission of the Head of their School before enrolling in the special course prescribed for honours students in the fourth year. Honours may be awarded in the following categories:

Honours Class I
Honours Class II
Honours Class III

A student enrolled in the honours course who fails to reach the standard required for the award of Honours Class III may be awarded the degree of Bachelor of Engineering.

THE LIBRARY

The University library is at Kensington, and has services for students in Applied Science at other centres as follows:—

Broadway—Sydney Technical College Library, Thomas Street, Ultimo. 'Phone: 2-0922.

Broken Hill—Argent Street, Broken Hill. 'Phone: 2571 or 2572.

Newcastle University College—Tighe's Hill, Newcastle. 'Phone: MA 0461.

Wollongong University College—North Wollongong. 'Phone: B 7301.

Each library provides a reference and lending service for staff and students and is open in term during day and evening sessions.

BASSER COLLEGE

The College provides accommodation for 192 male students, both undergraduate and post-graduate. A choice is available of single or double study-bedrooms, which are equipped with built-in furniture.

Tutors in residence at the College provide assistance as required.

Residence fees, which include cost of tutorial assistance and full board, are as follows: Registration Fee, £5; House Committee Fee, £5; Room Deposit (refunded), £5; Accommodation, £8/15/- per week (yearly rate), £10/10/- per week (three-monthly rate).

Intending students should apply in writing to the Master, Basser College, Box 24, P.O., Kensington.

THE ACADEMIC YEAR

The academic year is divided into three terms each of ten weeks. The First Term commences on the first Monday in March. Examinations for students in thirty-week courses are held one week after the cessation of lectures. There is a two-week vacation between First and Second Terms and a three-week vacation between Second and Third Terms.

ATTENDANCE AT CLASSES

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

GENERAL CONDUCT

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

SECTION II

Undergraduate Courses In The Faculty of Applied Science

The Faculty of Applied Science consists of the Schools of Chemical Engineering, Chemical Technology, Metallurgy, Wool Technology, Textile Technology and the School of Mining Engineering and Applied Geology. These Schools offer full-time undergraduate courses leading to the degrees of Bachelor of Science and Bachelor of Engineering, and part-time courses leading to the degree of Bachelor of Science (Technology).

All of these courses are available at Kensington. At Newcastle University College the Faculty offers full-time B.Sc. courses in Chemical Engineering and Industrial Chemistry, and part-time B.Sc. (Tech.) courses in Chemical Engineering, Industrial Chemistry, Metallurgy and Industrial Arts. At Wollongong University College a part-time B.Sc. (Tech.) course in Metallurgy is offered, and at the Broken Hill Division a part-time B.Sc. (Tech.) course in Mining Engineering.

Common First Year

There is a common first year syllabus in Physics, Mathematics and Chemistry for all courses in the Faculty. All courses except Wool Technology, Food Technology and Applied Geology take Engineering I as the fourth subject of the first year. In the Wool Technology and Food Technology courses General Biology is the fourth subject, while students in Applied Geology take Geology I. This arrangement allows for a high degree of transferability.

Humanities and Social Sciences

All undergraduates in Faculties other than Arts are required to complete a number of courses in the Humanities and Social Sciences. In this way the University hopes to give its students a general understanding of the different aspects of the world in which they live. Full-time students will do English, History or Philosophy, a Social Science Elective and an Advanced Elective. Part-time students will follow the same programme, less the Advanced Elective.

Industrial Training Requirements

In the scientific and technological courses close association with industry is maintained on the practical aspects of the professions. This is achieved in most of the courses of the Faculty by requiring students to complete an approved period of industrial training prior to graduation. All

full-time courses in the Faculty of Applied Science require the completion of at least four months of approved industrial training before graduation. This is normally carried out during the Christmas vacations. In the case of Wool Technology students are required to complete 36 weeks' approved practical work. In Mining Engineering the second and third years of the course are of 24 weeks duration and students will undertake a programme of practical training in the last part of the Third Term and the long vacation of these years.

Full-time Courses

Full-time courses of four years' duration are offered in Chemical Engineering, Food Technology, Industrial Chemistry, Ceramic Engineering, Polymer Science, Metallurgy, Applied Geology, Fuel Technology, Textile Technology and Wool Technology leading to the degree of Bachelor of Science. A four-year course in Mining Engineering is offered, leading to the degree of Bachelor of Engineering. Candidates for honours are required to undertake special reading and other assignments as directed by the Head of the School concerned.

Part-time Courses

The Schools of Chemical Engineering, Chemical Technology, Metallurgy and Mining Engineering and Applied Geology offer six-year part-time courses leading to the degree of Bachelor of Science (Technology) in Chemical Engineering, Food Technology, Industrial Chemistry, Ceramics, Polymer Science, Metallurgy and Fuel Technology.

Students who qualify for the B.Sc. (Tech.) degree in the Faculty of Applied Science and who wish to proceed to a B.Sc. degree will normally be required to complete further work which will involve at least one year of full-time attendance.

Holders of the B.Sc. (Tech.) degree will be eligible to proceed to the degrees of Master of Science or Master of Technology, subject to the regulations relating to these degrees.

Transfer is also possible from full-time courses to the part-time B.Sc. (Tech.) courses but one of the conditions for the award of the B.Sc. (Tech.) degree is that at least three years of approved industrial experience be gained before graduation. This requirement will apply to students transferring from full-time courses.

B.Sc. (Tech.) Courses With Partial Full-time Attendance

B.Sc. (Tech.) courses may be completed by a combination of full-time and part-time study. The first two stages are to be completed part-time; in the following two years students complete the second and third years of the corresponding full-time course;

and in the fifth stage a special programme is prepared. Full details are set out below under the Schools which provide the courses.

Conversion Courses

Holders of the A.S.T.C. diploma of the Department of Technical Education in Metallurgy may proceed to an appropriate degree by means of a conversion course. The syllabus of this course is arranged so that diplomates are given credit for their diploma studies and may satisfy the degree requirements with the minimum of repetition and overlap.

Allocation of Study Hours

In the outlines of the courses in the Faculty of Applied Science set out below the following scheme for indicating the allocation of study hours is used. The first three figures for each subject indicate the number of hours spent each week in lectures, tutorials and laboratory work respectively. The fourth figure is intended to be a guide to the average student as to the time he should devote to private study of the particular subject if he expects to reach pass standard in that subject. The academic load for most full-time courses is in the range 45 to 50 hours per week.

School of Chemical Engineering

The School offers courses in Chemical Engineering and Food Technology.

Chemical engineering is the application of the principles of the physical sciences, together with the principles of economics and human relations, to fields in which matter undergoes a change in state, energy content or composition. The chemical engineer is generally responsible for the design, construction and operation of plant and equipment used in the chemical processing industries.

CHEMICAL ENGINEERING — FULL-TIME COURSE
Bachelor of Science

This course extends over four years and students study full-time during the day for 30 weeks of each year (excluding examination and vacation periods). For the award of honours, students will be required to have distinguished themselves in formal work, in additional assignments as directed by the Head of the School and in the final year project for which a thesis will be required.

First Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Second Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics II	1½	½	1	2
2.002	Chemistry II (S) *	5	0	5	8½
3.111	Chemical Engineering I	2	4	0	2
8.112	Materials and Structures	1	1	1	1½
10.031	Mathematics	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011	English	2	0	0	4
		13½	7½	7	21½
	* Hours for term 1 only.				
	Hours for term 2	5½	0	4	9
	Hours for term 3	4	0	5	7

THIRD YEAR
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.121	Chemical Engineering IIA	4	2	0	5
3.122	Chemical Engineering IIB	6	3	3	10
6.801	Electrical Engineering	1	0	2	2
10.032	Mathematics	1	1	0	2
51.011 / 52.011	History *or* Philosophy	1	0	0	2
	Social Science Elective	1	0	0	2
		14	6	5	23

FOURTH YEAR
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.131S	Chemical Engineering IIIA*	2	2	6	8
3.132S	Chemical Engineering IIIB*	6	4	3	12
3.140) 3.150)	Projects†	0	3	0	0
	Advanced Elective—Humanities	2	0	0	4
		10	9	9	24
	* Terms 1 and 2 only. † Hours for terms 1 and 2 only. Hours for term 3	0	0	15	29

CHEMICAL ENGINEERING—PART-TIME COURSE*
Bachelor of Science (Technology)

This course is designed to meet the requirements of students who are employed by the chemical processing industries. It extends over six years of part-time study.

This course covers approximately the same subject matter as the first three years of the full-time course. Students who have completed the requirements of this course and have qualified for the degree of Bachelor of Science (Technology) may proceed to the degree of Bachelor of Science by attending for one full-time year and completing the subjects listed in the fourth year of the full-time course. Students desiring to proceed to a Bachelor of Science degree must apply to the Head of the School not later than December 31 of the year in which the sixth stage is completed.

Two of the following subjects will be taken in first year and the other two in second year (as directed).

* See below for outline of this course involving combined full-time and part-time study.

First and Second Stages

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Third Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics II	1½	½	1	2
2.002	Chemistry II (S)*	5	0	5	8½
50.011/1	English Language	1	0	0	2
		7½	½	6	12½
	* Hours for term 1 only.				
	Hours for term 2	5	0	4	9
	Hours for term 3	4	0	5	7

Fourth Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.111	Chemical Engineering I	2	4	0	2
8.112	Materials and Structures	1	1	1	1½
10.031	Mathematics	1	1	0	2
10.331	Statistics	1	1	0	1½
		5	7	1	7

Fifth Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.121	Chemical Engineering IIA	4	2	0	5
6.801	Electrical Engineering	1	0	2	2
10.032	Mathematics	1	1	0	2
50.011/2	English Literature	1	0	0	2
51.011 / 52.011	History *or* Philosophy	1	0	0	2
		8	3	2	13

SIXTH STAGE*
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.122	Chemical Engineering IIB	6	3	3	10
	Social Science Elective	1	0	0	2
		7	3	3	12

CHEMICAL ENGINEERING B.Sc (TECH.) IN FULL-TIME/ PART-TIME STUDY

Students enrolling in the Chemical Engineering, B.Sc. (Tech.) course may reduce the time required for completion by undertaking the following programme of combined part-time/full-time study:

Stage 1.....Part-time (as for B.Sc. (Tech.) course above)
Stage 2.....Part-time (as for B.Sc. (Tech.) course above)
Stage 3A.....Full-time (as for second year of full-time B.Sc. course above)
Stage 4A.....Full-time (as for third year of full-time B.Sc. course above)
Stage 5A.....Part-time (as set out below)

STAGE 5A

A programme of 6-9 hours per week selected from the following subjects on the advice of the Head of the School of Chemical Engineering:

22.111 Industrial Chemistry I
22.211 Ceramics I
22.311 Polymer Science I
4.011 Metallurgy I
7.311 Mineral Dressing
7.911 Fuel Science I
7.912/4 Fuel Science II, Part 4
17.201/2 Microbiology I, Part 2

Any other subject approved by the Professorial Board on the recommendation of the Head of School or Department.

DEPARTMENT OF FOOD TECHNOLOGY

Food technologists are concerned with the storage, processing, preservation, packaging and distribution of foods. Food technology —a branch of applied science—covers the management of fresh foods of all kinds, the canning, freezing, refrigeration, and dehydration of foods, and the utilisation of the by-products of the food industries.

* Students are required also to sit for an examination embracing the principles of unit operations and of design at the end of the sixth year (3.123 Combined Chemical Engineering Examination).

The food scientist acquires new knowledge by laboratory experiments. The food technologist applies such knowledge to practice in manufacture and commerce. He must therefore be entirely familiar with food science in its many facets.

Food technology is a profession suitable to men and women alike and offers much in reward to the adequately trained person, the person with a high sense of social responsibility, who is prepared to accept responsibility as the guardian of the quality and safety of food supplies.

There is great need for food technologists to help solve the premier problem of our age—to make food supplies increase faster than the world's population, to let nothing perish that could serve as food for man or beast.

The Department of Food Technology offers a four-year full-time course leading to the degree of Bachelor of Science and a six-year part-time course leading to the degree of Bachelor of Science (Technology). Graduates of the B.Sc. course qualify for membership of the Royal Australian Chemical Institute and the Institute of Food Technologists.

A Graduate Diploma course in Food Technology of one year full-time or two years' part-time is designed for graduates in science or agriculture wishing to familiarise themselves with the principles of food technology.

FOOD TECHNOLOGY—FULL-TIME COURSE

Bachelor of Science

The four-year full-time B.Sc. course is designed to provide depth and breadth in the relevant physical and biological sciences on which food technology is based. Graduates will be able to pursue more advanced studies in any of these.

For the award of honours, students will need to have distinguished themselves in the formal work, in other assignments as directed by the Head of the School, and in the final year project for which a thesis will be required.

First Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
10.001	Mathematics I	4	2	0	4
7.001	General Biology	2	0	4	4
		12	3	9	16½

Second Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.032	Chemistry II—				
	Inorganic/Analytical	2	0	3	3½
	Organic	2	0	3	3½
	Physical	2	0	3	3½
10.031	Mathematics	1	1	0	2
17.111	Biochemistry*	3	0	6	6
50.011	English	2	0	0	4
		12	1	15	22½

* There is no laboratory work in Third Term.

