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PREFACE

Newcastle University College was formally opened as a College of the New South Wales University of Technology, now the University of New South Wales, on 3rd December, 1951. Prior to this date, Newcastle Technical College had provided training for degrees of the University in Engineering and Science.

The government of the University College is vested in the Council of the University of New South Wales, to whom authority to maintain branches, departments or colleges of the University is given under the Technical Education and University of New South Wales Act, 1949-1958. Council has established an Advisory Committee to assist in the development of the College. The Committee meets at least once each term and includes in its membership prominent citizens of Newcastle and representatives of local educational, industrial and cultural interests.

The more important details of the degree and diploma courses provided in the various branches of Science, Engineering Technology, Arts, Commerce and Architecture are set out in this Handbook. (Information covering regulations, by-laws, etc., is contained in the Calendar of the University of New South Wales.) These courses are controlled by the respective faculties of the University and are supervised by its professorial staff.

Facilities for post-graduate study are available and students may proceed to the degrees of Master of Science, Master of Engineering, Master of Arts, Master of Commerce and Doctor or Philosophy.

Further information may be obtained from the Registrar, Newcastle University College, Tighe's Hill, N.S.W. (Telephone MA 0466—after 5 p.m., MA 3041.)

THE UNIVERSITY OF NEW SOUTH WALES
NEWCASTLE UNIVERSITY COLLEGE

PRINCIPAL DATES—1959

<table>
<thead>
<tr>
<th>January</th>
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<tr>
<td>Monday 26</td>
<td>Australia Day—Holiday.</td>
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<tr>
<th>February</th>
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<tbody>
<tr>
<td>Tuesday 3</td>
<td>Professorial Board meets.</td>
<td></td>
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<tr>
<td>Monday 16</td>
<td>Enrolments begin—all courses.</td>
<td></td>
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<tr>
<td>Monday 16 to Friday 20</td>
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<tr>
<td>Monday 23</td>
<td>First term begins.</td>
<td></td>
</tr>
<tr>
<td>Thursday 26</td>
<td>Show day.</td>
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<tr>
<th>March</th>
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<tr>
<td>Tuesday 3</td>
<td>Lectures in Arts courses begin.</td>
<td></td>
</tr>
<tr>
<td>Wednesday 4</td>
<td>Faculty of Science meets.</td>
<td></td>
</tr>
<tr>
<td>Monday 9</td>
<td>Council meets.</td>
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<tr>
<td>Tuesday 10</td>
<td>Professorial Board meets.</td>
<td></td>
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<tr>
<td>Wednesday 11</td>
<td>Faculty of Architecture meets.</td>
<td></td>
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<tr>
<td>Wednesday 18</td>
<td>Faculty of Commerce meets.</td>
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<tr>
<td>Friday 20</td>
<td>Conferring of Degrees—Newcastle University College.</td>
<td></td>
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<tr>
<td>Wednesday 25</td>
<td>Faculty of Engineering meets.</td>
<td></td>
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<tr>
<td>Friday 27 to Monday 30</td>
<td>Easter Holidays.</td>
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<th>April</th>
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<tr>
<td>Wednesday 1</td>
<td>Faculty of Technology meets.</td>
<td></td>
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<tr>
<td>Tuesday 14</td>
<td>Professorial Board meets.</td>
<td></td>
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<tr>
<td>Wednesday 15</td>
<td>Faculty of Humanities and Social Sciences meets.</td>
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<tr>
<td>Saturday 25</td>
<td>Anzac Day.</td>
<td></td>
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<tr>
<td>Wednesday 29</td>
<td>Faculty of Science meets.</td>
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<tr>
<th>May</th>
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<tbody>
<tr>
<td>Monday 4</td>
<td>May Day—Holiday.</td>
<td></td>
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<tr>
<td>Monday 11</td>
<td>Council meets.</td>
<td></td>
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<tr>
<td>Tuesday 12</td>
<td>Professorial Board meets.</td>
<td></td>
</tr>
<tr>
<td>Saturday 16</td>
<td>First term ends.</td>
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<tr>
<td>Monday 18 to Saturday 30</td>
<td>Vacation (two weeks).</td>
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<tr>
<th>June</th>
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<tbody>
<tr>
<td>Monday 1</td>
<td>Second term begins.</td>
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<tr>
<td>Wednesday 3</td>
<td>Faculty of Commerce meets.</td>
<td></td>
</tr>
<tr>
<td>Tuesday 9</td>
<td>Professorial Board meets.</td>
<td></td>
</tr>
<tr>
<td>Wednesday 10</td>
<td>Faculty of Engineering meets.</td>
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<tr>
<td>Monday 15</td>
<td>Queen's Birthday—Holiday.</td>
<td></td>
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<tr>
<td>Wednesday 17</td>
<td>Faculty of Science meets.</td>
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<tr>
<td>Wednesday 24</td>
<td>Faculty of Technology meets.</td>
<td></td>
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July—
Wednesday 8  Faculty of Architecture meets.
Monday 13  Council meets.
Tuesday 14  Professorial Board meets.
Wednesday 22  Faculty of Commerce meets.
Wednesday 29  Faculty of Science meets.

August—
Monday 3  Bank Holiday—classes meet as usual.
Wednesday 5  Faculty of Technology meets.
Tuesday 11  Professorial Board meets.
Wednesday 12  Faculty of Humanities and Social Sciences meets.
Wednesday 19  Faculty of Engineering meets.
Saturday 22  Second term ends.
Monday 24 to Saturday September 5

September—
Monday 7  Third term begins. Examinations commence—two term courses.
Wednesday 9  Faculty of Science meets.
Monday 14  Council meets.
Tuesday 15  Professorial Board meets.
Wednesday 16  Faculty of Architecture meets.
Saturday 19  Examinations end—two term courses.
Monday 21  Industrial training begins—two term courses not engaged in Survey Camp.
Monday 21 to Friday 25
Survey Camp—1st year courses VII and VIII, 3rd year courses V, VI, VII, VIIA, and VIII, 4th year courses VII and VIII, 5th year courses VIIIb.
Monday 28  Industrial training begins—two term courses attending one week Survey Camp, except 3rd year of courses VII, VIIA and VIII.
Monday 28 to Friday, October 2
Geology excursion—3rd year of courses VII, VIIA, VIIIb and VIII, 4th year of courses VII and VIIIb.
Wednesday 30  Faculty of Engineering meets.

October—
Tuesday 6  Industrial training begins—3rd year of courses VII, VIIA and VIII.
Wednesday 7  Faculty of Technology meets.
Tuesday 13  Professorial Board meets.
Wednesday 14  Faculty of Humanities and Social Sciences meets.
Wednesday 21  Faculty of Science meets.
Saturday 31  Lectures cease—Arts courses.

November—
Monday 9  Council meets.
Tuesday 10  Professorial Board meets.
Saturday 14  Lectures cease—diploma and three term degree courses, other than Arts courses.
Wednesday 18  Faculty of Commerce meets.
Saturday 21  Examinations begin—Diploma and three term degree courses.
Saturday 28  Third term ends.

December—
Tuesday 8  Examinations end—diploma and three term degree courses.
Saturday 12  

1960

February—
Tuesday 9  Professorial Board meets.
Monday 15  Enrolments begin.
Monday 22  First term begins.
MEMBERS OF NEWCASTLE UNIVERSITY COLLEGE ADVISORY COMMITTEE

Professor J. P. Baxter (Chairman).
Mr. S. G. Alley.
Professor J. J. Auchmuty.
Mr. R. Basden.
Mr. F. H. Beard.
Mr. J. O. A. Bourke.
Professor M. S. Brown.
Mr. A. S. Campbell.
Mr. C. J. Chandler.
Mr. E. A. Dickson.
Mr. G. H. Duncan.
Mr. G. Edwards.
The Hon. F. J. Finnan.
Mr. J. F. Foley.
Dr. T. Hamilton.
The Hon. F. H. Hawkins, M.L.A.
Mr. G. L. Macauley.
Dr. J. K. MacDougall.
Dr. R. B. Madgwick.
Mr. D. L. McLarty.
Mr. H. G. Middlehurst.
Professor C. J. Milner.
Professor D. W. Phillips.
Associate Professor C. C. Renwick.
The Hon. J. B. Simpson, M.L.A.
Miss M. A. Tilse.
Mr. F. L. Ward.
Mrs. O. V. Wells.
Colonel H. L. Wheeler.
Dr. H. K. Worner.
Dr. H. S. Wyndham.

COMMITTEES OF ADVISORY COMMITTEE

Commerce Committee

Professor J. J. Auchmuty.
Mr. R. Basden.
Mr. J. F. Howard.
Mr. H. Lees.
Mr. D. G. McDougall.
Mr. A. McWilliams.
Associate Professor C. C. Renwick.
Mr. A. Smith.
Mr. W. Wragge.
NEWCASTLE UNIVERSITY COLLEGE

WARDEN

DEPUTY WARDEN

REGISTRAR
J. F. Foley, B.Ec.(Syd.).

ACADEMIC STAFF

Department of Science

HEAD OF DEPARTMENT OF SCIENCE
Associate Professor J. A. Allen, M.Sc.(Qld.), Ph.D.(Bristol), F.R.A.C.I.

SCHOOL OF APPLIED PHYSICS

Senior Lecturer

Lecturers
K. J. Ausburn, B.Sc.(Syd.), M.Sc.(Lond.), D.I.C.
J. E. Cleary, B.Sc.
G. A. Harle, M.Sc.(Syd.).
J. A. Ramsey, M.Sc.(Melb.).

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Senior Lecturer

Lecturers
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E. B. Jacobs, B.Sc.(Syd.).
E. P. A. Sullivan, M.Sc., Ph.D.(Syd.).
H. R. Tietze, M.Sc.(Lond.), A.R.I.C.

SCHOOL OF MATHEMATICS

Senior Lecturer
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Lecturers
J. A. Giles, B.A.(Syd.).
J. A. Lambert, B.Sc.(Syd.).
R. F. Matlak, Ph.Mgr.(Cracow), B.A.(Syd.).
M. Temple, M.A.(Dub.).

Department of Engineering

SCHOOL OF CIVIL ENGINEERING

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Lecturers
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K. S. Sellick, B.E., A.S.T.C.

SCHOOL OF ELECTRICAL ENGINEERING

Senior Lecturer

Lecturers
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T. Glucharoff, Dipl. Ing.(Munich); M.E.

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Senior Lecturer
A. K. Johnston, B.E.(Syd.), M.S.(Iowa), Ph.D.

Lecturers
L. W. B. Browne, B.E.(Syd.).
M. J. Hallinan, A.S.T.C.
Department of Technology

HEAD OF DEPARTMENT OF TECHNOLOGY
Associate Professor E. O. Hall, M.Sc.(N.Z.), Ph.D.(Cantab), F.Inst.P.

SCHOOL OF CHEMICAL ENGINEERING
Senior Lecturer

Lecturers
W. G. Kirchner, M.Sc., A.S.T.C., A.R.A.C.I.
J. Roberts, B.Sc., A.S.T.C.

SCHOOL OF METALLURGY
Associate Professor of Metallurgy
E. O. Hall, M.Sc.(N.Z.), Ph.D.(Cantab), F.Inst.P.

Senior Lecturer

Lecturers
G. B. Johnston, B.Sc., A.S.T.C., A.I.M.
J. E. McLennan, A.S.T.C., L.I.M.
N. A. Molloy, B.E.(Qld.).
W. A. Oates, B.Met.(Sheff.).

SCHOOL OF MINING ENGINEERING AND APPLIED GEOLOGY
Supervising Lecturer
A. S. Ritchie, A.S.T.C.

Lecturers
B. A. Engel, B.Sc.(N.E.).
Beryl Nashar, B.Sc., Dip.Ed.(Syd.), Ph.D.(Tas.).
J. H. Rattigan, M.Sc.(Adel.).

Teaching Fellow
Elizabeth A. Teasdale, B.Sc.(Syd.).

Architecture

SCHOOL OF ARCHITECTURE AND BUILDING
Supervising Lecturer
E. C. Parker, A.S.T.C., A.R.A.I.A.

Department of Arts

HEAD OF DEPARTMENT OF ARTS
Associate Professor J. B. Newton-John, M.A.(Cantab.).

CLASSICS

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Lecturers
G. G. Betts, B.A.(Syd.), B.A.(Cantab.).

ENGLISH

Senior Lecturer
D. C. Muecke, B.A.(Adel.), M.A.(Oxon.).

Lecturers
D. B. O'D. Biggins, B.A.(Lond.), M.A.(So'ton).
Robyn K. Iverach, B.A.(Syd.).
T. H. Jones, M.A.(Wales).

FRENCH

Senior Lecturer

Lecturer
I. P. Barko, Lic.Ph.L.(Brussels), D. de l'U.(Stras.).

Lecteur
M. Caillot, Lic. ès L.(Lyon.).

GEOGRAPHY

Senior Lecturers

Lecturers
M. G. A. Wilson, M.A.(N.Z.).

GERMAN

Associate Professor of German
J. B. Newton-John, M.A.(Cantab.).
Lecturers
L. Bodi, Ph.D., Dip.Ed.(Bud.).

HISTORY
Professor of History
J. J. Auchmuty, M.A., Ph.D.(Dub.), M.R.I.A., F.R.Hist.S.,
Dean of the Faculty of Humanities and Social Sciences.
Senior Lecturer
G. A. Cranfield, B.A., Ph.D.(Cantab).