Third Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.221	Applied Organic Chemistry	1	0	3	2½
3.211	Food Technology I, Part 1*	1½	0	3	3½
3.212	Food Technology I, Part 2†	4	0	8	10
10.331	Statistics	1	1	0	1½
17.201/1	Microbiology I, Part I‡	4	0	8	10
51.011	History *or*)				
52.011	Philosophy)	1	0	0	2
	Social Science Elective	1	0	0	2
		9	1	14	20

* Includes 17.311 Botany.
† Operates for *second* fifteen weeks of academic year.
‡ Operates for *first* fifteen weeks of academic year.

Fourth Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.221	Food Technology II*	3	0	6	7
3.222	Project	0	0	8	4
	Humanities - Advanced Elective	2	0	0	4
		5	0	14	15
Plus *one* Elective from—					
3.223	Chemical Engineering	2	1	3	4
17.112	Biochemistry†	3	0	10	7
17.201/2	Microbiology I, Part 2‡	4	0	8	10

* Includes 17.511 Entomology.
† Operates for *first* fifteen weeks of academic year.
‡ Operates for *second* fifteen weeks of academic year.
Students electing to take biochemistry will be expected to adjust appropriately the time devoted to the Project.

During the third and fourth years of the course excursions will be made to various food industries. Detailed reports of some of these visits are required.

A detailed report of the student's activities during his period in industry will be required, and will be taken into account in the classification for the Honours list.

FOOD TECHNOLOGY—PART-TIME COURSE*

Bachelor of Science (Technology)

This course has been designed for students already gaining practical experience in a related occupation in the food industry. The course, which covers the same subject matter as the first three years of the full-time course, extends over six years. For the first two years students follow a common course in which general biology is taken, and thereafter specialise in the biological sciences, which are fundamental to the study of food science and technology.

Students who have completed the requirements of this course and have qualified for the degree of Bachelor of Science (Technology) may proceed to the degree of Bachelor of Science by attending for one full-time year and completing the subjects listed in fourth year of the full-time course. Students desiring to proceed to a B.Sc. degree must apply to the Head of the School not later than December 31 of the year in which the sixth stage is completed.

* See below for outline of this course involving combined full-time and part-time study.

First and Second Stages

Two of the following subjects will be taken in first year and the other two in second year (as directed):

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
10.001	Mathematics I	4	2	0	4
17.001	General Biology	2	0	4	4
		12	3	9	16½

Third Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.072	Chemistry II—				
	Inorganic/Analytical	2	0	3	3½
	Physical	2	0	3	3½
10.031	Mathematics	1	1	0	2
50.011/1	English Language	1	0	0	2
		6	1	6	11

FOURTH STAGE
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.611	Chemistry II—Organic	2	0	3	3½
2.221	Applied Organic Chemistry	1	0	3	2½
10.331	Statistics	1	1	0	1½
50.011/2	English Literature	1	0	0	2
		5	1	6	9½

FIFTH STAGE
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.211	Food Technology I, Part 1*	1½	0	3	3½
17.111	Biochemistry†	3	0	6	6
51.011	History *or*	1	0	0	2
52.011	Philosophy				
		5½	0	9	11½

* Includes 17.311 Botany.
† There is no laboratory work in Third Term.

SIXTH STAGE
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.212	Food Technology I, Part 2*	4	0	8	10
17.201/1	Microbiology†	4	0	8	10
	Social Science Elective	1	0	0	2
		5	0	8	12

* Operates for *second* fifteen weeks of academic year.
† Operates for *first* fifteen weeks of academic year.

FOOD TECHNOLOGY B.Sc. (TECH.) IN FULL-TIME/PART-TIME STUDY

Students enrolling in the Food Technology B.Sc. (Tech.) course may reduce the time required for completion by undertaking the following programme of combined part-time/full-time study:

Stage 1 ..... Part-time (as for B.Sc. (Tech.) course above).
Stage 2 ..... Part-time (as for B.Sc. (Tech.) course above).
Stage 3A ..... Full-time (as for second year of full-time B.Sc. course above).
Stage 4A ..... Full-time (as for third year of full-time B.Sc. course above).
Stage 5A ..... Part-time (as set out below).

Stage 5A

A programme of 6-9 hours per week selected from the following subjects on the advice of the Head of the Department of Food Technology:

22.111 Industrial Chemistry I
22.211 Ceramics I
22.311 Polymer Science I
4.011 Metallurgy I
7.311 Mineral Dressing
7.911 Fuel Science I
7.912/4 Fuel Science II, Part 4
17.201/2 Microbiology I, Part 2

Any other subject approved by the Professorial Board on the recommendation of the Head of the Department of Food Technology.

School of Chemical Technology

Courses are offered on a four-year full-time basis in the fields of Industrial Chemistry, Ceramic Engineering and Polymer Science leading to the award of the degree of Bachelor of Science. Six-year part-time courses are also available in Industrial Chemistry, Ceramics and Polymer Science.

Within the School of Chemical Technology the first two years of the full-time courses in Industrial Chemistry, Ceramic Engineering and Polymer Science and the first four stages of the part-time courses in Industrial Chemistry, Ceramics and Polymer Science, follow a common academic programme. This feature enables a student in the School to defer the final decision on whether he will take his professional qualification as an industrial chemist, ceramic engineer or polymer scientist.

Industrial Chemistry

The courses in Industrial Chemistry are designed to provide scientists trained for industries and organisations concerned with the development, manufacture and use of inorganic and organic industrial chemicals. Graduates from these courses will play an effective role in the research and development, production control, quality control and technical sales and service aspects of the chemical industries.

Ceramic Engineering

The Department of Ceramic Engineering offers courses designed to provide scientists and engineers fitted for service in industries and organisations concerned with the development, manufacture and use of materials in the fields of: whitewares, structural ceramic productions, high-temperature materials, electrical ceramics, glass, ceramic surface coatings, abrasives, cermets and nuclear ceramics. Graduates from these courses would be able to find employment in the general field of ceramics in the following capacities: ceramist or ceramic engineer on research and development, production control, quality control, product evaluation, technical sales and service.

Polymer Science

The Department of Polymer Science provides courses in Polymer Science designed to train scientists fitted for service in industries concerned with surface coatings, plastics and rubber (natural and synthetic). Graduates from these courses would be capable of satisfactorily applying their training in the following functions in these industries: research and development, production control, quality control, product evaluation and technical sales and service.

For the award of honours in any of the full-time courses of the School, students will need to have distinguished themselves in the formal work, in other assignments as directed by the Head of the School and in the final project for which a thesis will be required.

INDUSTRIAL CHEMISTRY—FULL-TIME COURSE

Bachelor of Science

First Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Second Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	0	1½	3½
2.032	Chemistry II—				
	Inorganic/Analytical	2	0	3	3½
	Physical	2	0	3	3½
	Organic	2	0	3	3½
10.031	Mathematics II	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011	English	2	0	0	3
		11½	2	10½	20½

Third Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.211	Applied Organic Chemistry	1	0	3	2½
3.111	Chemical Engineering I	2	4	0	2
22.111	Industrial Chemistry I	7½	2	2½	14
51.011	History *or*)	2	0	0	3
52.011	Philosophy)				
		12½	6	5½	21½

Fourth Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
22.112	Industrial Chemistry II*	8	0	4	16
22.121	Industrial Chemistry Seminar	0	3	0	5
22.191	Project†	0	0	3	3
	Social Science Elective	2	0	0	4
		10	3	7	28
	* Hours for terms 1 and 2 only. Hours for term 3	2	0	0	4
	† Hours for term 1 only. Hours for term 2	0	0	6	3
	Hours for term 3	0	0	27	3

INDUSTRIAL CHEMISTRY—PART-TIME COURSE*

Bachelor of Science (Technology)

First and Second Stages

Two of the following subjects will be taken in the first year the other two in second year (as directed).

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Third Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	0	1½	3½
2.032/1	Chemistry II—Physical	2	0	3	3½
10.031	Mathematics II	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011/1	English Language	1	0	0	1½
		6½	2	4½	12

* See below for outline of this course involving combined full-time and part-time study.

Fourth Stage
(30 weeks' part-time course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
2.032/2 Chemistry II—				
Inorganic/Analytical	2	0	3	3½
Organic	2	0	3	3½
50.011/2 English Literature	1	0	0	1½
	5	0	6	8½

Fifth Stage
(30 weeks' part-time course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
3.111 Chemical Engineering I	2	4	0	2
22.111/1 Industrial Chemistry I, Part I	2½	0	2½	6
51.011 History *or* 52.011 Philosophy	1	0	0	1½
	5½	4	2½	9½

Sixth Stage
(30 weeks' part-time course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
2.211 Applied Organic Chemistry	1	0	3	2½
22.111/2 Industrial Chemistry I, Part I	5	2	0	8
Social Science Elective	1	0	0	1½
	7	2	3	12

CERAMIC ENGINEERING—FULL-TIME COURSE
Bachelor of Science

First Year
(30 weeks' day course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
1.001 Physics I	3	1	2	3½
2.001 Chemistry I	3	0	3	5
5.001 Engineering I	3	3	0	4½
10.001 Mathematics I	4	2	0	4
	13	6	5	17

Second Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
2.032	Chemistry II—				
	Inorganic/Analytical	2	0	3	3½
	Organic	2	0	3	3½
	Physical	2	0	3	3½
10.031	Mathematics	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011	English	2	0	0	4
		11½	2½	10	20

Third Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.111	Chemical Engineering I	2	4	0	2
7.511/2	Geology I, Part II (Mineralogy)	1	0	2	2
8.112	Materials and Structures	1	1	1	1½
22.211	Ceramics I	3	0	5	7
22.221	Chemical Thermodynamics and Kinetics	2	1	0	3
51.011	History *or*)				
52.011	Philosophy)	1	0	0	2
	Social Science Elective	1	0	0	2
		11	6	8	19½

Fourth Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
22.212	Ceramics II	3	0	3	6
22.231	Ceramic Engineering	2	0	2	4
22.241	Instrumentation Process Control*	3	0	4	5
22.251	Operation Research and Seminars	1	0	0	2
22.291	Project†	0	0	6	3
	Humanities Advanced Elective	2	0	0	4
		11	0	15	24

* Terms 1 and 2 only.
† In Term 3, 18 hours per week are devoted to laboratory work on the Project.

CERAMICS—PART-TIME COURSE*
Bachelor of Science (Technology)

First and Second Stages

Two of the following subjects will be taken in the first year and the other two in second year (as directed).

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Third Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
2.032/1	Chemistry II—Physical	2	0	3	3½
10.031	Mathematics	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011/1	English Language	1	0	0	2
		6½	2½	4	11

Fourth Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.032/2	Chemistry II—				
	Inorganic/Analytical	2	0	3	3½
	Organic	2	0	3	3½
50.011/2	English Literature	1	0	0	2
		5	0	6	9

Fifth Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
7.511/2	Geology I, Part II (Mineralogy)	1	0	2	2
8.112	Materials and Structures	1	1	1	1½
22.211/1	Ceramics I, Part I	1	0	2	2
22.221	Chemical Thermodynamics and Kinetics	2	1	0	3
51.011	History *or*	1	0	0	2
52.011	Philosophy				
		6	2	5	10½

* See below for outline of this course involving combined full-time and part-time study.

Sixth Stage
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.111	Chemical Engineering I	2	4	0	2
22.211/2	Ceramics I, Part II	2	0	3	5
	Social Science Elective	1	0	0	2
		5	4	3	9

POLYMER SCIENCE—FULL-TIME COURSE
Bachelor of Science

First Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Second Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
2.032	Chemistry II—				
	Inorganic/Analytical	2	0	3	3½
	Organic	2	0	3	3½
	Physical	2	0	3	3½
10.031	Mathematics	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011	English	2	0	0	4
		11½	2½	10	20

Third Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.322	Physical Chemistry	2	0	3	4½
2.622	Organic Chemistry	2	0	3	4½
3.111/1	Chemical Engineering I (Principles I)	1	2	0	1
22.311	Polymer Science I	3	0	6	8
51.011	History *or*)				
52.011	Philosophy)	2	0	0	4
		10	2	12	22

Fourth Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.331	Applied Physical Chemistry	1	0	3	2½
22.312	Polymer Science II* (Terms 1 and 2)	4	0	9	12
22.321	Seminar (Terms 1 and 2)	0	2	0	3
22.391	Project†	0	0	3	3
	Social Science Elective	2	0	0	4
		7	2	15	24½
	* Hours for term 1 only. Hours for term 2	4	0	8	12
	† Hours for term 1 only. Hours for term 2	0	0	6	3
	Hours for term 3	0	0	30	6

POLYMER SCIENCE—PART-TIME COURSE*

Bachelor of Science (Technology)

First and Second Stages

Two of the following subjects will be taken in the first year and the other two in the second year (as directed).

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Third Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
2.032/1	Chemistry II—Physical	2	0	3	3½
10.031	Mathematics	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011/1	English Language	1	0	0	2
		6½	2½	4	11

* See below for outline of this course involving combined full-time and part-time study.

FOURTH STAGE
(30 weeks' part-time course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
2.032/2 Chemistry II—				
Inorganic/Analytical	2	0	3	3½
Organic	2	0	3	3½
50.011/2 English Literature	1	0	0	2
	5	0	6	9

FIFTH STAGE
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.322	Physical Chemistry	2	0	3	4½
2.622	Organic Chemistry	2	0	3	4½
51.011	History *or*)				
52.011	Philosophy)	1	0	0	2
		5	0	6	11

SIXTH STAGE
(30 weeks' part-time course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
3.111/1 Chemical Engineering I (Principles I)	1	2	0	1
22.311 Polymer Science I	3	0	6	8
Social Science Elective	1	0	0	2
	5	2	6	11

B.Sc. (TECH.) COURSES IN FULL-TIME/PART-TIME STUDY

Students enrolling in the B.Sc. (Tech.) courses in Industrial Chemistry, Ceramics or Polymer Science may reduce the time required for completion by undertaking the following programme of combined part-time/full-time study.

Stage 1 ..... Part-time (as for B.Sc. (Tech.) course above)
Stage 2 ..... Part-time (as for B.Sc. (Tech.) course above)
Stage 3A ..... Full-time (as for second year of full-time B.Sc. course above)
Stage 4A ..... Full-time (as for third year of full-time B.Sc. course above)
Stage 5A ..... Part-time (as set out below)

STAGE 5A

A programme of 6-9 hours per week selected from the following subjects on the advice of the Head of the School of Chemical Technology:

22.111 Industrial Chemistry I
22.211 Ceramics I
22.311 Polymer Science I
4.011 Metallurgy I
7.311 Mineral Dressing
7.911 Fuel Science I
7.912/4 Fuel Science II, Part 4

Any other subject approved by the Professorial Board on the recommendation of the Head of School.

School of Metallurgy

The metallurgical profession is developing rapidly in importance in Australia, in keeping with the recent spectacular growth of our metal and mineral industry. In terms of value of production this industry is now a close second to—and at the present rate of growth will soon surpass—the wool industry as Australia's most important income earner.

Industrial development in metallurgy has been accompanied by, and is based on, the development of metallurgical research. This is being carried on in a number of laboratories run by industry, government, and the universities.

The undergraduate courses in metallurgy have been designed to prepare students for employment in metallurgical industries and research institutions, and involve a general training in basic sciences and engineering. These fundamental principles are then extended to cover studies of the extraction, refining, working, fabrication and use of metals.

These courses meet the formal educational requirements for admission to the professional metallurgical institutes, such as the Australasian Institute of Mining and Metallurgy. Further details about membership of this institute, the Australian Institute of Metals and the undergraduate Metallurgical Society of the University, all of which students are encouraged to join, may be obtained from the Head of the School.

While the emphasis in the course is on providing a broad fundamental background in all branches of metallurgy, provision is made for a limited amount of specialisation of the student's own choice in the final year.

Candidates for the honours degree are required to undertake special reading and other assignments as directed by the Head of the School. In considering the award of honours special attention is paid to the performance of a candidate in the final year research project for which a thesis describing a theoretical or experimental study is required.

METALLURGY—FULL-TIME COURSE

Bachelor of Science

Students in this course attend the University for 30 weeks over three terms from March to November (excluding examinations and vacations).

During the second, third and fourth years of the course, visits are made to various metallurgical works, and students are required to submit reports on some of these.

First Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Second Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
2.022	Chemistry II (M)*	3	0	2½	5
4.011	Metallurgy†	5	0	5	8
7.551	Mineralogy	1	0	1	2
10.031	Mathematics II	1	1	0	2
50.011	English	2	0	0	4
		13½	1½	9½	23
	* Hours for term 1 only.				
	Hours for term 2	4	0	3	7
	Hours for term 3	3	0	2½	5
	† Hours for term 1 only.				
	Hours for terms 2 and 3	4	1	5	7

Third Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
4.012	Metallurgy II	9	2	9	17½
6.801	Electrical Engineering	1	0	2	2
51.011	History *or*)	1	0	0	2
52.011	Philosophy)				
	Social Science Elective	1	0	0	2
		12	2	11	23½

Fourth Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
4.013	Metallurgy III*	6	2	9	13½
4.021	Metallurgy Project†	0	0	5	5
	Humanities Advanced Elective	2	0	0	4
		8	2	14	22½
	* Hours for term 1 only.				
	Hours for term 2	6	2	6	13
	Hours for term 3	6	0	0	12
	† Hours for term 1 only.				
	Hours for term 2	0	0	8	8
	Hours for term 3	0	0	12	12

METALLURGY—PART-TIME COURSE*

Bachelor of Science (Technology)

The part-time course extends over six years of three terms each. Students are required to complete at least three years' approved experience in a metallurgical industry or research establishment concurrently with studies.

During the last three years of the course visits are made to various metallurgical works, and students are required to submit reports on some of these.

This course is prescribed at Sydney and Wollongong, and, with minor modifications (see Newcastle University College Handbook), at Newcastle.

First and Second Stages

(30 weeks' part-time course)

(Two subjects to be taken in each year)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Third Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
2.022	Chemistry†	3	0	2½	5
10.031	Mathematics	1	1	0	2
50.011/1	English Language	1	0	0	2
		6½	1½	3½	11
	† Hours for term 1 only.				
	Hours for term 2	4	0	3	7
	Hours for term 3	3	0	2½	5

Fourth Stage

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
4.011	Metallurgy I*	5	0	5	8
7.551	Mineralogy	1	0	1	2
50.011/2	English Literature	1	0	0	2
		7	0	6	12
	* Hours for term 1 only.				
	Hours for terms 2 and 3	4	1	5	7

* See below for outline of this course involving combined full-time and part-time study.

Fifth Stage
(30 weeks' part-time course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
4.012/1 Metallurgy IIA	4	0	5	8
6.801 Electrical Engineering	1	0	2	2
51.011 History *or*) 52.011 Philosophy)	1	0	0	2
	6	0	7	12

Sixth Stage
(30 weeks' part-time course)

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
4.012/2 Metallurgy IIB	5	2	5	10
Social Science Elective	1	0	0	2
	6	2	5	12

METALLURGY B.Sc. (TECH.) IN FULL-TIME/PART-TIME STUDY

Students enrolling in the Metallurgy B.Sc. (Tech.) course may reduce the time required for completion by undertaking the following programme of combined part-time/full-time study:

Stage 1 ..... Part-time (as for B.Sc. (Tech.) course above)
Stage 2 ..... Part-time (as for B.Sc. (Tech.) course above)
Stage 3A ..... Full-time (as for second year of full-time B.Sc. course above)
Stage 4A ..... Full-time (as for third year of full-time B.Sc. course above)
Stage 5A ..... Part-time (as set out below)

Stage 5A

	Hours per week for three terms			
	Lec.	Tut.	Lab.	Private Study
4.012/3 Metallurgy IIC	2	0	2	3½
4.013/1 Seminar	0	0	1	1
4.012/4 Report	0	0	0	2
	2	0	3	6½

METALLURGY CONVERSION COURSE

Bachelor of Science (Technology)

The School of Metallurgy offers a course specially designed to allow holders of the A.S.T.C. diploma in Metallurgy to proceed to the degree of Bachelor of Science (Technology). Further enrolments will not be accepted in 1966 or thereafter.

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics IIT	1½	0	1½	2
10.031	Mathematics II	1	1	0	2
4.013/1	Metallurgy Seminar	1	0	0	2
	Humanities	4	0	0	8
		7½	1	1½	14

School of Mining Engineering and Applied Geology

The School of Mining Engineering and Applied Geology offers the following courses:

(1) Mining Engineering leading to the degree of Bachelor of Engineering.

(2) Applied Geology leading to the degree of Bachelor of Science. Geology may be taken as a major subject in the full-time and part-time Science courses.

(3) Fuel Technology leading to the degree of Bachelor of Science and also a part-time course leading to the B.Sc. (Tech.) degree.

The School also offers courses at graduate level requiring one year of full-time or two years of part-time study leading to the Graduate Diploma in Applied Science (Dip.App.Sc.) in Mining Engineering, Fuel Technology, and Mineral Technology.

A part-time course in Mining Engineering is conducted at the Broken Hill Division of the University, leading to the award of the B.Sc. (Tech.) degree. Students in the B.Sc. (Tech.) course may complete the requirements for the Bachelor of Engineering degree at Kensington after obtaining the approval of the Head of the School.

Within this School, instruction is provided in Mining Engineering; Geology, pure and applied; Geophysics; Mineral Beneficiation; and Fuel Technology.

This School has been organised on a functional basis with the aim of providing instruction in the science and technology of minerals. Studies within the School are aided by mutually supporting instruction of associated disciplines.

The courses within the School prepare graduates for employment in the mineral industries and in research institutions which are linked with those industries.

MINING ENGINEERING—FULL-TIME COURSE

Bachelor of Engineering

The first two years of the course consist of either those years of the Mechanical Engineering, the Civil Engineering or the Electrical Engineering full-time courses which are known as Option 1, Option 2 and Option 3 respectively. In the third year the pro-

gramme is designed so that students from any of the options will reach the same standard in the basic science and engineering subjects. The final year is concerned with the professional Mining Engineering subjects which include Geology and Geophysics, Mining Engineering and Mineral Processing.

The aim of the training is to give students a thorough foundation in mining engineering and so permit them to enter coal mining, metalliferous mining or the petroleum industry, and to be employed in any of the phases of these industries, ranging from exploration to production.

For the award of honours, at the conclusion of the full-time course, the students will need to have distinguished themselves in the formal work, in other assignments as directed by the Head of the School and in the final year project for which a thesis will be required. Potential honours degree students will be selected in the penultimate year of the course.

During the undergraduate course students will spend portion of the long vacations obtaining practical experience in mines. This experience is important; it is related to the academic training received within the School, and can contribute to the experience record of candidates for the Mine Manager's Certificate.

After graduation it is normal for mining engineers to obtain the abovementioned statutory certificate of competency from one of the State Government Departments of Mines.

First Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Second Year

The second year of either the Mechanical (24 weeks), Civil (24 weeks) or Electrical Engineering (30 weeks) courses may be taken as the second year of the Mining Engineering course. These three possible second year courses are known as Option 1, Option 2 and Option 3 respectively.

Second Year

	24 WEEKS' DAY COURSE						30 WEEKS' DAY COURSE		
	Option 1			**Option 2**			**Option 3**		
	Mechanical Engineering			Civil Engineering			Electrical Engineering		
	Lec.	Tut.	Lab.	Lec.	Tut.	Lab.	Lec.	Tut.	Lab.
1.112 Physics	—	—	—	—	—	—	3	0	3
1.212S Physics II (T)	2	0	2½	2	0	2½	—	—	—
4.911S Materials Science	1½	1½	0	—	—	—	1	½	0
5.202S Mechanical Technology	2	0	0	—	—	—	—	—	—
5.301S Engineering Mechanics	1½	1	0	1½	1	0	1	1	0
5.501S Fluid Mechanics	1	0	1½	—	—	—	—	—	—
5.701S Thermodynamics	1	0	1½	1	0	1½	1	0	1
6.101 Electric Circuit Theory	—	—	—	—	—	—	1	2	0
7.531S Geology	—	—	—	2	0	1	—	—	—
8.112 Materials and Structures	—	—	—	—	—	—	1	2	0
8.112S Materials and Structures	2	2	0	2	2	0	—	—	—
8.421S Engineering Surveying*	—	—	—	1½	0	1½	—	—	—
10.022S Mathematics	2½	2½	0	2½	2½	0	—	—	—
10.111 Pure Mathematics II	—	—	—	—	—	—	3	2	0
50.011S English†	3	0	0	3	0	0	2	0	0
	16½	6½	5½	15½	5½	6½	13	7½	4

* A one-week survey camp must be attended in seventh week of Third Term.

† Terms 1 and 2 only.

Third Year

(24 weeks' day course)

	Option 1 Terms 1, 2, 3				Option 2 Terms 1, 2, 3				Option 3 Terms 1, 2, 3			
	Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study
4.931S Materials Science	—	—	—	—	1½	0	1	2	—	—	—	—
5.501S Fluid Mechanics	—	—	—	—	1½	½	½	2	1½	½	½	2
6.801S Electrical Engineering	2	1	1	2½	2	1	1	2½	2	0	1	1
7.111S Mining Engineering I	6	0	4	8	6	0	4	8	6	0	4	8
*7.531S Geology	1	0	2	2	—	—	—	—	1	0	2	2
8.133S Structures	1½	1½	0	1½	1½	1½	0	1½	1½	1½	0	1½
†8.421S Surveying	1½	0	1½	2½	—	—	—	—	1½	0	1½	2½
51.011S History *or* 52.011S Philosophy	1½	0	0	2	1½	0	0	2	1½	0	0	2
Social Science Elective	1½	0	0	3	1½	0	0	3	1½	0	0	3
	15	2½	8½	21½	15½	3	6½	21	16½	2	9	22

* A week-end field excursion will be arranged in connection with the instruction in Geology.