Lecturers
A. H. Anderson, M.A., Ph.D.(Edin.).
J. P. S. Bach, M.A.(Syd.).
T. R. Reese, B.A.(Sheff.), Ph.D.(Lond.).

PHILOSOPHY
Senior Lecturer
A. M. Ritchie, M.A.(Syd.), Ph.D.(Lond.).
Lecturer
A. J. Anderson, B.A.(Syd.).

PSYCHOLOGY
Senior Lecturer
D. R. Martin, B.A., Dip.Ed.(Syd.).
Lecturers
Irene A. Edmonds, M.A.(Syd.).
B. Fenelon, B.A.(Qld.).
A. C. Hall, B.A.(R’dg.).
K. H. Star, B.A.(Melb.), Ph.D.(Lond.).

Department of Commerce
HEAD OF DEPARTMENT OF COMMERCE
Associate Professor C. C. Renwick, M.Ec.(Syd.).

ECONOMICS
Associate Professor of Economics
C. C. Renwick, M.Ec.(Syd.).

Lecturers
B. L. Johns, M.A.(Cantab.).
P. W. Sherwood, B.Com.(Lond.).

Teaching Fellows
M. Bernasek, B.Ec.(Syd.).
B. J. Gordon, B.Ec.(Syd.).

ACCOUNTANCY
Lecturers
B. Colditz, A.A.S.A., A.C.I.S.
R. A. Woodman, L.L.B.(Syd.).

Technical Staff
SCHOOL OF CHEMICAL ENGINEERING
Technical Officer
W. J. Howarth, A.S.T.C.

SCHOOL OF CHEMISTRY
Technical Officer
W. J. Hay, A.S.T.C.

SCHOOL OF MECHANICAL ENGINEERING
Technical Officers
D. B. Stewart, A.S.T.C.
H. A. Willems, A.S.T.C.

SCHOOL OF METALLURGY
Technical Officer
J. A. Grahame, A.S.T.C.

COUNSELLING SERVICE—S. G. Alley, B.A.(Syd.)—Senior Counsellor.

LIBRARY SERVICE—Mrs. P. Flowers—Librarian.

REQUIREMENTS FOR ADMISSION TO COURSES

A candidate for any degree must satisfy the matriculation requirements before entering upon the prescribed course.

ARTS COURSES

Candidates may qualify for matriculation at the Leaving Certificate examination held by the Department of Education or the Matriculation examination of the University of Sydney.

The approved subjects for matriculation are those set out in the following groups:

- **Group A.**—English.
- **Group B.**—Modern History, Ancient History, Economics.
- **Group C.**—Latin, Greek, French, German, Italian, Hebrew, Chinese, Japanese, Russian, Dutch.
- **Group E.**—Physics, Chemistry, Geology, Geography, Physics-and-Chemistry, Botany, Zoology, Biology, Physiology, Agriculture.

(It should be noted that some subjects taken for the Leaving Certificate are not approved subjects for matriculation purposes.)

In order to qualify for matriculation, candidates must pass *at one examination* in at least five (5) subjects, of which one must be English, and the other four subjects must be chosen from at least two of Groups B, C, D and E, provided that—

(a) neither Physics nor Chemistry be taken along with the combined subject Physics-and-Chemistry;
(b) neither Botany nor Zoology be taken with Biology;
(c) neither Zoology nor Biology be taken with Physiology;
(d) neither Mathematics I or Mathematics II be taken with General Mathematics;
(e) a candidate who offers Mathematics and elects to take General Mathematics may not sit for Mathematics I or Mathematics II; a candidate who offers Mathematics and does not elect to take General Mathematics *must take both* Mathematics I and Mathematics II;
(f) Theory and Practice of Music is accepted for matriculation only in cases where the pass was obtained at an examination held in 1943 or subsequent years, provided further that a pass in the subject of Music II at the Leaving Certificate examinations held in 1943 and 1944 is accepted as equivalent to a pass in the subject of Theory and Practice of Music;
(g) Ancient History is accepted for matriculation only in cases where the pass was obtained at an examination held in 1945 or subsequent years; further, Ancient History may be taken with Modern History at the Leaving Certificate examination, 1951, and subsequent examinations;
(h) Agriculture is accepted for matriculation only when the pass was obtained at an examination held in 1945 or subsequent years;
(i) Economics will be accepted for matriculation only when the pass was obtained at an examination held in 1947 or at a subsequent examination.

A candidate who has presented himself in five of six subjects for the Leaving Certificate examination in or after 1947 in accordance with the above regulations, and who passes in English and three other subjects, shall be granted matriculation status provided that he is awarded an "A" or Honours in at least three subjects.

SPECIAL CASES

A person who wishes to enter any course conducted by the College whose qualifications do not comply with the conditions set out above for entry to such course but who claims to have reached an equivalent standard of education, should submit in writing, to the Registrar of the College, an application for special consideration. This applies also to persons over the age of 21 who are seeking Adult Matriculation.
FULL-TIME COURSES IN THE DEPARTMENTS OF ENGINEERING, SCIENCE, TECHNOLOGY AND COMMERCE

Candidates may qualify for matriculation by passing at the Leaving Certificate or equivalent examination in at least five subjects, of which one must be English and one other must be Mathematics I, or Mathematics II, or General Mathematics, three 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, Theory and Practice of Music, General Mathematics, Mathematics I, Mathematics II, or Descriptive Geometry and Drawing.

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

The following general provisions apply:—

(A) Candidates must meet the requirements set out above at one examination provided that—

(a) neither Physics nor Chemistry be taken along with the combined subject Physics-and-Chemistry;

(b) neither Botany nor Zoology be taken with Biology;

(c) neither Botany nor Zoology nor Biology be taken with Physiology;

(d) neither Mathematics I nor Mathematics II be taken with General Mathematics;

(e) a candidate who offers Mathematics and elects to take General Mathematics may not sit for Mathematics I or Mathematics II; a candidate who offers Mathematics and does not elect to take General Mathematics must take both Mathematics I and Mathematics II; a pass in either Mathematics I or Mathematics II will count as a pass in one subject; passes in both papers will count as passes in two subjects;

(f) Theory and Practice of Music is accepted only from March, 1946;

(g) 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;

(h) Agriculture is accepted only in cases where the pass was obtained at an examination held in 1945 or subsequent years;

(i) Economics is accepted only in cases where the pass was obtained at an examination held in 1947 or subsequent years;

(j) Descriptive Geometry and Drawing is accepted only in cases where the pass was obtained at an examination held in 1954 or subsequent years.

(B) Candidates who have presented themselves for the Leaving Certificate or equivalent examination in five or six subjects selected in accordance with the requirements prescribed in (A) and who have passed in English and a Mathematics and two other of the subjects shall be granted admission provided that they have been awarded “A” passes or passes with Honours in at least three of these four subjects.

Candidates who have satisfactorily met the matriculation requirements of the University of Sydney, but who have not obtained the requisite pass in Mathematics as 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 in Mathematics only, at a subsequent Matriculation, Leaving Certificate or equivalent examination.

Any person who has satisfied the examination requirements for entrance to the diploma courses of the Department of Technical Education, New South Wales, since and including
the Qualifying examinations of the Department held at the end of 1940 may be admitted as a “registered student” of the University of New South Wales, but this provision shall not apply to examinations held later than March, 1961.

**PART-TIME COURSES IN THE DEPARTMENTS OF ARCHITECTURE, ENGINEERING, SCIENCE, TECHNOLOGY AND COMMERCE**

Entrance to the part-time degree or diploma courses may be gained by passing in five approved subjects at one of the following examinations:

Technical Education Qualifying or Qualifying (Deferred); the New South Wales Leaving Certificate; or the University of Sydney Matriculation.

The five subjects must satisfy the matriculation requirements as set out on pages 18 to 20 for the full-time courses.

Students must pass in all requisite subjects at the one examination period provided that accumulation of subjects from more than one examination is permissible only in the following circumstances:

(a) Part-time technical college students may add passes in the Technical Education Qualifying examination of one year to passes gained at the Qualifying (Deferred) examination at the beginning of the next year;

(b) students who have passed the Leaving Certificate examination as a whole (i.e., have gained at least four “B” passes) may complete any additional subjects at the Qualifying (Deferred) or Matriculation examinations at the commencement of the following year. However, if a student passes in less than four subjects at the Leaving Certificate examination (i.e., he does not gain the Certificate) he will not be credited with these passes but must take all necessary subjects at the Qualifying (Deferred) or Matriculation examinations. Similar conditions apply to students of the Day Matriculation Course who sit for the Technical Education Qualifying examinations.

Candidates who fail to complete all requirements in one examination period must present all subjects again the following year. Special concessions are granted to students in Technical College trade courses who are taking courses in the School of General Studies. These students should consult the Student Counsellor for further details.

Students enrolling in part-time courses must include the following subjects, in addition to English, amongst those taken for matriculation in order to secure unrestricted entry:

<table>
<thead>
<tr>
<th>Part-time Course</th>
<th>Pre-requisite Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Geology</td>
<td></td>
</tr>
<tr>
<td>Civil Engineering</td>
<td></td>
</tr>
<tr>
<td>Applied Chemistry</td>
<td>Mathematics I, Mathematics II, Physics and Chemistry.</td>
</tr>
<tr>
<td>Science</td>
<td></td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>Mathematics I or Mathematics II or General Mathematics.</td>
</tr>
<tr>
<td>Industrial Chemistry</td>
<td></td>
</tr>
<tr>
<td>Metallurgy</td>
<td></td>
</tr>
<tr>
<td>Architecture</td>
<td></td>
</tr>
</tbody>
</table>

Persons who have satisfied the general matriculation requirements but whose passes do not include the pre-requisite subjects as indicated above, may be granted entry to follow a restricted programme which must include the outstanding pre-requisite subjects. Further information regarding conditions for restricted entry is obtainable from the Student Counsellor.

**SPECIAL CASES**

A person who wishes to enter any course conducted by the College, whose qualifications do not comply with the conditions set out above for entry to such course but who claims to have reached an equivalent standard of education, should submit in writing, to the Registrar of the College, an application for special consideration. This applies also to persons over the age of 25 years who are seeking Adult Matriculation.
(a) ARTS COURSES

Bachelor of Arts

(i) Pass—£24 per annum per subject or £8 per term per subject.

(ii) Honours—An additional £9 per annum per subject in which Honours are taken in student’s second and third years, and £33 per subject per annum in the fourth year.

In addition, the following fees are payable—
- Matriculation Fee, £3.
- Annual Examination Fee, £3.
- Graduation Fee, £3.

Master of Arts*

Course fee—£24 per annum or £8 per term.

In addition, the following fees are payable—
- Registration Fee, £3.
- M.A. Degree Fee, £5.
- Re-examination Fee, £3 (if applicable).

(b) COURSES OTHER THAN ARTS

For the purpose of fee determination, assessment is on a term basis. A full-time course fee will be charged for any term where more than 15 hours per week instruction, etc., is involved. Where 15 hours or less per week instruction is involved in any term, a part-time course fee will be charged.

(i) Full-time Course Fee—£90 per annum or two payments of £45 per term or three payments of £30 per term, according to the number of terms in year.

(ii) Part-time Course Fee—£36 per annum or £12 per term for instruction involving over 6 hours per week, £18 per annum or £6 per term for instruction involving 3 to 6 hours per week, and £9 per annum (no term payment) for instruction involving less than 3 hours per week.

In addition, the following fees are payable—
- Matriculation Fee, £3.
- Graduation Fee, £3.

All registered students are required to pay a Students’ Association membership fee of £2 2s. 0d.

*SCHOLARSHIPS AND CADETSHIPS

A detailed statement of scholarships and cadetships is contained in the Calendar of the University of New South Wales.

Commonwealth Scholarships, New South Wales Public Service Board Traineeships, State Bursaries and Exhibitions, Teachers’ College Scholarships, Joint Coal Board Scholarships and Australian Coal Association (Research) Ltd. Scholarships in Mining Engineering, and the Australian Atomic Energy Commission Scholarships in Applied Geology, Metallurgy or Chemical Engineering, are tenable at the Newcastle University College.

In addition a number of privately endowed scholarships and fellowships are available, details of which are shown in the University Calendar.

ENROLMENT PROCEDURE

All intending students should consult the Counsellor, who will advise them concerning the enrolment procedure. Dates for enrolment are given in the “List of Principal Dates” (see pages 5 to 7).

COUNSELLING SERVICE

Each student of the College is invited to discuss with the Counsellor, at any time during his course, his methods of study, his general adjustment to the course and any other personal factors relating to his progress in his chosen field. An appointment may be arranged personally or by telephone.
COURSES OF STUDY

Undergraduate courses leading to a degree of Bachelor of Arts, Commerce, Engineering, or Science are available. Degrees are awarded in Honours (First Class and Second Class) and Pass grades. Unless otherwise stated, the award of Honours at Graduation is determined by the performance of a student in the individual subjects of his course and his work in a special thesis project where such is required.

In most cases degree courses are offered on both a full-time and on a part-time basis. The part-time courses are of the same standard as the equivalent full-time courses and are arranged to enable the student to remain continuously in employment related to his studies throughout the whole course. In certain cases students taking a course at Newcastle University College may be required to transfer to Sydney to complete the later years of the course. For example, in Electrical Engineering and Mining Engineering only the first two years of the full-time course are offered at Newcastle. For further information concerning this requirement students should consult the Counsellor.

The University administers a number of the diploma courses of the Department of Technical Education. On satisfying the prescribed educational and vocational requirements of these courses, students are awarded the diploma of Associateship of Sydney Technical College (A.S.T.C.). Where both a diploma course and a part-time degree course are conducted in the same subject, the courses follow a common syllabus throughout the early stages, and students who are occupationally qualified may in general gain the diploma by completing the first five years (six years in the case of Chemical Engineering and Metallurgy) of the corresponding part-time degree course. The diploma courses administered by the University of New South Wales at Newcastle are:

- Department of Science—Applied Chemistry.
- Department of Engineering—Civil Engineering, Electrical Engineering, Mechanical Engineering.
- Department of Technology—Chemical Engineering, Metallurgy, Manual Arts.
- Faculty of Architecture—Architecture.

Students completing a diploma course in the Departments of Science, Engineering or Technology may proceed to the appropriate degree with full credit for their diploma studies. Students in these Departments who obtained a diploma before the alignment of the diploma and part-time degree courses may proceed to a degree by undertaking further study in a conversion course. Details of conversion courses available at Newcastle are included in the Handbook.

POST-GRADUATE STUDY

Facilities for post-graduate study are available in most of the Schools at the College and a number of students are already proceeding to higher degrees. Graduate students, including certain A.S.T.C. diploma holders, wishing to proceed to a higher degree should consult the Head of the appropriate School. Particulars of conditions governing the award of higher degrees are given in the Calendar of the University.

SCHOOL OF APPLIED PHYSICS

The full degree course in Applied Physics (Course I) will not be offered at Newcastle in 1959.

Students desiring to take a Science course with Physics as a major subject should consult the syllabus for the Science courses.

SCHOOL OF CHEMISTRY

The needs of the chemical industry for men competent to devise, develop, and operate new processes and to improve existing ones, make essential different types of training. One type involves a training in fundamental science with the emphasis on chemistry. Training of this type is provided by the School of Chemistry, where students receive instruction in the principles of inorganic, analytical, organic and physical chemistry, supplemented by instruction in mathematics and physics. In his final year the student is given the opportunity of electing to do certain subjects to enable him to extend his knowledge in fields of special interest.
It should be noted that the work in chemistry, physics and mathematics taken in the first year of the full-time course, and in the first and second years of the part-time course in Applied Chemistry, is identical with that taken in the same years of the courses in Chemical Engineering and Metallurgy. Students in any of these courses may therefore transfer from one to another without loss of standing up to the end of the first year full-time, or second year part-time.

**COURSE II—APPLIED CHEMISTRY**

This course may be taken at Pass or Honours standard. The Pass course requires full-time attendance at the University for the first and second years and part-time attendance for the third and fourth years. The Honours course requires full-time attendance for three years, the fourth year requiring full-time attendance for one term and part-time attendance for two terms. Both Pass and Honours students will be required to complete satisfactorily a course of approved practical training in industry.

**FIRST YEAR**

*(34 weeks day course)*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.11 Physics</td>
<td>3 — 3</td>
<td>3 — 3</td>
<td>3 — 3</td>
</tr>
<tr>
<td>2.41 General Chemistry</td>
<td>3 — 6</td>
<td>3 — 6</td>
<td>3 — 6</td>
</tr>
<tr>
<td>5.101 Engineering Drawing and Materials</td>
<td>2 — 0</td>
<td>1 — 3</td>
<td>0 — 0</td>
</tr>
<tr>
<td>5.211 Workshop Processes and Practice</td>
<td>0 — 3</td>
<td>0 — 0</td>
<td>0 — 0</td>
</tr>
<tr>
<td>10.11 Mathematics</td>
<td>4 — 2*</td>
<td>4 — 2*</td>
<td>0 — 0</td>
</tr>
<tr>
<td>10.11b Mathematics</td>
<td>0 — 0</td>
<td>0 — 0</td>
<td>2 — 2*</td>
</tr>
<tr>
<td>G10 English</td>
<td>2 — 0</td>
<td>2 — 0</td>
<td>0 — 0</td>
</tr>
<tr>
<td>G20 History</td>
<td>1 — 0</td>
<td>1 — 0</td>
<td>2 — 0</td>
</tr>
<tr>
<td><strong>15 — 14</strong></td>
<td><strong>14 — 14</strong></td>
<td></td>
<td><strong>10 — 11</strong></td>
</tr>
</tbody>
</table>

* Tutorial.

**SECOND YEAR**

*(34 weeks day course)*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.92 Physics*</td>
<td>1 — 0</td>
<td>1 — 0</td>
<td>1 — 0</td>
</tr>
<tr>
<td>2.32 Physical Chemistry</td>
<td>1 — 2</td>
<td>1 — 0</td>
<td>1 — 0</td>
</tr>
<tr>
<td>2.33 Physical Chemistry</td>
<td>1 — 2</td>
<td>1 — 2</td>
<td>1 — 2</td>
</tr>
<tr>
<td>2.42 Inorganic Chemistry</td>
<td>1 — 0</td>
<td>1 — 0</td>
<td>1 — 0</td>
</tr>
<tr>
<td>2.52 Quantitative Analysis</td>
<td>1 — 2</td>
<td>1 — 2</td>
<td>1 — 2</td>
</tr>
<tr>
<td>2.53 Quantitative Analysis</td>
<td>1 — 2</td>
<td>1 — 2</td>
<td>1 — 2</td>
</tr>
<tr>
<td>2.62 Organic Chemistry</td>
<td>1 — 0</td>
<td>1 — 0</td>
<td>1 — 0</td>
</tr>
<tr>
<td>2.63 Organic Chemistry</td>
<td>1 — 2</td>
<td>1 — 2</td>
<td>1 — 2</td>
</tr>
<tr>
<td>2.72 Mathematical Chemistry</td>
<td>1 — 0</td>
<td>1 — 0</td>
<td>1 — 0</td>
</tr>
<tr>
<td>G30 Philosophy</td>
<td>0 — 0</td>
<td>2 — 0</td>
<td>2 — 0</td>
</tr>
<tr>
<td><strong>9 1/2 — 12 1/2</strong></td>
<td><strong>11 1/2 — 14</strong></td>
<td><strong>11 1/2 — 14</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Alternative Subject—

2.23 Chemical Instrumentation | 1 — 1 | 1 — 1 | 1 — 1 |

**THIRD YEAR**

*(34 weeks of 2 half days and 3 evenings per week)*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>2.34 Physical Chemistry</td>
<td>1 — 4</td>
<td>1 — 4</td>
<td>1 — 4</td>
</tr>
<tr>
<td>2.73 Mathematical Chemistry</td>
<td>1 — 0</td>
<td>1 — 0</td>
<td>1 — 0</td>
</tr>
<tr>
<td>2.64 Organic Chemistry</td>
<td>1 — 4</td>
<td>1 — 4</td>
<td>1 — 4</td>
</tr>
<tr>
<td>or <strong>2.64A</strong> Social Science Elective</td>
<td>2 — 0</td>
<td>2 — 0</td>
<td>0 — 0</td>
</tr>
<tr>
<td><strong>5 — 9</strong></td>
<td><strong>5 — 9</strong></td>
<td><strong>3 — 9</strong></td>
<td></td>
</tr>
</tbody>
</table>

* 2.64A is to be taken by students intending to take 2.65A or 2.65B in fourth year.
FOURTH YEAR
(34 weeks of 2 half days and 2 evenings per week)

<table>
<thead>
<tr>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>3.14</td>
<td>Industria lChemistry* ...</td>
<td>1(\frac{3}{4})</td>
</tr>
<tr>
<td>2.35</td>
<td>Applied Physical Chemistry</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
<tr>
<td>2.44</td>
<td>Inorganic Chemistry ...</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
<tr>
<td>2.65A or b</td>
<td>Applied Organic Chemistry ...</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
<tr>
<td>2.85</td>
<td>Nuclear and Radiation Chemistry ...</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
</tbody>
</table>

* Includes Factory visits.

HONOURS

Students desiring to take Honours must apply to the Head of the School of Chemistry not later than 31st December of the year in which the second year is completed. Practical training in the chemical industry will be undertaken in the long vacation between third and fourth years and in the first term of fourth year.

Candidates for Honours are required to complete the following programme in third and fourth years.

THIRD YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>2.34</td>
<td>Physical Chemistry</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
<tr>
<td>2.64</td>
<td>Organic Chemistry</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
<tr>
<td>2.64A</td>
<td>Mathematical Chemistry</td>
<td>1 - 0</td>
</tr>
<tr>
<td>3.14</td>
<td>Industrial Chemistry*</td>
<td>1(\frac{1}{4}) - (\frac{1}{4})</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Plus one of—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.44</td>
<td>Inorganic Chemistry ...</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
<tr>
<td>2.54</td>
<td>Quantitative Analysis ...</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
<tr>
<td>2.73</td>
<td>Mathematical Chemistry</td>
<td>1 - 0</td>
</tr>
<tr>
<td>2.85</td>
<td>Nuclear and Radiation Chemistry</td>
<td>1 - 4(\frac{1}{4})</td>
</tr>
</tbody>
</table>

* Includes Factory visits.

FIRST YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.11</td>
<td>Physics, Part I</td>
<td>1(\frac{1}{4}) - 1(\frac{1}{4})</td>
</tr>
<tr>
<td>2.41</td>
<td>General Chemistry, Part I</td>
<td>2 - 4</td>
</tr>
<tr>
<td>10.11-B Mathematics, Part I</td>
<td>2 - 1*</td>
<td>2 - 1*</td>
</tr>
<tr>
<td>5(\frac{1}{4}) - 6(\frac{1}{4})</td>
<td>5(\frac{1}{4}) - 6(\frac{1}{4})</td>
<td>5(\frac{1}{4}) - 6(\frac{1}{4})</td>
</tr>
</tbody>
</table>

* Tutorial.

* Includes Factory visits.
## Second Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1. lec. lab./tut.</th>
<th>Term 2. lec. lab./tut.</th>
<th>Term 3. lec. lab./tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.11 Physics, Part II</td>
<td>1½ – 1½</td>
<td>1½ – 1½</td>
<td>1½ – 1½</td>
</tr>
<tr>
<td>2.41 General Chemistry, Part II</td>
<td>1 – 2</td>
<td>1 – 2</td>
<td>1 – 2</td>
</tr>
<tr>
<td>5.101 Engineering Drawing and Materials</td>
<td>2 – 0</td>
<td>1 – 3</td>
<td>0 – 0</td>
</tr>
<tr>
<td>10.11-b Mathematics, Part II</td>
<td>2 – 1*</td>
<td>1 – 1*</td>
<td>1 – 1*</td>
</tr>
<tr>
<td></td>
<td>6½ – 4½</td>
<td>4½ – 7½</td>
<td>3½ – 4½</td>
</tr>
</tbody>
</table>

* Tutorial.

## Third Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1. lec. lab./tut.</th>
<th>Term 2. lec. lab./tut.</th>
<th>Term 3. lec. lab./tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.92 Physics*</td>
<td>1½ – 0</td>
<td>1½ – 1½</td>
<td>1½ – 1½</td>
</tr>
<tr>
<td>2.32 Physical Chemistry</td>
<td>1 – 0</td>
<td>1 – 0</td>
<td>1 – 2½</td>
</tr>
<tr>
<td>2.42 Inorganic Chemistry</td>
<td>1 – 2½</td>
<td>1 – 10</td>
<td>1 – 0</td>
</tr>
<tr>
<td>2.52 Quantitative Analysis</td>
<td>1 – 2½</td>
<td>1 – 2½</td>
<td>1 – 2½</td>
</tr>
<tr>
<td>2.62 Organic Chemistry</td>
<td>1 – 0</td>
<td>1 – 2½</td>
<td>1 – 0</td>
</tr>
<tr>
<td>2.72a Mathematical Chemistry</td>
<td>1 – 0</td>
<td>1 – 0</td>
<td>1 – 0</td>
</tr>
<tr>
<td></td>
<td>6½ – 5</td>
<td>6½ – 6½</td>
<td>6½ – 6½</td>
</tr>
</tbody>
</table>

* Alternative Subject—
2.23 Chemical Instrumentation | 1 – 1½ | 1 – 1½ | 1 – 1½ |

## Fourth Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1. lec. lab./tut.</th>
<th>Term 2. lec. lab./tut.</th>
<th>Term 3. lec. lab./tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.33 Physical Chemistry</td>
<td>1 – 2</td>
<td>1 – 2½</td>
<td>1 – 2½</td>
</tr>
<tr>
<td>2.53 Quantitative Analysis</td>
<td>1 – 2½</td>
<td>1 – 2½</td>
<td>1 – 2</td>
</tr>
<tr>
<td>2.63 Organic Chemistry</td>
<td>1 – 2½</td>
<td>1 – 2½</td>
<td>1 – 2</td>
</tr>
<tr>
<td>2.73 Mathematical Chemistry</td>
<td>1 – 0</td>
<td>1 – 0</td>
<td>1 – 0</td>
</tr>
<tr>
<td>3.14a Industrial Chemistry*</td>
<td>1½ – ¼</td>
<td>1½ – ¼</td>
<td>1½ – ¼</td>
</tr>
<tr>
<td></td>
<td>5½ – 7½</td>
<td>5½ – 7½</td>
<td>5½ – 7½</td>
</tr>
</tbody>
</table>

* Includes Factory visits.