† A survey camp of one week's duration will be conducted in the seventh week of the Third Term.

Fourth Year

(Common to the three options)

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
*7.112	Mining Engineering II and Project	4	1	4	7
7.113	Mining Engineering Elective	1	1	0	2
7.121	Mine Surveying	1	0	1	1½
7.311	Mineral Dressing	1	0	3	2
†7.532	Mining Geology	4	0	3	6
	Humanities Advanced Elective	2	0	0	4
		13	2	11	22½

* Project for the award of honours will be more advanced than that required for the award of the pass degree.

† A Geology excursion will be conducted during the year.

THIRD TERM

During the Third Term of the fourth year, students will devote time to the professional elective subjects and the preparation of their thesis.

MINING ENGINEERING—PART-TIME COURSE

Bachelor of Science (Technology)

(Broken Hill Division)

The School of Mining Engineering and Applied Geology offers at Broken Hill a part-time course in Mining Engineering leading to the degree of Bachelor of Science (Technology).

First and Second Years

(30 weeks' part-time course)

(Two subjects to be taken in each year)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	6
		13	6	5	19

Third Year

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212S	Physics IIT	1½	½	1	2
5.301	Engineering Mechanics	1	½	½	2
7.111/1	Mining Engineering I, Part 1	1	0	0	1
8.112	Materials and Structures	1½	1½	0	1½
10.022/1	Mathematics II, Part 1	1	1	0	2
50.011/1	English Language	1	0	0	2
		7	3½	1½	10½

Fourth Year

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
4.911	Materials Science	1	0	1	1
5.501	Fluid Mechanics	1	½	½	2
5.701	Thermodynamics	1	½	½	2
7.111/2	Mining Engineering I, Part 2	2	0	0	4
*8.421	Engineering Surveying	1½	0	0	2
10.022/2	Mathematics II, Part 2	1	1	0	2
50.011/2	English Literature	1	0	0	2
		8½	2	2	15

* Including practical work.

Fifth Year

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
6.801	Electrical Engineering	1	1	1	2
7.111/3	Mining Engineering I, Part 3	2	0	1	5
*7.531	Geology for Engineers	1	0	1	2
8.133	Structures	1	1	0	2
51.011 52.011	History *or* Philosophy	1	0	0	2
	Social Science Elective	1	0	0	2
		7	2	3	15

* Field excursions will be held during the year.

Sixth Year

(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
7.112/1	Mining Engineering II and Project	2	0	1	4
*7.121/1	Mine Surveying	1½	0	0	1½
7.311/1	Mineral Dressing	2	0	2	3
7.532/1	Geology for Mining Engineers	2	0	2	4
		7½	0	5	12½

* Including practical work.

APPLIED GEOLOGY

The development of natural resources and the allied engineering activities make essential a type of training for geologists which embraces basic geological instruction and various features of its application in practice. The structure and syllabus of this course is designed to enable the graduates to enter immediately into various aspects of applied geology and to play an effective part in associated engineering and technological practice.

In the early part of the course students receive instruction in the allied fundamental sciences and basic engineering subjects as well as introductory geology. Later geological instruction is developed and emphasis is placed progressively on engineering application and on economic aspects of geology.

The applied nature of the course is indicated by the inclusion of such subjects as Engineering I, Materials and Structures, Fuel Science, Mining and Mineral Process Engineering. A course in Surveying and courses in Geophysics, Mining and Exploration Geology, Engineering Geology and Petroleum Geology are added to the basic geology subjects in the later stages of the course.

Attendance at the University for students taking the full-time course in Applied Geology is for thirty weeks per year on a three-term basis, the Third Term of the fourth year being devoted to work on a project.

A three-year course (full-time) and a seven-year course (part-time) in Geology is available to students in the Faculty of Science. Selected students in the Faculty of Science may also read for an honours degree in Geology.

APPLIED GEOLOGY—FULL-TIME COURSE

Bachelor of Science

First Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Prac.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
7.511/1	Geology I, Part 1)				
7.511/2	Geology I, Part 2)	2	0	4	4
10.001	Mathematics I	4	2	0	4
		12	3	9	16½

Two short geology field excursions will be held during the year.

Second Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Prac.	Private Study
1.212	Physics	1½	½	1	2
2.022	Chemistry II (M)*	3	0	2½	5
5.011	Engineering I†	2	0	3	3½
7.512/1	Geology II, Part 1)				
7.512/2	Geology II, Part 2)	4	0	5	6
10.031	Mathematics	1	1	0	2
50.011	English	2	0	0	4
		13½	1½	11½	22½

A geological field excursion of five days will be held during the year.
* Term 2: Hours—4 Lectures, 3 Practical, 6½ Private Study.
† Term 3: Hours—1 Lectures, 1 Practical, 1½ Private Study.
‡ Term 3: Hours—4 Lectures, 4 Tutorials, 1 Practical, 6 Private Study.

Third Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Prac.	Private Study
7.513/1	Geology III, Part 1) *				
7.513/2	Geology III, Part 2)	7	0	6	16
7.513/3	Geology III, Part 3)				
7.951	Fuel Science	1	1	0	1½
8.112	Materials and Structures	1	1	1	1½
10.331	Statistics I	1	0	1	1½
51.011	History *or*)				
52.011	Philosophy)	1	0	0	2
	Social Science Elective	1	0	0	2
		12	2	8	24½

A geological field excursion of five days will be held during the year.
* First term only.
Term 2: Hours—7 Lectures, 2 Tutorials, 5 Practical, 16 Private Study.
Term 3: Hours—5 Lectures, 2 Tutorials, 5 Practical, 12 Private Study.

Fourth Year

(30 weeks' day course)

		Hours per week											
		Term 1				Term 2				Term 3			
		Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study
*7.331	Mining and Mineral Process Engineering	2	2	0	2	1	0	3	3	1	0	3	3
*7.514/1 *7.514/2 *7.514/3	Geology IV, Part 1, Part 2, Part 3	5	2	4	13	5	1	7	15	6	1	7	15
*8.421S	Surveying	1½	0	1½	3	1½	0	1½	3	1½	0	1½	3
	Project	0	4	0	0	0	0	0	0	0	0	10†	40†
	Humanities Advanced Elective	3	0	0	6	3	0	0	6	0	0	0	0
		11½	8	5½	24	10½	1	11½	27	8½	1	11½/10	21/40

* These courses run for 24 weeks.

† In the last six weeks of Third Term, students should spend ten hours per week in laboratory and other supporting work on the Project; 40 hours (approx.) will be devoted to field work.

FUEL TECHNOLOGY

The Department of Fuel Technology, the first of its kind in Australia, was established to meet the important and growing need of Australian industrial and research establishments for personnel with specialised training in the science and technology of fuels and their utilisation.

One constant problem of the fuel industries is that of improving and developing methods of processing and using solid, liquid and gaseous fuels to meet the continuously shifting patterns of demand. It is in this field of activity that the university-trained fuel technologist has a most important part to play.

The Department offers two undergraduate courses: a four-year full-time course and a six-year part-time course. A course leading to the graduate Diploma in Applied Science is also offered.

Students wishing to undertake a course in Fuel Technology at Newcastle University College should enrol in either the full-time or part-time courses in Chemical Engineering. On completion of two full-time years, or four part-time stages, they may then transfer to Kensington to complete the remainder of their course.

FUEL TECHNOLOGY—FULL-TIME COURSE

Bachelor of Science

The full-time four-year undergraduate course is planned to emphasise the importance of scientific principles and their application in practice. The training in the first two years consists essentially of instruction and laboratory work in the basic sciences —chemistry, physics and mathematics—together with statistics, general engineering and an introduction to fuel science.

In the third year the emphasis shifts to the engineering subjects and, in addition, the course covers unit processes, mineral processing and coal preparation, refractories and insulating materials, constitution, properties, processing and utilisation of fuels, stoichiometric calculations and the application of statistical methods.

The final year is devoted entirely to professional subjects which cover the geology and petrology of fuels, flames and gas reactions, progress and developments in fuel science, and fuel plant technology. The last named includes the design, construction, testing and operation of boilers and furnaces, instrumentation and automatic control. Industrial training is an integral part of the course.

For the award of honours, students need to have distinguished themselves in the formal work, in other assignments as directed by the Head of the School, and in the final year project, for which a thesis is required.

First Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Second Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics IIT	1½	½	1	2
2.002	Chemistry II(S)*	5	0	5	8½
7.911	Fuel Science and Engineering I	1½	½	2	3
8.112	Materials and Structures	1	1	1	1½
10.031	Mathematics II	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011	English	2	0	0	4
		13	4	9	22½
	* Hours for term 1 only.				
	Hours for term 2	5½	0	4	9
	Hours for term 3	4	0	5	7

Third Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.111	Chemical Engineering I	2	4	0	2
5.701	Thermodynamics	1	0	1	2
6.801	Electrical Engineering	1	0	2	2
7.311	Mineral Dressing	1	0	3	2
7.912	Fuel Science II	2	0	2	4
7.922	Fuel Engineering II	2	1	2	4
51.011 / 52.011	History *or* Philosophy	1	0	0	2
	Social Science Elective	1	0	0	2
		11	5	10	20

Fourth Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
7.913	Fuel Science III	2	1	2	5
7.921	Fuel Project†	0	0	3	3
7.923	Fuel Engineering III	4	1	5	9
	Humanities—Advanced Elective	2	0	0	4
		8	2	10	21
	† Hours for term 1 only.				
	Hours for term 2	0	0	5	3
	Hours for term 3	0	0	15	12

FUEL TECHNOLOGY—PART-TIME COURSE*
Bachelor of Science (Technology)

The part-time course is of six years' duration. It is designed to meet the needs of persons engaged in the fuel industry who desire to obtain formal educational training in this technology.

* See below for outline of this course involving combined full-time and part-time study.

First and Second Stages
(30 weeks' part-time course)

Two of the following subjects will be taken in the first year and the other two in the second year (as directed).

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

Third Stage
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics IIT	1½	½	1	2
2.002	Chemistry II (S)*	5	0	5	8½
50.011/1	English Language	1	0	0	2
		7½	½	6	12½
	* Hours for term 1 only.				
	Hours for term 2	5½	0	4	9
	Hours for term 3	4	0	5	7

FOURTH STAGE
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
7.911	Fuel Science and Engineering I	1½	½	2	3
8.112	Materials and Structures	1	1	1	1½
10.031	Mathematics II	1	1	0	2
10.331	Statistics	1	1	0	1½
50.011/2	English Literature	1	0	0	2
		5½	3½	3	10

FIFTH STAGE
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
3.111	Chemical Engineering I	2	4	0	2
5.701	Thermodynamics	1	0	1	2
7.912	Fuel Science II	2	0	1	3
51.011 52.011	History *or* Philosophy	1	0	0	2
		6	4	2	9

SIXTH STAGE
(30 weeks' part-time course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
6.801	Electrical Engineering	1	0	2	2
7.311	Mineral Dressing	1	0	2	2
7.913/1	Fuel Science III, Part 1	1	0	0	1½
7.922	Fuel Engineering II	2	1	2	3½
	Social Science Elective	1	0	0	2
		6	1	6	11

FUEL TECHNOLOGY B.Sc. (TECH.) IN FULL-TIME/PART-TIME STUDY

Students enrolling in the Fuel Technology B.Sc. (Tech.) course may reduce the time required for completion by undertaking the following programme of combined part-time/full-time study.

Stage 1	Part-time (as for B.Sc. (Tech.) course above)
Stage 2	Part-time (as for B.Sc. (Tech.) course above)
Stage 3A	Full-time (as for second year of full-time B.Sc. course above)
Stage 4A	Full-time (as for third year of full-time B.Sc. course above)
Stage 5A	Part-time (as set out below)

STAGE 5A

Report and Seminar		3 hours
Elective subjects		4 to 6 hours

The students taking the accelerated B.Sc. (Tech.) degree course may select subjects from the following list to the extent of a total weekly allocation of 4 to 6 hours.

22.211/1	Ceramics IA	3 hours
22.221	Chemical Thermodynamics and Kinetics	3 hours
4.931S	Metallurgy	1½ hours
18.111	Industrial Administration	2 hours
18.321	Methods Engineering	2 hours
14.041	Industrial and Commercial Law	2 hours
3.122/2	Chemical Engineering IIB (Design I)	4 hours
3.121/2	Chemical Engineering IIA (Management and Data Processing)	1 hour
7.913/2	Fuel Engineering II	5 hours
7.913/3	Fuel Science 3C	4 hours

Selection from the above list will be subject to students possessing the necessary pre-requisites and to the availability of the courses.

The topic for the report will be submitted to the Head of the Department for approval before the end of the third week of the First Term. The report may take the form of a literature survey or a topic connected with the student's employment activities.