## Fifth Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1. lec. lab./tut.</th>
<th>Term 2. lec. lab./tut.</th>
<th>Term 3. lec. lab./tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.34d Physical Chemistry</td>
<td>1 – 3</td>
<td>1 – 3</td>
<td>1 – 3</td>
</tr>
<tr>
<td>2.64d Inorganic Chemistry</td>
<td>1 – 3</td>
<td>1 – 3</td>
<td>1 – 3</td>
</tr>
</tbody>
</table>
| Plus one of—
2.35d Applied Physical Chemistry | 1 – 3 | 1 – 3 | 1 – 3 |
2.44d Organic Chemistry | 1 – 3 | 1 – 3 | 1 – 3 |
2.54d Quantitative Analysis | 1 – 3 | 1 – 3 | 1 – 3 |
2.5 Applied Organic Chemistry (A or B) | 1 – 3 | 1 – 3 | 1 – 3 |
2.85d Nuclear and Radiation Chemistry | 1 – 3 | 1 – 3 | 1 – 3 |
| | 3 – 9 | 3 – 9 | 3 – 9 |

## Sixth Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1. lec. lab./tut.</th>
<th>Term 2. lec. lab./tut.</th>
<th>Term 3. lec. lab./tut.</th>
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</thead>
<tbody>
<tr>
<td>G13 English or G23 History</td>
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<td>2 – 0</td>
<td>2 – 0</td>
</tr>
<tr>
<td>G30.1 Logic</td>
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<td>1 – 0</td>
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<tr>
<td>G43 Economics or G63 Psychology</td>
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<tr>
<td>G50.1 Government</td>
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<td>1 – 0</td>
<td>1 – 0</td>
</tr>
<tr>
<td></td>
<td>6 – 0</td>
<td>6 – 0</td>
<td>6 – 0</td>
</tr>
</tbody>
</table>

31
ADDITIONAL FOR HONOURS

Students desiring to take Honours must apply to the Head of the School of Chemistry not later than 31st December in the year in which the fifth year is completed. The full programme of study (i.e., the Humanities and the course set out below) may be taken over two part-time years or one full-time year.

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.44d Inorganic Chemistry ..........</td>
<td>1 - 3</td>
<td>1 - 3</td>
<td>1 - 3</td>
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<tr>
<td>Research Project</td>
<td>0 - 10</td>
<td>0 - 10</td>
<td>0 - 10</td>
</tr>
<tr>
<td>If 2.44d was taken in fifth year, then one of—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.35d Applied Physical Chemistry ..........</td>
<td>1 - 3</td>
<td>1 - 3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>2.54d Quantitative Analysis ................</td>
<td>1 - 3</td>
<td>1 - 3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>2.65 (A or B) Applied Organic Chemistry</td>
<td>1 - 3</td>
<td>1 - 3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>2.85d Nuclear and Radiation Chemistry</td>
<td>1 - 3</td>
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</tbody>
</table>

CONVERSION COURSE IIc—APPLIED CHEMISTRY

Holders of a diploma in Chemistry who have completed the course of study prior to 1954 are required to complete the following additional subjects to qualify for the degree of Bachelor of Science:*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th></th>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>lec. lab./tut.</td>
<td></td>
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<tr>
<td>10.11 Mathematics, Part II ..................</td>
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</tr>
<tr>
<td>1.11 Physics, Part II ........................</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Conversion Humanities—English, or History or Philosophy ..........</td>
<td>2</td>
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</tr>
<tr>
<td>and Psychology, or Economics or Government ..</td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition, a thesis must be presented which may involve advanced laboratory work, together with any special subjects prescribed in each case.

The student is required to attend full time for one academic year or for such other time as approved by the Professorial Board.

* Diplomates of later than 1954 who desire to qualify for the degree proceed with Stage VI of Course IIb1.

SCHOOL OF CHEMICAL ENGINEERING

The courses in Chemical Engineering and Industrial Chemistry are planned to give students a broad training in the fundamentals of science, chemistry and engineering, and knowledge of the engineering principles basic to design, construction and operation of plant and equipment. The work in chemistry, physics and mathematics is the same as that given in the Applied Chemistry and the Metallurgy courses in the first year of the full-time courses and in the first and second years of the part-time courses. In subsequent years students in the School of Chemical Engineering take, in addition to the fundamental studies, courses in mechanical, electrical and chemical engineering and industrial chemistry.

COURSE III—CHEMICAL ENGINEERING

This course may be taken at Pass or Honours standard. The Pass course extends over four years of 34 weeks each and the Honours course over five years.

The course in Chemical Engineering is closely linked with practical training in industry. Combined academic study and works practice is undertaken by Pass students in their fourth year, and by Honours students in their fifth year. During these years students attend the University on a part-time basis.

Students enrolled in any year of the Chemical Engineering full-time degree course in 1956 will complete the syllabus as set out in the 1956 Handbook.

FIRST YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th></th>
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<tbody>
<tr>
<td>lec. lab./tut.</td>
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</tr>
<tr>
<td>Term 1</td>
<td>Term 2</td>
<td>Term 3</td>
<td></td>
</tr>
<tr>
<td>1.11 Physics ..................</td>
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<td>3 - 3</td>
<td>3 - 3</td>
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<tr>
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<td>2 - 0</td>
<td>1 - 3</td>
<td>0 - 0</td>
</tr>
<tr>
<td>5.211 Workshop Processes and Practice</td>
<td>0 - 0</td>
<td>0 - 0</td>
<td>0 - 3</td>
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<tr>
<td>10.11 Mathematics ..........................</td>
<td>4 - 2*</td>
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<tr>
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<td>10 - 14</td>
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* Tutorial.
## SECOND YEAR

*(34 weeks day course)*

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<th>Term 3</th>
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<tbody>
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<td>Hours per week.</td>
<td>Hours per week.</td>
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<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
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<td>1.2</td>
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<tr>
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<td>1.2</td>
</tr>
<tr>
<td>2.33 Physical Chemistry</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>2.42 Inorganic Chemistry</td>
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<td>1.2</td>
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<tr>
<td>2.5A Quantitative Analysis</td>
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<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>8.13 Theory of Structures</td>
<td>1.1</td>
<td>1.1</td>
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<td>8.92 Properties of Materials</td>
<td>1.0</td>
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<tr>
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<td>13 1/2</td>
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</table>

## THIRD YEAR

*(34 weeks day course)*

<table>
<thead>
<tr>
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<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours per week.</td>
<td>Hours per week.</td>
<td>Hours per week.</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>3.14 Industrial Chemistry*</td>
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</tr>
<tr>
<td>3.34 Chemical Engineering</td>
<td>1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>3.44 Chemical Engineering</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>3.54 Chemical Engineering</td>
<td>2.0</td>
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<tr>
<td>5.33 Theory of Machines</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>5.72 Thermodynamics</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>6.94 Electrical Engineering</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Social Science Elective</td>
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<td>0.0</td>
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<tr>
<td>13 1/2</td>
<td>9 1/2</td>
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</tbody>
</table>

* Includes factory visits. † Tutorial.

## FOURTH YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours per week.</td>
<td>Hours per week.</td>
<td>Hours per week.</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>3.34 Chemical Engineering</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
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<td>0.0</td>
</tr>
<tr>
<td>2.35 Chemical Engineering</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
<td>3.0</td>
<td>0.0</td>
</tr>
<tr>
<td>3.35 Advanced Chemical Engineering Design</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Chemical Engineering Project</td>
<td>0.0</td>
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</tr>
<tr>
<td>3.75 Chemical Engineering Project</td>
<td>2.0</td>
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</table>

## FIFTH YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours per week.</td>
<td>Hours per week.</td>
<td>Hours per week.</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>3.35 Advanced Chemical Engineering Design</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Chemical Engineering Project</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>3.75 Chemical Engineering Project</td>
<td>2.0</td>
<td>3.0</td>
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</tbody>
</table>

### COURSE IIIb1—CHEMICAL ENGINEERING

Course IIIb1 has been designed for students in appropriate employment in the chemical industry. The programme of study...
is equivalent to that of Course III, but in Course IIIb1 attendance is required over seven part-time years for a Pass degree and over eight part-time years for an Honours degree.

**FIRST YEAR**

**(34 weeks part-time course)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.11 Physics, Part I</td>
<td>$1 \frac{1}{2}$</td>
<td>$1 \frac{1}{2}$</td>
<td>$1 \frac{1}{2}$</td>
</tr>
<tr>
<td>2.41 General Chemistry, Part I</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10.11-b Mathematics, Part I</td>
<td>2 - 1*</td>
<td>2 - 1*</td>
<td>2 - 1*</td>
</tr>
</tbody>
</table>

* Tutorial.

**SECOND YEAR**

**(34 weeks part-time course)**

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>1.11 Physics, Part II</td>
<td>$1 \frac{1}{2}$</td>
<td>$1 \frac{1}{2}$</td>
<td>$1 \frac{1}{2}$</td>
</tr>
<tr>
<td>2.41 General Chemistry, Part II</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5.101 Engineering Drawing and Materials</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5.211 Workshop Processes and Practice</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10.11-b Mathematics, Part II</td>
<td>2 - 1*</td>
<td>1 - 1*</td>
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* Tutorial.

**THIRD YEAR**

**(34 weeks part-time course)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
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</thead>
<tbody>
<tr>
<td>1.92 Physics</td>
<td>$1 \frac{1}{2}$</td>
<td>$1 \frac{1}{2}$</td>
<td>$1 \frac{1}{2}$</td>
</tr>
<tr>
<td>2.32 Physical Chemistry</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2.42 Inorganic Chemistry</td>
<td>1 - 2</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>2.62 Organic Chemistry</td>
<td>1</td>
<td>1 - 2</td>
<td>1</td>
</tr>
<tr>
<td>8.132 Theory of Structures</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8.92 Properties of Materials</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>10.22 Mathematics</td>
<td>1</td>
<td>1</td>
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* Tutorial.

**FOURTH YEAR**

**(34 weeks part-time course)**

<table>
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<th>Term 3.</th>
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<tbody>
<tr>
<td>2.33 Physical Chemistry</td>
<td>1 - 2</td>
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<td>1 - 2</td>
</tr>
<tr>
<td>2.52a Quantitative Analysis</td>
<td>1 - 3</td>
<td>1 - 2</td>
<td>1 - 0</td>
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<tr>
<td>2.63 Organic Chemistry</td>
<td>1 - 2</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>10.23 Mathematics</td>
<td>2 - 0</td>
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<td>lec. lab./tut.</td>
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<tr>
<td>2.33</td>
<td>2.52a</td>
<td>2.63</td>
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<tr>
<td>10.23</td>
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<th>Term 3.</th>
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<td>5 - 7</td>
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</table>

**FIFTH YEAR**

**(34 weeks part-time course)**

<table>
<thead>
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<th>Course</th>
<th>Term 1.</th>
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<th>Term 3.</th>
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</thead>
<tbody>
<tr>
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<td>1 - 2</td>
</tr>
<tr>
<td>3.44 Chemical Engineering Calculations</td>
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<td>2 - 0</td>
</tr>
<tr>
<td>5.33a Theory of Machines</td>
<td>1 - 1*</td>
<td>1 - 1*</td>
<td>0 - 2*</td>
</tr>
<tr>
<td>5.72d Thermodynamics</td>
<td>1 - 2</td>
<td>1 - 2</td>
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<tr>
<td>6.94 Electrical Engineering</td>
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<tr>
<th>Term 1.</th>
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<th>Term 3.</th>
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<td>lec. lab./tut.</td>
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<tr>
<td>6 - 6</td>
<td>6 - 6</td>
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</tbody>
</table>

† Includes Factory visits.

* Tutorial.

**SIXTH YEAR**

**(34 weeks part-time course)**

<table>
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<th>Term 1.</th>
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<tbody>
<tr>
<td>3.24d Chemical Engineering Unit Operations</td>
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<td>3.34d Chemical Engineering Design</td>
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<td>2 - 2</td>
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<tr>
<td>3.54 Chemical Engineering Materials</td>
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<th>Term 3.</th>
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<td>lec. lab./tut.</td>
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37
SEVENTH YEAR

(34 weeks part-time course)

<table>
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<th>Term 3.</th>
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<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
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<td>2 - 0</td>
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<td>G30.1 Logic</td>
<td>1 - 0</td>
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<td>1 - 0</td>
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<tr>
<td>G43 Economics or G63 Psychology</td>
<td>2 - 0</td>
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<td>G50.1 Government</td>
<td>1 - 0</td>
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</tr>
</tbody>
</table>

ADDITIONAL FOR HONOURS

Students desiring to take Honours must apply to the Professor of Chemical Engineering not later than 31st December of the year in which the sixth year is completed. The undermentioned additional courses must be taken. The first year of the additional work may be combined with the normal seventh year or taken separately. In either case two years' part-time attendance is required.

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
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<th>Term 3.</th>
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<td>lec. lab./tut.</td>
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<td>4 - 3</td>
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<td>3.35 Advanced Chemical Engineering</td>
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<td>3.75 Chemical Engineering Project</td>
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</tr>
<tr>
<td>3.55 Chemical Engineering Materials</td>
<td>3 - 0</td>
<td>3 - 0</td>
<td>3 - 0</td>
</tr>
<tr>
<td>3.65 Chemical Engineering Thermodynamics and Kinetics</td>
<td>2 - 3</td>
<td>2 - 3</td>
<td>2 - 3</td>
</tr>
<tr>
<td>6.95 Electrical Engineering</td>
<td>4 - 3</td>
<td>4 - 3</td>
<td>4 - 3</td>
</tr>
</tbody>
</table>

FIRST YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.11 Physics, Part I</td>
<td>1½ - 1½</td>
<td>1½ - 1½</td>
<td>1½ - 1½</td>
</tr>
<tr>
<td>2.41 General Chemistry, Part I</td>
<td>2 - 4</td>
<td>2 - 4</td>
<td>2 - 4</td>
</tr>
<tr>
<td>10.11-b Mathematics, Part I</td>
<td>2 - 1*</td>
<td>2 - 1*</td>
<td>2 - 1*</td>
</tr>
</tbody>
</table>

SECOND YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.11 Physics, Part II</td>
<td>1½ - 1½</td>
<td>1½ - 1½</td>
<td>1½ - 1½</td>
</tr>
<tr>
<td>2.41 General Chemistry, Part II</td>
<td>1 - 2</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>5.101 Engineering Drawing and Materials</td>
<td>2 - 0</td>
<td>1 - 3</td>
<td>0 - 0</td>
</tr>
<tr>
<td>10.11-b Mathematics, Part II</td>
<td>2 - 1*</td>
<td>1 - 1*</td>
<td>1 - 1*</td>
</tr>
</tbody>
</table>

THIRD YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.92 Physics*</td>
<td>1½ - 0</td>
<td>1½ - 0</td>
<td>1½ - 0</td>
</tr>
<tr>
<td>2.32 Physical Chemistry</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>2.42 Inorganic Chemistry</td>
<td>1 - 2½</td>
<td>1 - 2½</td>
<td>1 - 2½</td>
</tr>
<tr>
<td>2.352 Quantitative Analysis</td>
<td>1 - 2½</td>
<td>1 - 2½</td>
<td>1 - 2½</td>
</tr>
<tr>
<td>2.62 Organic Chemistry</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>2.72 Mathematical Chemistry</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
</tbody>
</table>

COURSE III (1)—INDUSTRIAL CHEMISTRY

This course provides part-time instruction for students in appropriate employment in the chemical industry. Students are given a sound general background of fundamental sciences, with particular emphasis on analytical chemistry, and are then trained in the broad aspects of plant and process development.

The course may be taken at Pass or Honours standard. Students taking a Pass degree may complete the course in six years, while those attempting Honours take additional work in the sixth year and are required to complete a seventh year.
### Fourth Year

**Fifth Year**

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>2.33 Physical Chemistry</td>
<td>1 - 2</td>
<td>1 - 2 1/2</td>
</tr>
<tr>
<td>2.53 Quantitative Analysis</td>
<td>1 - 2 1/2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>2.73 Mathematical Chemistry</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>3.14 Industrial Chemistry</td>
<td>1 1/2 - 2 1/2</td>
<td>1 1/2 - 2 1/2</td>
</tr>
<tr>
<td>3.15 Industrial Chemistry</td>
<td>1 - 3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>3.44 Chemical Engineering Calculations</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>3.54 Chemical Engineering Materials</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>4 - 6</td>
<td>6 - 6</td>
<td>6 - 6</td>
</tr>
</tbody>
</table>

### Sixth Year

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>G13 English or G23 History</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G30.1 Logic</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>G43 Economics or G63 Psychology</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G50.1 Government</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>6 - 0</td>
<td>6 - 0</td>
<td>6 - 0</td>
</tr>
</tbody>
</table>

### Additional for Honours

Students desiring to take Honours must apply to the Professor of Chemical Engineering not later than 31st December of the year in which the fifth year is completed. The undermentioned additional courses must be taken. Portion of the additional work may be combined with the normal sixth year and the remainder completed in the seventh year.

### Seventh Year

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>3.55 Chemical Engineering Materials</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>Industrial Safety (General)</td>
<td>1 1/2 - 0</td>
<td>1 1/2 - 0</td>
</tr>
<tr>
<td>Advanced Industrial Chemistry</td>
<td>3 - 0</td>
<td>3 - 0</td>
</tr>
<tr>
<td>Industrial Chemistry Project</td>
<td>0 - 12</td>
<td>0 - 12</td>
</tr>
</tbody>
</table>

### Conversion Course IIIc—Chemical Engineering

Holders of a diploma in Chemical Engineering are required to complete the following additional work in order to qualify for the degree of Bachelor of Science.

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>10.11 Mathematics, Part II</td>
</tr>
<tr>
<td>1.11 Physics, Part II</td>
</tr>
<tr>
<td>Conversion Humanities—English, or History or Philosophy</td>
</tr>
<tr>
<td>and Psychology, or Economics or Government</td>
</tr>
<tr>
<td>40.1 plus advanced laboratory work on a specified project and the presentation of a thesis, together with such special subjects as are prescribed in each case.</td>
</tr>
<tr>
<td>The student is required to attend either for one full-time academic year in accordance with the dates prescribed for the normal final year of the undergraduate course, or for such other time as approved by the Professorial Board.</td>
</tr>
</tbody>
</table>
The 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 applied to problems relating to the extraction, refining, working, fabrication and use of metals.

Details of the first degree courses in Metallurgy available at Newcastle University College are shown hereunder.

**COURSE IVB—METALLURGY**

This part-time course, which leads to the degree of Bachelor of Science, extends over seven years of three terms each. Students are required to have at least three years' experience in a metallurgical industry or institution before completing the course.

### FIRST YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Details</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.11</td>
<td>Physics, Part I</td>
<td>1½–1½</td>
</tr>
<tr>
<td>2.41</td>
<td>General Chemistry, Part I</td>
<td>2–4</td>
</tr>
<tr>
<td>10.11-B</td>
<td>Mathematics, Part I</td>
<td>2–1*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6½–6½</td>
</tr>
</tbody>
</table>

* Tutorial.

### SECOND YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Details</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.11</td>
<td>Physics, Part II</td>
<td>1½–1½</td>
</tr>
<tr>
<td>2.41</td>
<td>General Chemistry, Part II</td>
<td>2–2½</td>
</tr>
<tr>
<td>5.101</td>
<td>Engineering Drawing and</td>
<td>2–0</td>
</tr>
<tr>
<td></td>
<td>Materials</td>
<td>6½–7½</td>
</tr>
<tr>
<td>5.211</td>
<td>Workshop Processes and Practice</td>
<td>0–0</td>
</tr>
<tr>
<td>10.11-B</td>
<td>Mathematics, Part II</td>
<td>2–1*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6½–7½</td>
</tr>
</tbody>
</table>

* Tutorial.

### THIRD YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours per week.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.92</td>
<td>Physics</td>
<td>1½–0</td>
</tr>
<tr>
<td>2.32</td>
<td>Physical Chemistry</td>
<td>1–2½</td>
</tr>
<tr>
<td>2.52</td>
<td>Quantitative Analysis</td>
<td>1–2½</td>
</tr>
<tr>
<td>2.72</td>
<td>Mathematical Chemistry</td>
<td>1–0</td>
</tr>
<tr>
<td>4.12</td>
<td>General Metallurgy</td>
<td>2–0</td>
</tr>
<tr>
<td>8.912</td>
<td>Properties of Materials (equivalent time)</td>
<td>1–1½</td>
</tr>
<tr>
<td>7½–6½</td>
<td>6½–5½</td>
<td>4½–4</td>
</tr>
</tbody>
</table>

### FOURTH YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours per week.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>2.33</td>
<td>Physical Chemistry</td>
<td>1–1</td>
</tr>
<tr>
<td>3.42</td>
<td>Inorganic Chemistry</td>
<td>1–0</td>
</tr>
<tr>
<td>2.73</td>
<td>Mathematical Chemistry</td>
<td>1–0</td>
</tr>
<tr>
<td>4.32</td>
<td>Physical Metallurgy I</td>
<td>1–3</td>
</tr>
<tr>
<td>7.612</td>
<td>Mineralogy</td>
<td>1–1½</td>
</tr>
<tr>
<td>5–5½</td>
<td>6–5½</td>
<td>6–4</td>
</tr>
</tbody>
</table>

### FIFTH YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours per week.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>4.22</td>
<td>Metallurgical Engineering I</td>
<td>2–2½–1</td>
</tr>
<tr>
<td>4.33</td>
<td>Physical Metallurgy II</td>
<td>2–3½</td>
</tr>
<tr>
<td>4–6½</td>
<td>4–7</td>
<td>4–7</td>
</tr>
</tbody>
</table>

† Includes one hour report writing.
SIXTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>HOURS PER WEEK</th>
<th>TERM 1</th>
<th>TERM 2</th>
<th>TERM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>4.23 Metallurgical Engineering</td>
<td>2 - 3</td>
<td>2 - 3</td>
<td>2 - 5</td>
</tr>
<tr>
<td>4.44A Industrial Metallurgy*</td>
<td>2 - 1</td>
<td>2 - 1</td>
<td>1 - 0</td>
</tr>
<tr>
<td>4.54 Metallurgy Seminar†</td>
<td>1 - 0</td>
<td>0 - 2</td>
<td>0 - 0</td>
</tr>
<tr>
<td>4.23 Metallurgical Engineering IIb</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>6.83D Electrical Engineering</td>
<td>1 - 2</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
</tbody>
</table>

- Includes Factory visits.
- † Report and paper presentation covered in first term.

SEVENTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>HOURS PER WEEK</th>
<th>TERM 1</th>
<th>TERM 2</th>
<th>TERM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>G13 English or G23 History</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G30.1 Logic</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>G43 Economics or G53 Psychology</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G50.1 Government</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
</tbody>
</table>

- Total: 6 - 0 6 - 0 6 - 0

CONVERSION COURSE IVc2—METALLURGY

Conversion course to Bachelor of Science from current Metallurgy diploma course (Newcastle and Wollongong).

<table>
<thead>
<tr>
<th>HOURS PER WEEK</th>
<th>VIZ.</th>
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</thead>
<tbody>
<tr>
<td>1.42d Physics</td>
<td>3\frac{1}{2}</td>
</tr>
<tr>
<td>2.72 Mathematical Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>2.73 Mathematical Chemistry</td>
<td>1</td>
</tr>
<tr>
<td>4.54 Metallurgy Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

- Together with any special subjects prescribed.

SCHOOL OF MECHANICAL ENGINEERING

The courses in Mechanical Engineering are planned to provide a sufficient foundation of basic science applied to engineering methods and techniques to prepare the graduate to enter any industry dealing with heat, power, materials and machinery. The course does not attempt to teach current commercial practice or specialised knowledge of the product of any one industry. On the contrary, undergraduates are expected to obtain their practical experience by direct service in industry.

In general, instruction by lectures is paralleled by laboratory work in which the student is given opportunity, not only to familiarise himself with materials, engines and machinery, but also to develop his ability to apply theory to the analysis of their characteristics.

COURSE V—MECHANICAL ENGINEERING

Course V is of four years’ duration. The first three years of the course each require attendance at the University for twenty-four weeks. For the remainder of each of these years the student gains practical experience in industry. The fourth year requires full-time day attendance for thirty-four weeks.

During the first two years the fundamental subjects which are the basis of the student’s later professional work are studied, viz., mathematics, chemistry, physics and applied mechanics, a thorough knowledge of which is essential in all branches of mechanical engineering. The student is also trained in elements of the more important mechanical processes in order that he may acquire the knowledge of modern machine tools, foundry practice, forging and welding, necessary for the successful designer of machinery. This knowledge is further enlarged by three periods in industry between the various academic sessions. The first two periods are spent in engineering workshops and the third in a drawing office.
The professional work of the third and fourth years includes the study of the mechanics of fluids and of rigid and elastic bodies with applications to design. The study of thermodynamics is applied to heat engineering, and to the analysis and design of power plants, turbines, steam and internal combustion engines, industrial heating, and to refrigeration and air conditioning systems. Engineering processes are considered in relation to design for production; and work on metrology, gauges and fixtures, tool design, tolerances and inspection is introduced.

The professional elective subjects in the fourth year permit students to choose a broad phase of mechanical engineering as a special study. In this way the student learns to use libraries and technical journals, and is made to realise how fully the knowledge he has gained during his course is used in engineering development and practice. The preparation of a thesis provides a training in report-writing and in technical exposition.

**FIRST YEAR**
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics</td>
<td>3 - 3</td>
<td>3 - 3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>3 - 3</td>
<td>3 - 0</td>
</tr>
<tr>
<td>Engineering Drawing</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
</tr>
<tr>
<td>Mechanical Technology</td>
<td>2 1/2 - 0</td>
<td>2 1/2 - 0</td>
</tr>
<tr>
<td>Descriptive Geometry</td>
<td>1 - 2 1/2*</td>
<td>1 - 2 1/2*</td>
</tr>
<tr>
<td>Engineering Mechanics</td>
<td>1 - 1*</td>
<td>1 - 1*</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4 - 2*</td>
<td>4 - 2*</td>
</tr>
<tr>
<td>English</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

* Tutorial.  

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 1/2 - 14 1/2</td>
</tr>
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</table>

**SECOND YEAR**
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics</td>
<td>2 - 2 1/2</td>
<td>2 - 2 1/2</td>
</tr>
<tr>
<td>Materials Technology</td>
<td>1 1/2 - 2</td>
<td>1 1/2 - 2</td>
</tr>
<tr>
<td>Mechanical Technology</td>
<td>3 - 0</td>
<td>3 - 0</td>
</tr>
<tr>
<td>Engineering Mechanics</td>
<td>1 1/2 - 1*</td>
<td>1 1/2 - 1*</td>
</tr>
<tr>
<td>Fluid Mechanics</td>
<td>1 - 1 1/2*</td>
<td>1 - 1 1/2*</td>
</tr>
<tr>
<td>Thermodynamics</td>
<td>1 - 1 1/2*</td>
<td>1 - 1 1/2*</td>
</tr>
<tr>
<td>Theory of Structures</td>
<td>1 1/2 - 1*</td>
<td>1 1/2 - 1*</td>
</tr>
<tr>
<td>Properties of Materials</td>
<td>0 - 0</td>
<td>1 - 2</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3 - 2*</td>
<td>3 - 2*</td>
</tr>
<tr>
<td>History</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

* Tutorial.  