School of Textile Technology

The field of textile technology is so broad in scope that students are given the opportunity of choosing from four courses, viz., Textile Chemistry, Textile Physics, Textile Engineering and Textile Manufacture. Each course extends over four years. The aim of all four courses is to produce graduates who have acquired a comprehensive knowledge of all the textile sciences and technologies, the courses themselves differing in the fundamental subjects offered in the second and third years. All students take a common first year, and they need not choose the option they desire to follow until the end of that year. Students commence their six months' practical training in industry in the long vacation at the end of the third year, and resume their academic work in the Second Term of fourth year, this year being common to the four Textile Technology courses.

Although Australia converts only ten per cent of her wool clip and imports 90 per cent of her manufactured cotton and synthetic requirements, the textile industry is nevertheless the second largest manufacturing group in this country. Present-day textile technology is based on engineering and the fundamental sciences, and excellent opportunities await university-trained scientists and technologists in the textile and allied industries, and in research and development organisations.

The conversion of textile raw materials into their finished products is simply a succession of, and an interaction between, a number of chemical, physical and engineering processes. Graduates with a good background in physics, chemistry or engineering, together with a broad training in the whole range of textile sciences and technologies, as provided in these courses, will substantially meet the present and future technological requirements of industry. They will also play a decisive part in bridging the gap which exists between fundamental research and its industrial application. The course in Textile Manufacture, which includes subjects in Commerce and Applied Psychology, is especially designed to meet the undoubted need for executives in industry who have been given a comprehensive technological training.

TEXTILE TECHNOLOGY—FULL-TIME COURSE
BACHELOR OF SCIENCE
First Year
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics I	3	1	2	3½
2.001	Chemistry I	3	0	3	5
5.001	Engineering I	3	3	0	4½
10.001	Mathematics I	4	2	0	4
		13	6	5	17

TEXTILE CHEMISTRY

SECOND YEAR
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
2.062	Chemistry II—				
	Organic Chemistry	2	0	3	3½
	Physical Chemistry	2	0	3	3½
10.331	Statistics	1	1	0	1½
13.111	Textile Technology I	5	0	5	5
50.011	English	2	0	0	4
		13½	1½	12	19½

THIRD YEAR
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
2.451	Chemistry II—				
	Inorganic/Analytical	2	0	3	3½
13.112	Textile Technology II	7	0	6	10
13.211	Textile Science I	2	0	0	4
13.311	Textile Engineering I	1	0	0	1½
51.011 52.011	History *or* Philosophy	1	0	0	2
	Social Science Elective	1	0	0	2
		14	0	9	23

TEXTILE PHYSICS

SECOND YEAR
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.112	Physics II	4	0	3	4
10.111	Pure Mathematics II	3	2	0	4
10.331	Statistics	1	1	0	1½
13.111	Textile Technology I	5	1	5	5
50.011	English	2	0	0	4
		15	4	8	18½

THIRD YEAR
(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.213	Physics III	4	0	3	5
13.112	Textile Technology II	7	0	6	10
13.211	Textile Science I	2	0	0	4
13.311	Textile Engineering I	1	0	0	1½
51.011 52.011	History *or* Philosophy	1	0	0	2
	Social Science Elective	1	0	0	2
		16	0	9	24½

TEXTILE ENGINEERING

SECOND YEAR

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
5.301	Engineering Mechanics	1½	½	0	2
5.501	Fluid Mechanics	1	½	½	2
8.112	Materials and Structures	1	1	1	1½
10.031	Mathematics	1	1	0	2
10.331	Statistics	1	1	0	1½
13.111	Textile Technology I	5	1	5	5
50.011	English	2	0	0	4
		14	5½	7½	20

THIRD YEAR

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
5.101/1	Mechanical Engineering Design	0	2	0	1
5.302	Theory of Machines	1½	1½	0	2
6.801	Electrical Engineering	1	0	2	2
13.112	Textile Technology II	7	0	6	10
13.211	Textile Science I	2	0	0	4
13.311	Textile Engineering I	1	0	0	1½
51.011 / 52.011	History *or* Philosophy	1	0	0	2
	Social Science Elective	1	0	0	2
		14½	3½	8	24½

TEXTILE MANUFACTURE

SECOND YEAR

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.212	Physics	1½	½	1	2
10.331	Statistics	1	1	0	1½
12.101	Psychology	2	1	0	2
13.111	Textile Technology I	5	1	5	5
14.101	Accounting I	2	2	0	4
15.101	Economics I	2	1	0	3
50.011	English	2	0	0	4
		15½	6½	6	21½

Third Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
12.501	Social Psychology	2	0	0	2
13.112	Textile Technology II	7	0	6	10
13.211	Textile Science I	2	0	0	4
13.311	Textile Engineering I	1	0	0	1½
14.321	Business Finance	2	0	0	3
14.311	Marketing	2	0	0	3
		16	0	6	23½

Fourth Year

(20 weeks' day course)

Common to all four courses.

Second and Third Terms only—long vacation and First Term in industry.

		Hours per week for two terms			
		Lec.	Tut.	Lab.	Private Study
13.113	Textile Technology III	3	0	3	6
13.212	Textile Science II	2	2	3	6
13.312	Textile Engineering II	2	0	0	4
13.411	Project	0	0	7	2
	Humanities Advanced Elective	3	0	0	6
		10	2	13	24

School of Wool Technology

A programme of planned improvement of efficiency through research, increased extension services, and adequate publicity for wool is under way. The full development of this plan will require specialist personnel trained to give service to the pastoral industry.

To meet this need the School of Wool Technology offers a full-time course in wool technology.

In the past far too many senior workers in the pastoral industry have had no opportunity for tertiary education, and their knowledge, usually highly specialised, came from long practical experience and from personal contacts in the industry. This was especially true in the field of wool commerce, where men aspiring to the highest positions in wool broking and wool buying had to get a substantial part of their training outside of formal instruction, or spend a year or more in an overseas wool centre such as Bradford, Leeds or Boston.

This course aims to provide a pool of graduates in whom has been inculcated a liberal scientific outlook, and the habit of exact and logical thought. These men will be familiar with the latest developments in fields relating to wool production, wool commerce, and wool utilisation. They will also be good practical wool men, capable of handling wool and recognising its technical characteristics, through facility in the use of subjective appraisal on which the whole wool trade is based. One broad aim of this course is to link producers, buyers and users of wool. Trainees, for example, will be given opportunity, on machines of the Textile Department, of following particular lots of wool through all processing operations, and observing for themselves the effect in manufacture of characteristics apparent in the raw material.

The first year of the course consists of a basic training in general science; vocational subjects essential to all branches of the wool industry are given in the second, third and fourth years. The fourth year work will include a project which will give each student opportunity to express initiative and originality. By association with lecturers and teachers who are all engaged in research, we aim to provoke both curiosity and interest in students who will themselves spend effort in contributing to the advance of efficiency.

From time to time obligatory excursions and farm tours are arranged for senior students.

Requirements for Industrial Training

In order to obtain recognition of practical work carried out, students shall:

1. Make application for the approval of the properties where they intend to carry out the required practical work, such application to contain a brief description of the property and to be in the hands of the Head of the School at the earliest possible date. Students should endeavour to obtain experience in the pastoral, sheep-wheat, and high rainfall sheep zones.

2. At the conclusion of the work, produce certificates from employers stating periods of employment and reporting on the quality of the student's work.

3. Supply reports as hereunder:

(i) On work carried out in the long vacation—

(a) Monthly interim reports setting out briefly the nature of the work engaged in, with any notes of topical interest. The first interim report shall include a description of the property, including details of farm buildings, dip and yards, plant and equipment, stock numbers (in age and sex groups), and such features as water supplies, improved pastures, crops, etc. A sketch plan of the property should also be included.

(b) A final report to be submitted within a month of resumption of lectures. The final report should embody a report on a district basis in general and the property on which the student has worked in particular. The development of farming practices, the salient features of management in relation to the environment, pasturage, rainfall and distribution, water supplies, types of stock and breeding policies, statistics, etc., should receive consideration. The size and capacity of the farm buildings should be given particular note, and sketch plans with the principal measurements will be of value. Photographs will also be of value in illustrating features. Where applicable, details of pasture mixtures, rate of sowing for crops and manurial treatment should be recorded, as should also labour performances (both manual and with machines), and costs.

(ii) On work carried out in short vacations—A brief report to be submitted within one week of the resumption of the term.

(iii) By students who carry out work for thirty-six weeks on a property or properties—

(a) Interim reports to be submitted every two months.

(b) Final reports to be submitted by March 31 in the year of resumption of studies. The nature of the interim and final reports shall be as required for work carried out in the long vacation.

Note.—Students will find that a loose-leaf note-book suitably indexed will be of great value for recording factual material, costs, material requirements for various jobs, et cetera.

Students are also encouraged to submit questions relating to any problems they may meet in the course of their practical work.

WOOL TECHNOLOGY — FULL-TIME COURSE

Bachelor of Science

First Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
1.001	Physics	3	1	2	3½
2.001	Chemistry	3	0	3	5
10.001	Mathematics	4	2	0	4
17.001	General Biology	2	0	4	4
		12	3	9	16½

Second Year

(30 weeks' day course)

		Hours per week for three terms			
		Lec.	Tut.	Lab.	Private Study
9.101	Livestock Production I	3	0	0	4½
9.221	Agronomy	2	0	2	4
9.531	Wool Technology I	2	0	4	4
10.331	Statistics	1	1	0	1½
17.111	Biochemistry	3	0	6	6
50.011	English	2	0	0	4
		13	1	12	24

THIRD YEAR

(30 weeks' day course)

		Hours per week											
		Term 1				Term 2				Term 3			
		Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study
9.122	Livestock Production II	3	0	0	4½	6	0	0	10½	3	0	0	6
9.311	Economics	2	0	0	4	2	0	0	4	1	0	0	2
9.411	Agricultural Chemistry	1	0	3	2	1	0	3	2	1	0	3	2
9.532	Wool Technology II	2	0	3	4	1	0	3	2	2	0	3	4
9.601	Animal Physiology I	2	0	3	3	1	0	3	1½	2	0	2	4
9.801	Genetics I	2	0	1	4	1	0	1	2	2	0	1	4
51.011 / 52.011	History *or* Philosophy	1	0	0	2	1	0	0	2	1	0	0	2
	Social Science Elective	1	0	0	2	1	0	0	2	1	0	0	2
		14	0	10	25½	14	0	10	26	13	0	9	26

Fourth Year

(30 weeks' day course)

Hours per week

		Term 1				Term 2				Term 3			
		Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study	Lec.	Tut.	Lab.	Private Study
9.001	Project	0	0	7*	0	0	0	7*	0	0	0	11*	0
9.533	Wool Technology III	0	0	1	0	0	0	1	0	0	0	1	0
9.123	Livestock Production III	1	1	0	2	1	1	0	2	2	0	0	4
9.231	Pastoral Agronomy	1	1	0	2	1	1	0	2	1	1	0	2
9.421	Animal Nutrition	2	0	0	4	2	0	0	4	0	0	0	0
	Humanities Advanced Elective	2	0	0	4	2	0	0	4	2	0	0	4
		6	2	8	12	6	2	8	12	5	1	12	10

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

9.312	Farm Management	2	2	0	4	2	2	0	4	2	2	0	4
9.534	Wool Technology IV	2	0	2	4	2	0	2	4	2	0	2	4
9.901	Rural Extension	2	2	0	4	2	2	0	4	2	2	0	4
9.602	Animal Physiology II	2	0	2	4	2	0	2	4	2	0	2	4
17.122	Biochemistry	3	1	6*	6	3	1	6*	6	3	1	10*	6
9.802	Genetics II	2	0	2	4	2	0	2	4	2	0	2	4
9.811	Biostatistics	2	0	2	4	2	0	2	4	2	0	2	4

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

Faculty of Engineering

The Faculty of Engineering consists of the Schools of Civil Engineering, Electrical Engineering, and Mechanical Engineering with its associated Department of Industrial Engineering, and the Schools of Highway Engineering, Nuclear Engineering and Traffic Engineering.

The Schools of the Faculty offer four-year full-time courses leading to the degrees of Bachelor of Engineering and Bachelor of Surveying (pass or honours), and six-year part-time courses leading to the degree of Bachelor of Science (Technology) and a seven-year part-time course leading to the degree of Bachelor of Surveying.

Common First Year: There is a common first-year syllabus in Physics, Mathematics, Chemistry and Engineering for all courses in the Faculty, making it possible for students to transfer from one course to another at the end of their first year without loss of standing. This first year is also equivalent to the first two stages of the part-time Engineering courses which lead to the degree of Bachelor of Science (Technology). Transfer to certain courses in the Faculties of Science and Applied Science without loss of standing is also possible at the end of the first year.

Rules relating to the operation of these common first-year subjects in the Faculties of Engineering, Science, Medicine and Applied Science are set out in the Calendar and also in the Faculty of Engineering Handbook.

SECTION III

Post-Graduate Study

The Faculty provides facilities for students to proceed to the higher degrees of Doctor of Philosophy, Master of Engineering, Master of Science and Master of Technology. Courses leading to the award of a Graduate Diploma are also offered. The degree of Doctor of Science is awarded for a contribution of distinguished merit in the fields of science, engineering or applied science.