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 1/2 - 11 1/2</td>
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</tbody>
</table>

**THIRD YEAR**
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1.</th>
<th>Term 2.</th>
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</thead>
<tbody>
<tr>
<td>Mechanical Engineering Design</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
</tr>
<tr>
<td>Mechanical Technology</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Theory of Machines</td>
<td>1 1/2 - 1*</td>
<td>1 1/2 - 1*</td>
</tr>
<tr>
<td>Fluid Mechanics</td>
<td>1 - 1 1/2*</td>
<td>1 - 1 1/2*</td>
</tr>
<tr>
<td>Thermodynamics</td>
<td>1 - 1 1/2*</td>
<td>1 - 1 1/2*</td>
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<td>Electrical Engineering</td>
<td>2 - 3</td>
<td>2 - 3</td>
</tr>
<tr>
<td>Structures (Theory and Design)</td>
<td>2 - 3*</td>
<td>2 - 3*</td>
</tr>
<tr>
<td>Engineering Computations</td>
<td>1 1/2 - 0</td>
<td>1 1/2 - 0</td>
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<tr>
<td>Philosophy</td>
<td>2 - 0</td>
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<tr>
<td>Social Science Elective</td>
<td>2 - 0</td>
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</table>

* Tutorial.  

<table>
<thead>
<tr>
<th>Hours per week.</th>
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</thead>
<tbody>
<tr>
<td>15 - 14</td>
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</table>

**NOTE.**-A survey camp of one week's duration will be held in the third week of third term.
### FOURTH YEAR

*(34 weeks day course)*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
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<td>lec. lab./tut.</td>
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<td><strong>2U</strong> 5.13 Mechanical Engineering Design</td>
<td>0 - 4½*</td>
<td>0 - 4½*</td>
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<td><strong>3C</strong> 5.14 Mechanical Engineering Design</td>
<td>0 - 3*</td>
<td>0 - 6*</td>
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<tr>
<td><strong>3C</strong> 5.34 Theory of Machines</td>
<td>1 - 2*</td>
<td>1 - 2*</td>
<td></td>
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<tr>
<td><strong>3C</strong> 5.34 Fluid Mechanics</td>
<td>1 - 1½ - 1½*</td>
<td>1 - 1½ - 1½*</td>
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<tr>
<td><strong>3C</strong> Professional Elective II</td>
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<td>0 - 0</td>
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<td>2 - 0</td>
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<tr>
<td>Thesis Work</td>
<td>0 - 0</td>
<td>0 - 0</td>
<td>0 - 26</td>
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<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td></td>
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</table>

8½ - 20 8½ - 23 2 - 26

* Tutorial.

**PROFESSIONAL ELECTIVE SUBJECTS**

The full range of professional elective subjects is as shown hereunder. Not all subjects are offered every year—

- Automatic Control Engineering
- Electric Power Generation and Utilization
- Internal Combustion Engines and Gas Turbines
- Production Engineering Design
- Refrigeration, Ventilation and Air Conditioning
- Steam Engineering

**COURSE Vb—MECHANICAL ENGINEERING**

Course Vb has been designed for students employed in an appropriate position in industry. The work undertaken is equivalent to that covered in Course V, but Course Vb extends over seven part-time years, satisfactory completion of which, together with the necessary occupational experience, qualifies for the degree of Bachelor of Engineering (Pass or Honours). At least three years of appropriate industrial experience is required and this should include at least six months in an engineering workshop and at least six months in a Drawing Office.

### FIRST YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
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</thead>
<tbody>
<tr>
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<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
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<tr>
<td><strong>3C</strong> 1.41d Physics</td>
<td>1½ - 1½</td>
<td>1½ - 1½</td>
<td>1½ - 1½</td>
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<tr>
<td><strong>3C</strong> 2.11d Chemistry</td>
<td>1 - 1</td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td><strong>3C</strong> 5.11d Engineering Drawing</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
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<tr>
<td><strong>3C</strong> 5.41d Descriptive Geometry</td>
<td>1 - 0</td>
<td>1 - 0</td>
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<tr>
<td><strong>3C</strong> 8.11d Engineering Mechanics</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
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<tr>
<td><strong>3C</strong> 10.11 Mathematics, Part I</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
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<tr>
<td><strong>3C</strong> 6.74d Electronic Engineering</td>
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<td><strong>3C</strong> 0.12d Professional Elective</td>
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* Tutorial.

† 1st Half Year—Descriptive Geometry. 2nd Half Year—Engineering Drawing.

### SECOND YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
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<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
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<tr>
<td><strong>3C</strong> 4.912d Materials Technology</td>
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<tr>
<td><strong>3C</strong> 5.21d Mechanical Technology</td>
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<tr>
<td><strong>3C</strong> 5.22d Mechanical Technology</td>
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<td>1½ - 1½</td>
<td>1½ - 1½</td>
</tr>
<tr>
<td><strong>3C</strong> 8.112d Theory of Structures</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
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<tr>
<td><strong>3C</strong> 8.42d Surveying</td>
<td>0 - 0</td>
<td>0 - 0</td>
<td>1 - 2</td>
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<tr>
<td><strong>3C</strong> 8.92d Properties of Materials</td>
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<tr>
<td><strong>3C</strong> 10.11 Mathematics, Part II</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
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<tr>
<td><strong>3C</strong> G10 English</td>
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8½ - 2½ 7½ - 2½ 8 - 4

6 periods (4 held) Tutorial. 6 periods for field work.

### THIRD YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
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<tr>
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<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td><strong>3C</strong> 5.13d Mechanical Engineering Design</td>
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<td>0 - 3*</td>
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<tr>
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<td>1½ - 1½</td>
<td>1½ - 1½</td>
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<tr>
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<td>1 - 1½</td>
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<tr>
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<td>1 - 2*</td>
<td>1 - 2*</td>
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<td>1 - 2*</td>
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</tr>
<tr>
<td><strong>3C</strong> 10.11 Mathematics, Part I</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
<td>1½ - 3½*</td>
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5½ - 7 5½ - 7 4½ - 8

* Tutorial.
### FOURTH YEAR

**45 weeks part-time course**

<table>
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<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
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<td>Hours per week</td>
<td>Hours per week</td>
<td>Hours per week</td>
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<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
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<tr>
<td>Theory of Machines</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Fluid Mechanics</td>
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</table>

* Tutorial.

### FIFTH YEAR

**45 weeks part-time course**

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<th>Term 3</th>
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<tbody>
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<td>Hours per week</td>
<td>Hours per week</td>
<td>Hours per week</td>
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<tr>
<td>lec. lab./tut.</td>
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<tr>
<td>Thermodynamics</td>
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<td>Seminar</td>
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<tr>
<td>—</td>
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* Tutorial.

### SIXTH YEAR

**45 weeks part-time course**

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<th>Term 3</th>
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</thead>
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<td>Hours per week</td>
<td>Hours per week</td>
<td>Hours per week</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
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<tr>
<td>Physics</td>
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<tr>
<td>Theory of Machines</td>
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<td>0</td>
</tr>
<tr>
<td>Engineering Computation</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics, Part II</td>
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<td>0</td>
</tr>
<tr>
<td>Philosophy</td>
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<td>—</td>
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<tr>
<td>—</td>
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* Tutorial.

### SEVENTH YEAR

**45 weeks part-time course**

<table>
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<th>Term 3</th>
</tr>
</thead>
<tbody>
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<td>Hours per week</td>
<td>Hours per week</td>
<td>Hours per week</td>
</tr>
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<td>lec. lab./tut.</td>
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<td>Professional Elective</td>
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<tr>
<td>Thesis Work</td>
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<tr>
<td>Social Science Elective</td>
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<td>1</td>
</tr>
<tr>
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<td>4</td>
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<tr>
<td>—</td>
<td>2</td>
<td>3</td>
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</table>

* Tutorial.

† As set out for the fourth year of Course V—Mechanical Engineering.

Conversion Course Vc for diplomates in mechanical engineering of the New South Wales Department of Technical Education has been discontinued. Holders of this diploma, if issued by the Sydney Technical College between 31st December, 1950, and 30th June, 1957, who wish to proceed to a degree in mechanical engineering will now be admitted to Course VB with advanced standing. They will be required to pass the following subjects,

10.12 Mathematics, Part I,

G20 History,

G10 English,

together with the sixth and seventh years of Course VB.

Students currently enrolled in the Mechanical Engineering Conversion course will complete the syllabus for this course as set out in the 1958 Handbook.
SCHOOL OF ELECTRICAL ENGINEERING

In preparation for a career in any branch of electrical engineering the student must acquire a knowledge of the basic sciences of mathematics and physics. Students should realise that electrical engineering, perhaps more than most other branches of engineering, is closely linked with the pure sciences, and requires a scientific outlook and approach for a proper understanding of the problems in electrical engineering.

There are three main branches of electrical engineering, viz.:—(a) Power apparatus and systems—concerned mainly with electrical machinery, power generation, transmission and power systems; (b) Utilization and control—concerned with the utilization and control of electrical plant and applied electronics; (c) Communications—concerned with radio and line communications, radar and other navigational aids and television. In the early stages of the course, students will concentrate on acquiring a knowledge of the basic science subjects of mathematics, physics and chemistry but will have some introduction to engineering. However, advanced students are given an opportunity to specialise in their field of interest. They may select, with the approval of the Professor, to study one of the three branches (a) Power Apparatus and Systems, (b) Utilization and Control, or (c) Communications, but will be required to study a common subject of Electrical Engineering. This will cover the portions of electrical engineering such as measurements, electron physics, servomechanisms, electric circuit and field theory and electronics, which are common to all three fields of study.

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

Provision is made in the full-time course for students to undertake additional work in their third and fourth years towards the award of an Honours degree.

Five courses are provided leading to the degree of Bachelor of Engineering, viz.:—

Course VI, a four-year day course.

Course VIb, a part-time course extending over seven years.

Conversion Course VIc1 for Associates of Sydney Technical College in both Electrical and Radio Engineering.

Conversion Course VIc2 for Associates of Sydney Technical College in Electrical Engineering.

Conversion Course VIc3 for Associates of Sydney Technical College in Radio Engineering.

COURSE VI.—ELECTRICAL ENGINEERING

Course VI is of four years' duration. The first three years of the course each require attendance at the University for twenty-four weeks. For the remainder of each of these years the student gains practical experience in industry. The fourth year requires full-time day attendance for thirty-four weeks.

The first and second years of the full-time course are offered at Newcastle. The remainder of the course may be completed in Sydney at the University of New South Wales.

FIRST YEAR

(24 weeks day course)

<table>
<thead>
<tr>
<th>Term 1</th>
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<td>1.41</td>
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<td>2.111</td>
<td>Chemistry</td>
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<td>5.11</td>
<td>Engineering Drawing</td>
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<td>5.21</td>
<td>Mechanical Technology</td>
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<tr>
<td>5.41</td>
<td>Descriptive Geometry</td>
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<td>8.11</td>
<td>Engineering Mechanics</td>
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<td>10.11</td>
<td>Mathematics</td>
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<tr>
<td>G10</td>
<td>English</td>
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<td><strong>Total</strong></td>
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* Tutorial.
SECOND YEAR
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1 lec. lab./tut.</th>
<th>Term 2 lec. lab./tut.</th>
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<tbody>
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<td>3</td>
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<tr>
<td>4.912 Materials Technology</td>
<td>1 1/2</td>
<td>1 1/2</td>
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<tr>
<td>5.72 Thermodynamics</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6.12 Electric Circuit Theory</td>
<td>2</td>
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</tr>
<tr>
<td>8.112 Theory of Structures</td>
<td>1 1/2</td>
<td>1</td>
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<td>8.92 Properties of Materials</td>
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<td>2</td>
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<tr>
<td>10.12 Mathematics</td>
<td>3</td>
<td>2*</td>
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<tr>
<td>10.62 Applied Mathematics</td>
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<tr>
<td>G20 History</td>
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Total: 18 - 13

** Tutorial.

THIRD YEAR
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1 lec. lab./tut.</th>
<th>Term 2 lec. lab./tut.</th>
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<tbody>
<tr>
<td>5.33A Theory of Machines</td>
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<td>1</td>
</tr>
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<td>6.13 Electric Circuit Theory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6.23 Electric Power Engineering</td>
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<td>3</td>
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<tr>
<td>6.303 Electronics</td>
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<td>3</td>
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<tr>
<td>8.41 Surveying† (equiv. time)</td>
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<td>1/2</td>
</tr>
<tr>
<td>10.33 Mathematics</td>
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</tr>
<tr>
<td>** 5.52 Fluid Mechanics</td>
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<tr>
<td>**10.63 Statistics</td>
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<td>G30 Philosophy</td>
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<tr>
<td>Social Science Elective</td>
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</tr>
</tbody>
</table>

Total: 17 1/2 - 12

** Tutorial.

† A Survey Camp of one week's duration will be held in third week of third term.