The degrees of Doctor of Philosophy, Master of Engineering and Master of Science are all awarded for research and require the preparation and submission of a thesis embodying the results of an original investigation or design. Candidates for the Doctorate of Philosophy may read for the degree in this Faculty and are normally involved in three years' work. The work for the Master's degree may be completed in a minimum of one year, but normally requires two years of study.

The Faculty offers courses leading to the award of the degree of Master of Technology. The institution of this degree springs from the recognition of the considerable advance of knowledge in the fields of applied science and engineering which have marked recent years and the consequent increased scope for advanced formal instruction in these fields. Students are usually in attendance at the University for one year on a full-time basis, or for two years part-time.

A number of courses are also offered at the post-graduate level leading to the award of a Graduate Diploma. Students are required to attend courses of study for one year full-time or two years part-time. The courses available for the Graduate Diploma are Food Technology, Fuel Technology, Mineral Technology, and Wool Technology. The Diploma in Applied Science is the award in each case.

Courses leading to the degree of Master of Technology and to Graduate Diplomas are available in Sydney only. Candidates may register for all the research degrees at Sydney and, depending on the field of study, at Newcastle University College.

In the country centres of Wollongong and Broken Hill candidates may register for the degrees of Master of Science and Master of Engineering subject to adequate research facilities and satisfactory supervision being available in the candidate's particular field of study. Where these special conditions can be met the Professorial Board may grant permission to a candidate to register for the degree of Doctor of Philosophy in these centres.

The conditions governing the award of the various higher degrees and graduate diplomas are set out in the following pages.

Short, intensive graduate and special courses are provided throughout each year designed to keep practising scientists and technologists in touch with the latest developments in their various fields.

HIGHER DEGREES

CONDITIONS FOR AWARD OF DEGREE OF DOCTOR OF SCIENCE IN THE FACULTY OF APPLIED SCIENCE

1. The degree of Doctor of Science may be granted by the Council on the recommendation of the Professorial Board for an original contribution (or contributions) of distinguished merit to some branch of Science, Engineering or Applied Science.

2. A candidate for the degree of Doctor of Science shall hold a degree of the University of New South Wales or shall have been admitted to the status of such degree. No candidate shall present himself for the degree of Doctor of Science until five years after the award of his original degree.

3. The degree shall be awarded on the published work* of the candidate although in special circumstances additional unpublished work may be considered provided that these circumstances are recognised as sufficient by the Professorial Board.

4. A candidate for the degree shall forward to the Registrar an application accompanied by a fee of £31/10/-. With such application the candidate shall forward—

(i) Four copies (wherever possible) of the work referred to in paragraph 3.

(ii) Any additional work, published or unpublished, which he may desire to submit in support of his application.

(iii) A statutory declaration indicating those sections of the work, if any, which have been submitted previously for a degree or diploma in any University.

5. Every candidate in submitting his published work and such unpublished work as he deems appropriate shall submit a short discourse describing the research activities embodied in his submission. The discourse shall make clear the extent of originality and the candidate's part in any collaborative work.

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* In these regulations, the term "published work" shall mean printed in a periodical or as a pamphlet or as a book readily available to the public. The purpose of requiring publication is to ensure that the work submitted has been available for criticism by relevant experts, and examiners are given discretion to disregard any of the work submitted if, in their opinion, the work has not been so available for criticism.

6. The work shall be submitted to a committee of three examiners appointed by the Professorial Board who may require the candidate to answer orally or in writing any questions concerning his work.

CONDITIONS FOR THE AWARD OF DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D.) IN THE FACULTY OF APPLIED SCIENCE

1. The degree of Doctor of Philosophy may be granted by the Council on the recommendation of the Professorial Board to a candidate who has made an important contribution to knowledge and who has satisfied the following By-laws and Regulations made in accordance with these By-laws.

Qualifications

2. A candidate for registration for the degree of Ph.D. shall—

(i) hold an honours degree from the University of New South Wales; or

(ii) hold an honours degree of equivalent standing from any other approved University; or

(iii) if he holds a degree without honours from the University of New South Wales or an approved University, have achieved by subsequent work and study a standard recognised by the Board as equivalent to honours; or

(iv) in exceptional cases, submit such other evidence of general and professional qualifications as may be approved by the Professorial Board.

3. When the Professorial Board is not satisfied with the qualifications submitted by a candidate, the Board may require him, before he is permitted to register, to undergo such examination or carry out such work as the Board may prescribe.

Registration

4. A candidate for registration for a course of study leading to the degree of Ph.D. shall—

(i) apply to the Registrar on the prescribed form at least one calendar month before the commencement of the term in which he desires to register; and

(ii) submit with his application a certificate from the Head of the University School in which he proposes to study stating that the candidate is a fit person to undertake a course of study or research leading to the Ph.D. degree and that the School is willing to undertake the responsibility of supervising the work of the candidate and of reporting to the Professorial Board at the end of the

course on the merits of the candidate's performance in the prescribed course of study.

Course of Study

5. Subsequent to registration the candidate shall pursue a course of advanced study and research for at least nine academic terms, save that—

(i) a candidate who is not fully engaged in research work for his degree will be required to satisfy the Professorial Board on the amount of time he can devote to research work for the degree; and he may not proceed to the degree before the expiration of ten academic terms from the date of registration as a candidate;

(ii) any candidate who before registration was engaged upon research to the satisfaction of the Professorial Board, may be exempted from three academic terms.

6. A candidate shall present himself for examination not later than 15 academic terms from the date of his registration, unless special permission for an extension of time be granted by the Professorial Board.

7. The course, other than field work, must be carried out in a School of the University, under the direction of a supervisor appointed by the Board, or under such conditions as the Board may determine, save that a candidate may be granted special permission by the Board to spend a period of not more than three academic terms in research at another institution approved by the Board.

8. Not later than three academic terms after registration the candidate shall submit the subject of his thesis for approval by the Professorial Board. After the subject has been approved it may not be changed except with the permission of the Board.

9. A candidate may be required to attend a formal course of study appropriate to his work.

Thesis

10. On completing his course of study every candidate must submit a thesis which complies with the following requirements:

(i) The greater proportion of the work described must have been completed subsequent to registration for the Ph.D. degree.

(ii) It must be a distinct contribution to the knowledge of the subject.

(iii) It must be written in English and reach a satisfactory standard of literary presentation.

11. The thesis must consist of the candidate's own account of his research. In special cases work done conjointly with other

persons may be accepted, provided the Professorial Board is satisfied on the candidate's part in the joint research.

12. Every candidate shall be required to submit with his thesis a short abstract of the thesis comprising not more than 300 words.

13. A candidate may not submit as the main content of his thesis any work or material which he has previously submitted for a University degree or other similar award.

14. It shall be understood that the University retains the four copies of the thesis and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the *Copyright Act*, 1912-1950, the University may issue the thesis in whole or in part in photostat or micro-film or other copying medium.

Entry for Examination

15. The candidate shall give in writing two months' notice of his intention to submit his thesis and such notice shall be accompanied by the appropriate fee.

16. Four copies of the thesis shall be submitted together with a certificate from the supervisor that the candidate has completed the course of study prescribed in his case.

17. The thesis shall be in double-spaced typescript. The *original* copy for deposit in the Library shall be prepared and bound in a form approved by the University.* The other three copies shall be bound in such manner as allows their transmission to the examiners without possibility of disarrangement.

18. The candidate may also submit as separate supporting documents any work he has published, whether or not it bears on the subject of the thesis.

19. The Professorial Board shall appoint the examiners, one of whom shall normally be an external examiner.

20. After the examiners have read the thesis they may—

(i) without further test recommend the candidate for rejection;

(ii) request additional work on the thesis before proceeding further with examination.

21. If the thesis reaches the required standard, the examiners shall arrange for the candidate to be examined orally, and, at their discretion, by written papers and/or practical examinations on the subject of the thesis and/or subjects relevant thereto.

22. If the thesis is adequate but the candidate fails to satisfy the examiners at the oral or other examinations, the examiners may recommend the University to permit the candidate to re-present the same thesis and submit to a further oral, practical or written

* For the specifications currently approved for the preparation and binding of theses, see pages 84-85.

examination within a period specified by them but not exceeding eighteen months.

23. At the conclusion of the examination, the examiners will submit to the Professorial Board a concise report on the merits of the thesis and on the examination results.

Fees

24. The fee payable for an examination qualifying for registration shall be £5.

25. An approved candidate shall pay—

(i) a registration fee of £2.

(ii) a supervision fee of £30 per annum.

(iii) a fee of £21 on application for the examination.

26. Fees shall be paid in advance.

CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF ENGINEERING

1. An application to register a candidate for the degree of Master of Engineering shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the commencement of the term in which the candidate desires to register.

2. An applicant for registration for the degree of Master shall have been admitted to a Bachelor's degree in Engineering in the University of New South Wales, or other approved University, in an appropriate School.

3. (i) In exceptional cases persons may be permitted to register as candidates for the degree of Master if they submit evidence of such academic and professional attainments as may be approved by the Professorial Board.

(ii) The registration of diplomates of the New South Wales Department of Technical Education as candidates for the degree of Master of Engineering shall be determined in each case by the Professorial Board. Normally such applicants shall be required to produce evidence of academic and professional progress over a period of five years from the time of gaining the diploma.

4. Notwithstanding any other provisions of these regulations the Professorial Board may require an applicant to demonstrate his fitness for registration by carrying out such work and sitting for such examinations as the Board may determine.

5. In every case, before permitting an applicant to register as a candidate, the Professorial Board shall be satisfied that adequate supervision and facilities are available.

6. An applicant approved by the Professorial Board shall register in one of the following categories:

(i) Student in full-time attendance at the University.
(ii) Student in part-time attendance at the University.
(iii) Student working externally to the University.

7. An approved applicant shall be required to pay the undermentioned fees:

(i) a registration fee of £2;
(ii) the appropriate laboratory and supervision fee according to the category in which the student is registered;
(iii) a fee of £15 when submitting the thesis for examination.

The combined laboratory and supervision fee shall be—

(a) £30 p.a. for students in full-time attendance at the University;
(b) £15 p.a. for students in part-time attendance at the University;
(c) £10 p.a. for students working externally to the University.

Fees shall be paid in advance.

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

(ii) The investigation or design, and other work as provided in paragraph 8 (i) shall be conducted under the direction of a supervisor appointed by the Board or under such conditions as the Board may determine.

(iii) Every candidate shall submit three copies of the thesis as provided under paragraph 8 (i).* All copies of the thesis shall be in double-spaced typescript, shall include a summary of approximately 200 words, and a certificate signed by the candidate to the effect that the work has not been submitted for a higher degree to any other university or institution. The *original* copy of the thesis for deposit in the Library shall be prepared and bound in a form approved by the University.† The other two copies of the thesis shall be bound in such manner as allows their transmission to the examiners without possibility of disarrangement.

* The thesis and other relevant work may be submitted to the Registrar at any time during the year, within the provisions of paragraph 9 of the Master of Engineering Regulations.

In order that a successful candidate may have a reasonable chance of having his degree conferred at one of the formal degree conferring ceremonies, the candidate should arrange for his thesis and other relevant work to be in the hands of the Registrar at least 14 weeks prior to the date of such ceremony.

† For the specifications currently approved for the preparation and binding of theses, see pages 84-85.

(iv) It shall be understood that the University retains the three copies of the thesis and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the *Copyright Act,* 1912-1950, the University may issue the thesis in whole or in part in photostat or micro-film or other copying medium.

9. No candidate shall be considered for the award of the degree until the lapse of six complete terms from the date from which the registration becomes effective, save that in the case of a full-time candidate who has obtained the degree of Bachelor with Honours or who has had previous research experience, this period may, with the approval of the Professorial Board, be reduced by not more than three terms.

10. For each candidate there shall be two examiners appointed by the Professorial Board, one of whom shall, if possible, be an external examiner.

CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE

1. An application to register as a candidate for the degree of Master of Science shall be made on the prescribed form which shall be lodged with the Registrar at least one full calendar month before the commencement of the term in which the candidate desires to register.

2. An applicant for registration for the degree of Master shall have been admitted to the degree of Bachelor of Science in the University of New South Wales, or other approved University, in an appropriate School.

3. (i) In exceptional cases persons may be permitted to register as candidates for the degree of Master if they submit evidence of such academic and professional attainments as may be approved by the Professorial Board.

(ii) The registration of diplomates of the New South Wales Department of Technical Education as candidates for the degree of Master of Science shall be determined in each case by the Professorial Board. Normally, such applicants shall be required to produce evidence of academic and professional progress over a period of five years from the time of gaining the diploma.

4. Notwithstanding any other provisions of these regulations the Professorial Board may require an applicant to demonstrate his fitness for registration by carrying out such work and sitting for such examinations as the Board may determine.

5. In every case, before permitting an applicant to register as a candidate, the Professorial Board shall be satisfied that adequate supervision and facilities are available.

6. An applicant approved by the Professorial Board shall register in one of the following categories:

(i) Student in full-time attendance at the University.
(ii) Student in part-time attendance at the University.
(iii) Student working externally to the University.

7. An approved applicant shall be required to pay the undermentioned fees:

(i) a registration fee of £2;
(ii) the appropriate laboratory and supervision fee according to the category in which the student is registered;
(iii) a fee of £15 when submitting the thesis for examination.

The combined laboratory and supervision fee shall be—

(a) £30 p.a. for students in full-time attendance at the University;
(b) £15 p.a. for students in part-time attendance at the University.
(c) £10 p.a. for students working externally to the University.

Fees to be paid in advance.

8. (i) Every candidate for the degree shall be required to submit a thesis embodying the results of an original investigation or design, to take such examinations and to perform such other work as may be prescribed by the Professorial Board. The candidate may submit also for examination any work he has published, whether or not such work is related to the thesis.

(ii) The investigation, design and other work as provided in paragraph 8 (i) shall be conducted under the direction of a supervisor appointed by the Board or under such conditions as the Board may determine.

(iii) Every candidate shall submit three copies of the thesis as provided under paragraph 8 (i)* All copies of the thesis shall be in double-spaced typescript, shall include a summary of approximately 200 words, and a certificate signed by the candidate to the effect that the work has not been submitted for a higher degree to any other University or institution. The *original* copy of the thesis for deposit in the Library shall be prepared and bound in a form approved by the University.† The other two copies of the thesis shall be bound in such manner as allows their transmission to the examiners without possibility of their disarrangement.

(iv) It shall be understood that the University retains the three copies of the thesis and is free to allow the thesis to be consulted

* The thesis and other relevant work may be submitted to the Registrar at any time during the year, within the provisions of paragraph 9 of the Master of Science Regulations.

In order that a successful candidate may have a reasonable chance of having his degree conferred at one of the formal degree conferring ceremonies, the candidate should arrange for his thesis and other relevant work to be in the hands of the Registrar at least 14 weeks prior to the date of such ceremony.

† For the specifications currently approved for the preparation and binding of theses, see pages 84-85.

or borrowed. Subject to the provisions of the *Copyright Act*, 1912-1950, the University may issue the thesis in whole or in part in photostat or micro-film or other copying medium.

9. No candidate shall be considered for the award of the degree until the lapse of six complete terms from the date from which the registration becomes effective, save that in the case of a candidate who has obtained the degree of Bachelor with Honours or who has had previous research experience, this period may, with the approval of the Professorial Board, be reduced by up to three terms.

10. For each candidate there shall be two examiners appointed by the Professorial Board, one of whom shall, if possible, be an external examiner.

CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE OR ENGINEERING WITHOUT SUPERVISION

Where it is not possible for candidates to register under the existing regulations for the degree of Master of Science or Master of Engineering by reason of their location at centres which are distant from University Schools or where effective supervision is not practicable, registration may be granted in these categories under the following conditions:

(1) An application to register as an external candidate for the degree of Master of Science or Master of Engineering without supervision shall be lodged with the Registrar not less than six months before the intended date of submission of the thesis.* With such application the candidate shall submit the topic of his thesis and a synopsis in sufficient detail to enable the appointment of examiners.

(2) The subject of the thesis must be approved as being suitable by the Professorial Board.

(3) An applicant for registration shall have been admitted to a Bachelor's Degree of the University of New South Wales.

(4) An approved applicant shall be required to pay the following fees:
  (i) a registration fee of £2;
  (ii) a fee of £30 when submitting thesis for examination.

(5) (i) Every candidate for the degree shall be required to submit a thesis of a satisfactory literary standard embodying the results of an original investigation or design. The candidate may also submit for examination any work he has published, whether or not such work is related to the thesis.

* Candidates are advised to seek registration as early as possible.

(ii) Every candidate shall submit three copies of the thesis as provided under paragraph 5 (i). All copies of the thesis shall be in double-spaced typescript, shall include a summary of approximately 200 words and a certificate signed by the candidate to the effect that the work has not been submitted for a higher degree to any other University or institution. The *original* copy of the thesis for deposit in the Library shall be prepared and bound in a form approved by the University.† The other two copies of the thesis shall be bound in such manner as allows their transmission to the examiners without possibility of disarrangement.

(iii) Every candidate shall submit with the thesis a statutory declaration that the material contained is his own work, except where otherwise stated in the thesis.

(:v) It shall be understood that the University will retain the three copies of the thesis and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the *Copyright Act,* 1912-1950, the University may issue the thesis in whole or in part in photostat or micro-film or other copying medium.

(6) No candidate shall be considered for the award of the degree until the lapse of nine terms in the case of Honours graduates and twelve terms in the case of Pass graduates from the date of graduation.

(7) For each candidate the Professorial Board shall appoint at least two examiners one of whom shall be an internal examiner.

(8) If the thesis reaches the required standard the candidate shall be required to attend for an oral examination at a time and place nominated by the University. The examiners may also arrange at their discretion for the examination of the candidate by written papers and/or practical examinations on the subject of the thesis and/or subjects related thereto.

CONDITIONS FOR THE AWARD OF DEGREE OF MASTER OF TECHNOLOGY IN THE FACULTY OF APPLIED SCIENCE

1. An application to register as a candidate for the degree of Master of Technology shall be made on the prescribed form which

† For the specifications currently approved for the preparation and binding of theses, see pages 84-85.

shall be lodged with the Registrar at least one full calendar month before the commencement of the course.

2. An applicant for registration for the degree of Master of Technology shall have been admitted to the degree of Bachelor with Honours in the University of New South Wales, or other approved University, in an appropriate School. A pass graduate may be admitted on the recommendation of the Head of the School and with the confirmation of Faculty.

3. In exceptional cases a person may be permitted to register as a candidate for the degree of Master of Technology if he submits evidence of such academic and professional attainments as may be approved by Faculty.

4. Notwithstanding any other provisions of these regulations Faculty may require an applicant to demonstrate his fitness for registration by carrying out such work and sitting for such examinations as Faculty may determine.

5. An approved applicant shall be required to pay the fee for the course in which he desires to register. Fees shall be paid in advance.

6. A candidate for the degree shall be required to undertake the appropriate course of study, to pass any prescribed examinations and, in addition, to submit a report on a project specified by the Head of the School. The format of the report shall accord with the instructions of the Head of the School.

7. A candidate may submit the report on the project at the completion of the formal part of the course, but in any case shall submit it not later than one year after the completion of such course.

8. The report on the project shall be examined by two examiners appointed by the Professorial Board, one of whom shall, if possible, be an external examiner.

9. A candidate may be required to attend for an oral examination at a time and place fixed by the examiners.

PREPARATION AND BINDING OF HIGHER DEGREE THESES

The specifications currently approved are as follows:

(a) The size of the paper shall be quarto (approximately 10 in. x 8 in.) except for drawings and maps on which no restriction is placed.

(b) The margins on each sheet shall be not less than 1½ in. on the left-hand side, ½ in. on the right-hand side, 1 in. at the top and ¾ in. at the bottom.

(c) There shall be a title sheet thesis title, author's name, degree and date of submission.

(d) Sheets shall be numbered consecutively.

(e) Diagrams, charts, etc., must not be submitted on the back of typed sheets.

Where possible, diagrams, charts, etc., should be included with the text, facing the page on which reference to them is made, otherwise they may be clearly referred to in the text, numbered and folded for insertion in a pocket on the back cover of the thesis binding. Folding diagrams or charts included in the text should be arranged so as to open out to the top and right.

(f) The thesis shall be bound according to specifications of which details may be obtained from the office of the Registrar.

GRADUATE DIPLOMAS

CONDITIONS FOR THE AWARD OF GRADUATE DIPLOMAS

1. An application for admission to a graduate diploma course shall be made on the prescribed form which should be lodged with the Registrar at least one full calendar month before the commencement of the course.

2. An applicant for admission to a graduate diploma course shall be—

(a) a graduate of the University of New South Wales or other approved university,

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

3. Notwithstanding clause (2) above, Faculty may require an applicant to take such other pre-requisite or concurrent studies and/or examinations as it may prescribe.

4. Every candidate for a graduate diploma shall be required to undertake the appropriate course of study, to pass any prescribed examinations, and if so laid down in the course, to complete a project or assignment specified by the Head of the School. The format of the report on such project or assignment shall accord with the instructions laid down by the Head of the School.

5. An approved applicant shall be required to pay the fee for the course in which he desires to register. Fees shall be paid in advance.

POST-GRADUATE ENROLMENT PROCEDURE

Courses Requiring Attendance at Formal Lectures

Students wishing to enrol in Master of Technology or Graduate Diploma courses or the Master of Hospital Administration course must make application on the appropriate form to the Registrar at least one month before the commencement of the course.

Students wishing to enrol in the Master of Administration course must apply on the appropriate form to the Registrar at least six months before the commencement of the course. Applicants will be advised whether they are eligible to enrol in the course concerned and of the subsequent procedure to be followed. Later year enrolments must be made during Enrolment Week in accordance with the special arrangements made by the individual Schools.

No enrolments will be accepted after March 31 without the express approval of the Registrar which will be given in exceptional circumstances only.

Fees may be paid without penalty up to the end of the second week of term.

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

Student Registration Card

When enrolment forms have been submitted to the University Cashier he will return to the student a Registration Card. Students are required to carry this card with them as evidence that they are entitled to the rights and privileges afforded by the University.

Research Degrees

Details of the procedure to be followed in order to enrol for a research degree are given in the statement of the conditions of award of the various higher degrees as set out earlier in this section.

POST-GRADUATE COURSE FEES*

Master of Technology and Graduate Diploma Courses

Completion of Enrolment

Students enrolling in post-graduate courses which include formal instruction are required to attend the appropriate enrolment centre during the prescribed enrolment period† for authorisation of course programme.

Fees should be paid during the prescribed enrolment period but will be accepted without incurring a late fee during the first two weeks of 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) after March 31* except with the express approval of the Registrar, which will be given in exceptional circumstances only.

Payment of Fees by Term

Students who are unable to pay their fees by the year may pay

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

† The enrolment periods for Sydney are prescribed annually in the leaflet "Enrolment Procedure for Students Re-enrolling".

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 paid will be made when the enrolment voucher or letter of authority is subsequently lodged with the Cashier.

Extension of Time

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

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 (September 20 in 1963).

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

(a) Master of Technology Courses	£
(i) Registration Fee	2
(ii) Graduation Fee	3
(iii) Course Fee—calculated on the basis of a term's attendance at the rate of £2/10/- per hour per week. Thus the fee for a programme requiring an	

attendance of 24 hours per week for the term is 24 × £2/10/- = £60 per term.

(iv) Thesis or Project Fee—£15 (an additional fee of £10* is payable by students who have completed their final examinations for the degree but have not completed the thesis or project for which they have been previously enrolled).

(b) Graduate Diploma Courses†

	£
(i) Registration Fee	2
(ii) Award of Diploma Fee	3

(iii) Course Fee—calculated on the basis of a term's attendance at the rate of £2/10/- per hour per week. Thus the fee for a programme requiring an attendance of 24 hours per week for the term is 24 × £2/10/- = £60 per term.

(iv) Thesis or Project Fee—£15 (an additional fee of £10* is payable by students who have completed their final examinations for the diploma but have not completed the thesis or project for which they have been previously enrolled).

In addition to the course fees set out above, students in categories (a) and (b) are required to pay:

Library Fee—Annual Fee, £5.

University of New South Wales Students' Union—Annual Subscription £2.

University of New South Wales Sports Association—Annual Subscription, £1.

University Union—Annual Subscription, £6.

Examinations conducted under special circumstances—£3 for each subject.

Review of examination result—£3 for each subject.

Late Fees

First Term	£
Fees paid from commencement of third week of term to March 31	3
Fees paid after March 31 where accepted with the express approval of the Registrar (see above)	5

* Students paying this fee who are not in attendance at the University are not required to pay the subscription to the University Union, the Students' Union or Sports Association, or the Library fee.

† Students enrolling in individual subjects in these courses as miscellaneous students (i.e. students not proceeding to a degree or diploma) will pay term fees at the rate of £2/10/- per hour of instruction per week.

Second and Third Terms—	£
Fees paid in third and fourth weeks of term	3
Fees paid thereafter	5
Late lodgement of application for admission to examinations. (Late applications will be accepted for three weeks only after the prescribed dates.)	2

Withdrawal

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

Where notice of withdrawal from a course is received by the Registrar before the first day of First Term a refund of all fees paid other than registration 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 the other annual fees is made on the following basis:

University Union—£1 in respect of each half term.

University of New South Wales Students' Union—where notice is given prior to the end of the fifth week of First Term £1, thereafter no refund.

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

RESEARCH DEGREES—FEES

(a) Master of Science* and Master of Engineering*	£
(i) Qualifying Examination	5
(ii) Registration Fee	2
(iii) Internal full-time student annual fee	30
Internal full-time student term fee	10
(iv) Internal part-time student annual fee	15
Internal part-time student term fee	5

* Candidates registered under the conditions governing the award of this degree without supervision will pay the following fees: Registration fee, £2; Examination of thesis, £30. They are not required to pay the subscriptions to the University Union, the Students' Union or Sports Association, or the Library fee.