** Students may elect to take either Fluid Mechanics or Statistics.

FOURTH YEAR
(34 weeks day course)

<table>
<thead>
<tr>
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<th>Term 1 lec. lab./tut.</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
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Plus the following:

Option 1—Power Apparatus and Systems—
6.214 Power Systems                         | 4                     | 3                     |
6.224 Electrical Machines                   | 4                     | 3                     |

Option 2—Utilization and Control—
6.234 Utilization and Control of Electrical Plant | 4                     | 3                     |
6.344 Applied Electronics                   | 4                     | 3                     |

Option 3—Communications—
6.314 Radio Communication                   | 8                     | 6                     |
6.334 Line Communication                    | 5                     | 5                     |

Total: 15 - 11

THIRD TERM

This term is mainly devoted to directed laboratory and research work on an approved subject, with special reading and study associated with the preparation of a thesis; seminar work is also carried out.

A course of specialist lectures, including Engineering Economics, is given by senior engineers from government departments and industry on problems met in practice. These are designed to acquaint the student with current projects and practical problems in industry and essential electrical services.

NOTE.—An opportunity is given to final year students to attend practical wiring classes towards qualifying for an Electrician's Licence.

ADDITIONAL FOR HONOURS

A full-time Honours course in electrical engineering is offered involving additional work in third and fourth years. Candidates for Honours must obtain the permission of the Head of the School to enter the course.

After satisfactorily completing the first and second years as set out above, candidates for Honours will undertake the following programme in third and fourth years.
### THIRD YEAR
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.33A Theory of Machines</td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td>6.103 Engineering Principles (Honours)</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>6.13 Electric Circuit Theory</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>6.23 Electric Power Engineering</td>
<td>9 - 7</td>
<td>9 - 7</td>
</tr>
<tr>
<td>6.303 Electronics</td>
<td>5.33A</td>
<td>6.103</td>
</tr>
<tr>
<td>8.41 Surveying (Equiv. time)</td>
<td>1/2 - 1</td>
<td>1/2 - 1</td>
</tr>
<tr>
<td>10.33 Mathematics</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td><strong>5.52 Fluid Mechanics</strong></td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td><strong>10.63 Statistics</strong></td>
<td>1 - 1*</td>
<td>1 - 1*</td>
</tr>
<tr>
<td>G30 Philosophy</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

Third term is devoted mainly to directed laboratory and research work on an approved subject, with special reading and study associated with the preparation of a thesis.

### COURSE VIB—ELECTRICAL ENGINEERING

Course VIB has been designed for students employed in appropriate positions in industry. The work undertaken is equivalent to that covered in Course VI, but Course VIB extends over seven part-time years, satisfactory completion of which, together with the necessary occupational experience, qualifies for the degree of Bachelor of Engineering (Pass or Honours).

### FOURTH YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.104H Electrical Engineering (Honours)</td>
<td>3 - 0</td>
<td>3 - 0</td>
</tr>
<tr>
<td>6.104 Electrical Engineering</td>
<td>5 - 4</td>
<td>5 - 4</td>
</tr>
<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

Plus one of the following three options:

**Option 1**
- 6.214 Power Systems | 3 - 3 | 3 - 3 |
- 6.224 Electrical Machines | 3 - 3 | 3 - 3 |

**Option 2**
- 6.234 Utilization and Control of Electrical Plant | 3 - 3 | 3 - 3 |
- 6.344 Applied Electronics | 3 - 3 | 3 - 3 |

**Option 3**
- 6.314 Radio Communication | 6 - 6 | 6 - 6 |
- 6.334 Line Communication | 6 - 6 | 6 - 6 |

### THIRD TERM

Third term is devoted mainly to directed laboratory and research work on an approved subject, with special reading and study associated with the preparation of a thesis.

### FIRST YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>5e 1.11d Physics</td>
<td>1/2 - 1</td>
<td>1/2 - 1</td>
</tr>
<tr>
<td>7e 2.11l Chemistry</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>7e 5.11l Engineering Drawing</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
</tr>
<tr>
<td>7e 5.41l Descriptive Geometry</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>7v 8.11l Engineering Mechanics</td>
<td>1/2 - 1</td>
<td>1/2 - 1</td>
</tr>
<tr>
<td><strong>G10</strong> Mathematics, Part I</td>
<td>6 - 6</td>
<td>6 - 6</td>
</tr>
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</table>

* Tutorial.

### SECOND YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3v 1.42d Physics</td>
<td>1/2 - 1</td>
<td>2/2 - 1</td>
<td>2/2 - 1</td>
</tr>
<tr>
<td>3v 6.12d Electric Circuit Theory</td>
<td>1 - 2</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>2v 8.112d Theory of Structures</td>
<td>1/2 - 1</td>
<td>1/2 - 1</td>
<td>1/2 - 1</td>
</tr>
<tr>
<td>1v 8.92d Properties of Materials</td>
<td>0 - 0</td>
<td>0 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>3v 10.11 Mathematics, Part II</td>
<td>1/2 - 1*</td>
<td>1/2 - 1*</td>
<td>1/2 - 1*</td>
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<tr>
<td><strong>G10</strong> English</td>
<td>2 - 0</td>
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* Tutorial.
### Third Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th></th>
<th>Term 1</th>
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<th>Term 3</th>
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<tbody>
<tr>
<td>lec. lab./tut.</td>
<td></td>
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<tr>
<td>1.43D Physics</td>
<td>1½-0</td>
<td>1½-0</td>
<td>0-1½</td>
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<tr>
<td>6.13A Electric Circuit Theory</td>
<td>1-1½</td>
<td>1-1½</td>
<td>1-1½</td>
</tr>
<tr>
<td>6.23A Electric Power Engineering</td>
<td>1-1½-1*</td>
<td>1-1½-1*</td>
<td>1-1-1*</td>
</tr>
<tr>
<td>6.303A Electronics</td>
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<tr>
<td>10.12 Mathematics, Part I</td>
<td>1-½*</td>
<td>1-½*</td>
<td>1-½*</td>
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<tr>
<td>10.12 Mathematics, Part II</td>
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<td>1-½*</td>
<td>1-½*</td>
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<tr>
<td>10.62D Applied Mathematics</td>
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* Tutorial.

### Fifth Year
(34 weeks part-time course)

<table>
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<tr>
<td>lec. lab./tut.</td>
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<tr>
<td>4.912D Materials Technology</td>
<td>1½-2</td>
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<tr>
<td>5.33A Theory of Machines</td>
<td>1-1</td>
<td>1-1</td>
<td>0-0</td>
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<tr>
<td>6.104D Electrical Engineering</td>
<td>4-3</td>
<td>4-3</td>
<td>4-3</td>
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<tr>
<td>8.42A Surveying†</td>
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<td>1-0</td>
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<td></td>
<td></td>
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<td>6½-6</td>
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<td>5-3</td>
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† Plus four 6-hour periods on Saturdays for fieldwork.

### Fourth Year
(34 weeks part-time course)

<table>
<thead>
<tr>
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<th>Term 1</th>
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<th>Term 3</th>
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<tbody>
<tr>
<td>lec. lab./tut.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.13B Electric Circuit Theory</td>
<td>1-1*</td>
<td>1-1*</td>
<td>1-1*</td>
</tr>
<tr>
<td>6.23B Electric Power Engineering</td>
<td>1-1½-½*</td>
<td>1-1½-½*</td>
<td>1-1½-½*</td>
</tr>
<tr>
<td>6.303B Electronics</td>
<td>1-1½-½*</td>
<td>1-1½-½*</td>
<td>1-1½-½*</td>
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<tr>
<td>10.33 Mathematics</td>
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<td>0-0</td>
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<tr>
<td>G20 History</td>
<td>1-0</td>
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<td>6-5</td>
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* Tutorial.

### Sixth Year
(34 weeks part-time course)

<table>
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<tbody>
<tr>
<td>lec. lab./tut.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5.72D Thermodynamics</td>
<td>1-1</td>
<td>1-1</td>
<td>0-2</td>
</tr>
<tr>
<td>10.63 Statistics or</td>
<td>1-1</td>
<td>1-1</td>
<td>0-0</td>
</tr>
<tr>
<td>5.52D Fluid Mechanics</td>
<td>1-1</td>
<td>1-1</td>
<td>0-0</td>
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<td></td>
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<td>2-4</td>
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<tr>
<td>6.224 Electrical Machines</td>
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<td>1-0</td>
<td>1-0</td>
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<tr>
<td>G30 Philosophy</td>
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<td>5-6</td>
<td>3-6</td>
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### Seventh Year
(34 weeks part-time course)

<table>
<thead>
<tr>
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<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
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<tbody>
<tr>
<td>lec. lab./tut.</td>
<td></td>
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</tr>
<tr>
<td>6.214 Electrical Engineering—</td>
<td></td>
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<tr>
<td>6.214 Power Systems</td>
<td>2-3</td>
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<tr>
<td>Social Science Elective</td>
<td>2-0</td>
<td>1-0</td>
<td>1-0</td>
</tr>
<tr>
<td>Project/Thesis/Seminar</td>
<td>0-4</td>
<td>0-4</td>
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<tr>
<td></td>
<td>4-7</td>
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<table>
<thead>
<tr>
<th></th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

59
CONVERSION COURSES—ELECTRICAL ENGINEERING

COURSE VIC1—(For diplomates in both Electrical and Radio Engineering)

Diplomates in both Electrical and Radio Engineering who have completed the courses of study as set out in the 1954 Handbook of the N.S.W. Department of Technical Education are required to complete the following subjects in order to qualify for the degree of Bachelor of Engineering.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Description</th>
<th>Hours (per week for 34 weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.43d</td>
<td>Physics</td>
<td>1 ½</td>
</tr>
<tr>
<td>5.52</td>
<td>Fluid Mechanics</td>
<td>2 (2 terms)</td>
</tr>
<tr>
<td>6.104d</td>
<td>Electrical Engineering</td>
<td>7</td>
</tr>
<tr>
<td>8.42d</td>
<td>Surveying</td>
<td>1 (1 term)</td>
</tr>
<tr>
<td>10.33</td>
<td>Mathematics</td>
<td>2 (2 terms)</td>
</tr>
<tr>
<td></td>
<td>Thesis</td>
<td>4</td>
</tr>
</tbody>
</table>

Conversion Humanities—
- English or History or Philosophy | 2
- Psychology or Economics or Government | 2

* 10.63 Statistics may be taken in lieu of 5.52 Fluid Mechanics.

This work would normally be completed in two years, but could be spread over a longer period.

COURSE VIC2—(For diplomates in Electrical Engineering)

Diplomates in Electrical Engineering who have completed the course of study as set out in the 1954 Handbook of the N.S.W. Department of Technical Education are required to complete the following additional work for the degree of Bachelor of Engineering.

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Description</th>
<th>Hours (per week for 34 weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.43d</td>
<td>Physics</td>
<td>1 ½</td>
</tr>
<tr>
<td>4.912</td>
<td>Materials Technology</td>
<td>3½ (2 terms)</td>
</tr>
<tr>
<td>5.52</td>
<td>Fluid Mechanics</td>
<td>2 (2 terms)</td>
</tr>
<tr>
<td>5.72</td>
<td>Thermodynamics</td>
<td>2</td>
</tr>
<tr>
<td>6.104d</td>
<td>Electrical Engineering</td>
<td>7</td>
</tr>
<tr>
<td>6.23a</td>
<td>Electric Power Engineering</td>
<td>3</td>
</tr>
<tr>
<td>6.334d</td>
<td>Line Communications</td>
<td>3</td>
</tr>
<tr>
<td>8.42A</td>
<td>Surveying</td>
<td>1 (1 term)</td>
</tr>
<tr>
<td>10.33</td>
<td>Mathematics</td>
<td>2 (2 terms)</td>
</tr>
<tr>
<td></td>
<td>Thesis</td>
<td>4</td>
</tr>
</tbody>
</table>

Conversion Humanities—
- English or History or Philosophy | 2
- Psychology or Economics or Government | 2

* 10.63 Statistics may be taken in lieu of 5.52 Fluid Mechanics.

† To be taken by students who have not completed 5.32d Engineering Mechanics or equivalent in Diploma Course.

This work would normally be completed in three years, but could be spread over a longer period.
Technical developments in the mining industry are such as to demand increasing engineering proficiency from various grades of mining officials. These developments require that those who are being trained for the management of the industry shall receive firstly, a sound training in mechanical, electrical and some branches of civil engineering, and secondly, the application of these developments to the mining of coal and other minerals. A knowledge of the basic subjects, mathematics, physics, chemistry, etc., is also essential in order that such auxiliary subjects as coal cleaning, mineral dressing, gases and atmospheric conditions in mines, etc., may be properly understood. Hence in the construction of the Mining Engineering course the object has been to produce mining engineers having a sound training in engineering subjects and well versed in the application of engineering principles in the mining industry.

In the first two years of the course, the subjects taught are the basic science subjects, together with the primary engineering subjects, and an introduction to mining technology. Mining subjects proper are introduced in the second year, and are developed in the third and fourth years of the course, concurrently with the engineering subjects. Subjects which are important to mining engineers, such as surveying, mineral dressing and geology are given their proper place in the course.

The training in mining is aimed at giving students a thorough foundation in such subjects as mine ventilation; mine drainage; mine lighting; winding, haulage and transport; these subjects being common to practically all branches of mining work. The specialised application of these subjects to coal and metalliferous mining is dealt with in the final year of the course. Thus, although the course is designed to give students a sound training in mining, it also permits them to specialise in either coal or metalliferous mining.

Specialisation is taken a stage further in the fourth year of the course by the provision of elective subjects for the preparation of theses. Preparatory work for the theses will commence during the practical training period following the third year of academic studies and will be continued by reading in the first and second terms of the fourth year. The third term in the fourth year will be spent on further practical investigations and in the preparation of theses.