(v) External student annual fee† 10
(vi) Final Examination (including Graduation Fee) 15

(b) Doctor of Philosophy £
(i) Qualifying Examination 5
(ii) Registration Fee 2
(iii) Annual Fee 30
(iv) Final Examination (including Graduation Fee) 21

Research

(a) One day per week—£10 per annum.
(b) Two or three days per week—£20 per annum.
(c) Four or five days per week—£30 per annum.

Other Fees

In addition to the fees set out above all students in the above categories are required to pay:

Library Fee—Annual fee, £5.

University of New South Wales Students' Union—Annual subscription, £2.

University of New South Wales Sports Association—Annual subscription, £1.

University Union—£6 per annum.

† Students in this category are not required to pay the subscriptions to the University Union, the Students' Union or Sports Association, or the Library fee.

POST-GRADUATE AWARDS

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Pre-requisite Qualifications	Further details from
Broken Hill Associated Smelters Pty. Ltd.	*	Work connected with the industry.	*	£400-£1000 annually according to circumstances.	Degree or Diploma in Metallurgy or allied science.	Broken Hill Associated Smelters Pty. Ltd., Port Pirie, S.A.
Broken Hill Proprietary Co. Ltd.	*	Selected investigation.	*	£750 annually variable according to circumstances.	Degree or Diploma in Metallurgy, Engineering or allied science.	Nearest office of Broken Hill Pty. Co. Ltd. or subsidiaries.
General Motors-Holdens Post-graduate Research Fellowships.	Two at Univ. of New South Wales.	In any Faculty.	One year—renewal for up to three years.	Tuition fees. £800-£1200 annually, £300 to University.	Degree.	The Registrar, University of New South Wales.
Zinc Corporation Ltd. and New Broken Hill Consolidated Ltd.	*	Mining, Metallurgy and other fields.	Two years maximum.	Annual Grant Fees paid.	Degree in Science or Engineering.	Zinc Corporation Ltd., P.O. Box 444, Broken Hill, N.S.W.

* Not specified.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Prerequisite Qualifications	Further details from
Imperial Chemical Industries of Australia and New Zealand Research Fellowship.	One.	Research related to Agricultural Science, Mining, Metallurgy, and other fields.	Two years.	£1100.	British subject, University Graduate.	Registrar, University of New South Wales.
Conzinc Riotinto of Australia Research Scholarship.	"	Metallurgy, Mining Engineering, Chemical Engineering, Geology.	Initially one year. Renewal for up to three years.	Not less than £750 p.a.	Degree.	General Manager, Conzinc Riotinto of Aust. Ltd., G.P.O. Box 384D, Melbourne.
Atmospheric Pollution Research Fellowships.	Two.	Research on air pollution in N.S.W.	"	£1000-£1300 p.a.	Graduate or diplomate in Science, Chemical Technology or Chemical Engineering.	Registrar, University of New South Wales.
Commonwealth Post-Graduate Awards.	*	*	Initially one year. Renewal for up to four years.	£900 p.a. University fees.	Graduates domiciled in Australia.	"

* Not specified.

Company or Organisation	No.	Course of Study	Tenure	Approx. Value	Pre-requisite Qualifications	Further details from
Conzinc Riotinto of Australia Ltd.	*	Degree in Mining Engineering, Geology, Chemical Engineering, or Metallurgy	One year renewable.	Min. £750 p.a.	As required by University.	Conzinc Riotinto of Australia Ltd., Box 384D, Melbourne.

* Not specified.

Outlines of Post-Graduate Courses

Facilities are provided for students to carry out research for the degrees of Doctor of Philosophy, Master of Engineering or Master of Science. The Schools of the Faculty also offer courses leading to the graduate diploma in Applied Science. The School of Chemical Engineering offers such a course in Food Technology, the School of Mining Engineering and Applied Geology offers courses in Fuel Technology and Mineral Technology, and the School of Wool Technology a course in Wool Technology.

SCHOOL OF CHEMICAL ENGINEERING

The graduate course in Chemical Engineering leading to the degree of Master of Technology will not be offered in 1963.

FOOD TECHNOLOGY GRADUATE COURSE (GRADUATE DIPLOMA)

The post-graduate course leading to a Diploma in Applied Science in Food Technology has been designed to provide for professional training at an advanced level in food technology for holders of degrees in Science, Engineering or Applied Science.

In addition, candidates will be required to demonstrate a satisfactory academic standing in organic chemistry, food analysis, biochemistry and microbiology.

The following programme may be completed in one year (full-time) or two years (part-time).

	30 Weeks' Course Hours per week for three terms		
	Lec.	lab./tut.	Private Study
3.213 Food Technology	6	—	8
3.231G Advanced Food Technology	9	—	12
Biochemistry	3	—	4
	18	—	24

Students who have successfully completed 3.211 and 3.212 Food Technology towards the award of a degree must substitute an approved undergraduate programme of an equivalent number of hours.

NOTE.—The programme of study for the course leading to the Graduate Diploma may be revised in 1963 consistent with changes in the Food Technology undergraduate courses implemented in 1961.

SCHOOL OF METALLURGY

Although at present the main graduate activity of the School of Metallurgy is research, formal lecture courses for graduates in Metallurgy or related fields are presented from time to time and this activity is being expanded.

Graduates wishing to have the latest information about formal courses should contact the Head of the School.

Graduates in Metallurgy, Science or Engineering who are interested in doing research in the field of metallurgy may apply for registration as candidates for the degrees of Master of Science or Doctor of Philosophy.

The Head of the School will be pleased to give information about research scholarships, fellowships and grants-in-aid. Graduates are advised to consult him before making a formal application for registration.

SCHOOL OF MINING ENGINEERING AND APPLIED GEOLOGY

FUEL TECHNOLOGY GRADUATE COURSE (GRADUATE DIPLOMA)

The Graduate Diploma Course in Fuel Technology has been designed to provide professional training and specialisation for graduates in Science, Applied Science or Engineering who have not had previous training in this field.

Applicants holding an appropriate degree or equivalent qualification in Science, Applied Science or Engineering are eligible for admission to the course. They may also be required to undertake assignments or successfully complete examinations as directed by the Head of the School.

The Diploma in Applied Science in Fuel Technology is awarded on the successful completion of one year of full-time or two years of part-time study. The course is a blend of formal lectures and laboratory work at undergraduate and post-graduate levels and allows of elective specialisations in various branches of Fuel Science or Fuel Engineering, viz. Coal Science, Combustion Engineering, Gas Engineering, Coal Preparation, Liquid Fuels, Carbonisation and Fuel Plant Design. It involves the following programme:

		30 Weeks' Course Hours per week for three terms		
		Lec.	lab.	Private Study
A. *Undergraduate Component (nine hours per week)*				
7.922/2	Fuel Engineering II, Part 2 (Fuel Plant Technology)	2	—	2
7.931	Plant Evaluation and Assignments	2	—	2½
7.941	Principles of Fuel Technology	1	—	1½
	and *two* subjects from the following:			
7.912/1	Fuel Science II, Part 1 (Carbonisation			
7.912/2	Fuel Science II, Part 2 (Gaseous Fuels)			
7.913/1	Fuel Science III, Part 1 (Liquid Fuels)	4	—	7
7.922/1	Fuel Engineering II, Part 1 (Combustion Engineering)			
		9	—	13

B. *Advanced Component (up to nine hours per week)*			
Post-graduate Seminar	1	—	2
Advanced Electives*	8	—	14
	9	—	16

* Subjects to be selected from the list on the following page, according to availability and specialisation required:

7.341G Coal Preparation	2	—	4
7.991G Atmospheric Pollution and Control	2	—	2
7.992/1 Coal Constitution and Petrology, Part 1 (Coal Constitution)	1	—	2
7.992/2 Coal Constitution and Petrology, Part 2 (Coal Petrology)	2	—	3
7.993G Fuel Plant Design, Parts 1 and 2	3	—	6
7.994G Combustion and Gasification of Fuels, Parts 1 and 2	3	—	6
7.995G Instrumentation and Automatic Control	2	—	4
7.996G Research Techniques and Extension Methods	2	—	4

When appropriate, up to three hours per week may be selected from approved courses offered by other Schools within the University.

MINERAL TECHNOLOGY GRADUATE COURSE (GRADUATE DIPLOMA)

The Graduate Diploma Course in Mineral Technology is designed to provide professional training for graduates in Science, Applied Science or Engineering who wish to specialise in the fields of mineral processing or coal preparation. The course is concerned primarily with instruction in the scientific and engineering principles associated with processes for the physical and physio-chemical separation and concentration of minerals or coal for subsequent use.

The Diploma in Applied Science in Mineral Technology (Dip.App.Sc.) will be awarded on the successful completion of one year of full time or two years of part-time study. The course is a blend of lecture and laboratory work and allows the choice of elective specialisation in either the beneficiation of minerals or the preparation of coal.

	30 Weeks' Course Hours per week for three terms		
	Lec.	lab.	Private Study
A. *Undergraduate Component (up to nine hours per week)*			
7.151 Mining Engineering	4	—	2
7.311 Mineral Dressing	2	—	4
and *two* subjects from the following:			
7.352 Mineral Economics 7.551 Mineralogy 7.912/1 Fuel Science II, Part 1 (Carbonisation) 7.941 Principles of Fuel Technology	3	—	4
	9	—	10

B. *Advanced Component (up to nine hours per week)*				
	Post-graduate Seminar	1	—	2
	Advanced Electives*	8	—	14
		9	—	16

* Subjects to be selected from the following according to availability and specialisation required:

7.312G	Mineral Dressing, Parts 1 and 2	4	—	6
7.321G	Mineral Engineering	1	—	3
7.331G	Applied Mineragraphy	3	—	5
7.341G	Coal Preparation, Parts 1 and 2	4	—	6
7.992/1	Coal Constitution and Petrology, Part 1 (Coal Constitution)	1	—	2
7.992/2	Coal Constitution and Petrology, Part 2 (Coal Petrology)	2	—	3

When appropriate, up to 3 hours per week may be selected from approved courses offered by other Schools within the University.

SCHOOL OF WOOL TECHNOLOGY

WOOL TECHNOLOGY GRADUATE COURSE (GRADUATE DIPLOMA)

The diploma course in Wool Technology has been established to provide graduate students with advanced training in various aspects of wool technology. The normal requirement for admission to the course is a degree in Agriculture, Veterinary Science or Science in an appropriate field. In addition, students may be required to take a suitable qualifying examination in the basic discipline of the Wool Technology B.Sc. degree course, viz. General Biology, Agronomy and/or Livestock Production. Such qualifying examination will be of a standard which will ensure that the student has sufficient knowledge of the subject and the principles involved to profit by the course.

The following programme may be completed either in one year on a full-time basis or over two years on a part-time basis:

		30 Weeks' Course		
		Hours per week for three terms		
		Lec.	lab.	Private Study
9.105G	Advanced Livestock Production*	7	—	14
9.711G	Advanced Wool Technology	4	—	8
9.503G	Wool	6	—	6
9.901G	Extension Method	1	—	2
		18	—	30

* Students with qualifications in this subject may substitute for part of the work an approved undergraduate programme of an equivalent number of hours, e.g., 9.221 Agronomy, 9.231 Pastoral Agronomy.

Successful completion of the course leads to the award of the Diploma of Applied Science in Wool Technology (Dip.App.Sc.).

SCHOOLS OF INSTRUCTION IN THE UNIVERSITY

This Handbook has outlined the courses available in the Faculty of Applied Science. A wide range of courses is offered by the other six Faculties of the University, the Schools and Departments offering these courses being listed below:

Identifying Number	School or Department
1	School of Physics.
2	School of Chemistry.
3	* School of Chemical Engineering.
4	* School of Metallurgy.
5	School of Mechanical Engineering.
6	School of Electrical Engineering.
7	* School of Mining Engineering and Applied Geology.
8	School of Civil Engineering.
9	* School of Wool Technology.
10	School of Mathematics.
11	School of Architecture and Building.
12	School of Applied Psychology.
13	* School of Textile Technology.
14	School of Accountancy.
	* Schools of the Faculty of Applied Science.
15	School of Economics.
16	School of Hospital Administration.
17	School of Biological Sciences.
18	Department of Industrial Engineering.
19	School of Traffic Engineering.
20	School of Highway Engineering.
21	Department of Industrial Arts.
22	* School of Chemical Technology.
23	School of Nuclear Engineering.
24	School of Business Administration.
50	School of English.
51	School of History.
52	School of Philosophy.
53	School of Sociology.
54	School of Political Science.
55	School of Librarianship.
70	School of Anatomy.
71	School of Medicine.
72	School of Pathology.
73	School of Physiology.
74	School of Surgery.
75	School of Obstetrics and Gynaecology.
76	School of Pediatrics.
77	School of Psychiatry.
78	Human Genetics.

* Schools of the Faculty of Applied Science.

WEEKLY—CLASS TIME-TABLE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY

TERM AND FINAL EXAMINATION TIME-TABLE

1st Term	2nd Term	3rd Term	EXAMINATION PAPERS