The students in the Mining Engineering course are required to spend five months of each of the first three years in obtaining practical experience at mines, the training being based on a prepared programme designed to provide a comprehensive training in many aspects of mining work. This training is important in its relation to the academic training and to the Mines Department’s requirements of practical training for candidates for Statutory Certificates of Competency.

The first and second years of the course are offered at Newcastle, the remainder of the course may be completed in Sydney at the University of New South Wales.

FIRST YEAR
(24 weeks day course)

<table>
<thead>
<tr>
<th>Term 1.</th>
<th>Term 2.</th>
</tr>
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<tbody>
<tr>
<td>lec.</td>
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<tr>
<td>1.41</td>
<td>Physics</td>
</tr>
<tr>
<td>2.11</td>
<td>Chemistry</td>
</tr>
<tr>
<td>5.11</td>
<td>Engineering Drawing</td>
</tr>
<tr>
<td>5.41</td>
<td>Descriptive Geometry</td>
</tr>
<tr>
<td>7.51</td>
<td>Introductory Geology and Mineralogy</td>
</tr>
<tr>
<td>8.11</td>
<td>Engineering Mechanics</td>
</tr>
<tr>
<td>10.11</td>
<td>Mathematics</td>
</tr>
<tr>
<td>G10</td>
<td>English</td>
</tr>
</tbody>
</table>

* Tutorial.

Note.—A survey camp of one week’s duration will be conducted in the third week of third term.
SECOND YEAR
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
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<tbody>
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<td>2 - 2(\frac{1}{2})</td>
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<tr>
<td>4.912 Materials Technology</td>
<td>1(\frac{1}{2}) - 2</td>
<td>1(\frac{1}{2}) - 2</td>
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<td>5.32 Engineering Mechanics</td>
<td>1(\frac{1}{2}) - 1*</td>
<td>1(\frac{1}{2}) - 1*</td>
</tr>
<tr>
<td>5.72 Thermodynamics</td>
<td>1 - 1*</td>
<td>1 - 1*</td>
</tr>
<tr>
<td>7.012 Mining I</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>7.502 Geology</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>8.112 Theory of Structures</td>
<td>1(\frac{1}{2}) - 1*</td>
<td>1(\frac{1}{2}) - 1*</td>
</tr>
<tr>
<td>8.92 Properties of Materials</td>
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<td>1 - 2</td>
</tr>
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<td>10.12 Mathematics</td>
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<td>3 - 2*</td>
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<tr>
<td>G20 History</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

* Tutorial.

Note.—Field excursions will be arranged on several Saturdays in connection with the instruction in Geology.

THIRD YEAR
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
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<tr>
<td>5.52 Fluid Mechanics</td>
<td>1 - 1*</td>
<td>1 - 1*</td>
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<td>6.83 Electrical Engineering</td>
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<td>2 - 3</td>
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<tr>
<td>7.013 Mining II</td>
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<td>4 - 1</td>
</tr>
<tr>
<td>7.022 Mining Engineering I</td>
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<td>3 - 0</td>
</tr>
<tr>
<td>7.633 Geology</td>
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<td>2 - 3</td>
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<tr>
<td>8.122 Structures</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>8.43 Surveying</td>
<td>1(\frac{1}{2}) - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>G30 Philosophy</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

* Tutorial.

Note.—A survey camp of one week's duration will be conducted in the third week of third term and will be followed by a Geology excursion also of one week's duration.

At the completion of this stage of their course the students have the option of attending practical training at either a coal or a metalliferous mine.

FOURTH YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>7.014 Mining III</td>
<td>3 - 0</td>
<td>3 - 0</td>
</tr>
<tr>
<td>7.023 Mining Engineering II</td>
<td>6 - 3</td>
<td>6 - 3</td>
</tr>
<tr>
<td>7.034 Mineral Dressing</td>
<td>2 - 3</td>
<td>2 - 3</td>
</tr>
<tr>
<td>7.534 Mining Geology</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>8.44 Surveying</td>
<td>2 - 2</td>
<td>2 - 2</td>
</tr>
<tr>
<td>8.45 Mine Surveying</td>
<td>0 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>First Aid</td>
<td>0 - 0</td>
<td>1 - 0</td>
</tr>
</tbody>
</table>

Seminars will be arranged during the course of the year.

The third term of the fourth year is devoted mainly to the professional elective subjects and the preparation of a thesis.

Note.—A survey camp of one week's duration will be conducted in the third week of third term. Practical work connected with Astronomy and Geodesy will be conducted on several evenings during the course. A Geology excursion of one week's duration will be conducted during the third term.

COURSE VIIA—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 so as to enable the graduates to enter immediately upon 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 descriptive geometry, drawing and design, strength of...
materials, civil and mining engineering practice, soil mechanics, etc. Detailed treatment is given to various aspects of applied geology—engineering geology, mining geology, photogeology and geochemistry. Surveying and geophysics are also included.

Attendance at the University for students taking the full-time course is for two terms during the first three years and for three terms during the fourth year. All students will be required to complete satisfactorily a course of approved practical training during vacations. The part-time course (Course VIIB) is of six years' duration and is designed for students already engaged on work allied to the subject matter of the course.

**First Year**
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.41 Physics</td>
<td>3 - 3</td>
<td>3 - 3</td>
</tr>
<tr>
<td>2.111 Chemistry</td>
<td>3 - 3</td>
<td>3 - 0</td>
</tr>
<tr>
<td>5.11 Engineering Drawing</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
</tr>
<tr>
<td>5.41 Descriptive Geometry</td>
<td>1 - 24*</td>
<td>1 - 24*</td>
</tr>
<tr>
<td>7.511 Introductory Geology and Mineralogy</td>
<td>1 - 0</td>
<td>1 - 1</td>
</tr>
<tr>
<td>8.11 Engineering Mechanics</td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td>10.11 Mathematics</td>
<td>4 - 2*</td>
<td>4 - 2*</td>
</tr>
<tr>
<td>G10 English</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

* Tutorial.

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
<td>15 - 14½</td>
</tr>
<tr>
<td>Term 2.</td>
<td>15 - 12½</td>
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</tbody>
</table>

**Second Year**
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.42 Physics</td>
<td>2 - 2½</td>
<td>2 - 2½</td>
</tr>
<tr>
<td>2.32A Physical Chemistry</td>
<td>1 - 2½</td>
<td>1 - 2½</td>
</tr>
<tr>
<td>7.012 Mining I</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>7.054 Assaying</td>
<td>1 - 3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>7.502 Geology</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>7.512 Mineralogy and Crystallography</td>
<td>1 - 3</td>
<td>1 - 3</td>
</tr>
<tr>
<td>10.12 Mathematics</td>
<td>3 - 2*</td>
<td>3 - 2*</td>
</tr>
<tr>
<td>G20 History</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

* Tutorial.

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
<td>13 - 15</td>
</tr>
<tr>
<td>Term 2.</td>
<td>13 - 15</td>
</tr>
</tbody>
</table>

**Third Year**
(24 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.503 Petrology</td>
<td>2 - 3</td>
<td>2 - 3</td>
</tr>
<tr>
<td>7.513 Advanced Mineralogy</td>
<td>2 - 2</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.523 Stratigraphy and Palaeontology</td>
<td>1 - 1</td>
<td>1 - 3</td>
</tr>
<tr>
<td>7.533 Economic Geology</td>
<td>2 - 2</td>
<td>2 - 2</td>
</tr>
<tr>
<td>7.543 Geophysics</td>
<td>2 - 1</td>
<td>2 - 0</td>
</tr>
<tr>
<td>7.553 Geology of Fuels</td>
<td>0 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>8.43 Surveying</td>
<td>1½ - 2</td>
<td>1½ - 2</td>
</tr>
<tr>
<td>8.03A Engineering Construction</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>8.73H Soil Mechanics and Hydrology</td>
<td>1 - 11</td>
<td>1 - 0</td>
</tr>
<tr>
<td>G30 Philosophy</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

Field Instruction

(i) One week of general surveying will be taken with the Mining and Civil Engineering III students.

(ii) One week of geological field study.

(iii) Week-end field work on geophysical surveying.

**Fourth Year**
(34 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.014A Mining III</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>7.034 Mineral Dressing</td>
<td>2 - 3</td>
<td>2 - 3</td>
</tr>
<tr>
<td>7.504 Advanced Petrology</td>
<td>2 - 2</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.534 Mining Geology</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>7.564 Photogrammetry and Photogeology</td>
<td>1 - 1</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.574 Engineering Geology</td>
<td>2 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.594 Structural Geology</td>
<td>1 - 2</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.644 Geophysics and Geotectonics</td>
<td>2 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>8.66b Engineering Administration</td>
<td>1 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>Elective Subjects</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
<td>26</td>
</tr>
<tr>
<td>Term 2.</td>
<td>22</td>
</tr>
</tbody>
</table>
THIRD TERM

Mainly devoted to advanced study in Professional Elective subjects and to the preparation of a thesis.

Field Work: Excursions to mining centres, dam sites, etc.

Seminars: To be arranged during the course of the year.

Professional Elective Subjects: The formal lectures and laboratory hours included in the fourth year will be supplemented by a study of some selected phase of the course to an advanced stage, and the preparation of a thesis.

Elective subjects include:

1. Structural Geology.
2. Mining and Economic Geology.
3. Engineering Geology.

COURSE VIIb—APPLIED GEOLOGY

Course VIIb has been designed for students already employed in an appropriate position in industry. The work undertaken is equivalent to that covered in Course VIIa, but Course VIIb extends over six part-time years, satisfactory completion of which, together with the necessary occupational experience, qualifies for the degree of Bachelor of Engineering.

FIRST YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.41d Physics ...............</td>
</tr>
<tr>
<td>2.11d Chemistry ...............</td>
</tr>
<tr>
<td>5.11b Engineering Drawing†</td>
</tr>
<tr>
<td>5.41d Descriptive Geometry†</td>
</tr>
<tr>
<td>8.11d Engineering Mechanics...</td>
</tr>
<tr>
<td>10.11 Mathematics, Part I.....</td>
</tr>
</tbody>
</table>

* Tutorial.
† 5.41d, 1st half-year; 5.11d, 2nd half-year.

SECOND YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>2.32a Physical Chemistry ......</td>
</tr>
<tr>
<td>7.054d Assaying ................</td>
</tr>
<tr>
<td>7.602 Geology ..................</td>
</tr>
<tr>
<td>10.11 Mathematics, Part II ...</td>
</tr>
<tr>
<td>G10 English ....................</td>
</tr>
</tbody>
</table>

| Term 1. | Term 2. | Term 3. |
| lec. lab./tut. | lec. lab./tut. | lec. lab./tut. |
| 2.32a Physical Chemistry ...... | 6½ — 4½ | 5½ — 4½ | 4½ — 6½ |

NOTE.—Six geological excursions will be held on Saturdays during first and second terms.

THIRD YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.42d Physics ...............</td>
</tr>
<tr>
<td>7.503a Petrology ...............</td>
</tr>
<tr>
<td>7.512 Mineralogy and Crystallography ......</td>
</tr>
<tr>
<td>7.523a Stratigraphy and Palaeontology ......</td>
</tr>
<tr>
<td>8.43d Surveying ...............</td>
</tr>
<tr>
<td>10.12 Mathematics, Part I.....</td>
</tr>
</tbody>
</table>

| Term 1. | Term 2. | Term 3. |
| lec. lab./tut. | lec. lab./tut. | lec. lab./tut. |
| 1.42d Physics ............... | 5½ — 6 | 6½ — 6 | 6½ — 6 |

* Tutorial.

NOTE.—A survey camp of one week’s duration will be conducted in the third week of third term.

A Geology excursion of five days’ duration will be held during third year.
FOURTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th></th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>7.012</td>
<td>1 - 0</td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td>7.503B</td>
<td>0 - 0</td>
<td>1/2 - 1</td>
<td>1 - 2</td>
</tr>
<tr>
<td>7.513</td>
<td>2 - 0</td>
<td>0 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.523B</td>
<td>1 - 2</td>
<td>1 - 1</td>
<td>0 - 0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.533A</td>
<td>1 - 1</td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td>7.533B</td>
<td>0 - 0</td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td>10.12</td>
<td>1/2 - 1</td>
<td>1/2 - 1</td>
<td>1/2 - 1</td>
</tr>
<tr>
<td>G20</td>
<td>0 - 0</td>
<td>0 - 0</td>
<td>2 - 0</td>
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</tbody>
</table>

7 - 5½  6 - 5½  7 - 5½

* Tutorial.

NOTE.—A Geology excursion of five days’ duration will be held during fourth year.

FIFTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th></th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
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<td>lec. lab./tut.</td>
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<td>7.034D</td>
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<td>1 - 2</td>
<td>1 - 2</td>
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<tr>
<td>7.034A</td>
<td>0 - 0</td>
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<td>2 - 2</td>
</tr>
<tr>
<td>7.533B</td>
<td>1 - 1</td>
<td>0 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.543B</td>
<td>2 - 1</td>
<td>2 - 0</td>
<td>0 - 0</td>
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<td>0 - 0</td>
<td>1 - 1</td>
<td>1 - 1</td>
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<td>8.63A</td>
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<td>0 - 0</td>
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</table>

8 - 5½  7 - 3  5 - 5

SIXTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th></th>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>7.014A</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>7.534</td>
<td>1 - 2</td>
<td>1 - 2</td>
<td>0 - 0</td>
</tr>
<tr>
<td>7.574</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>0 - 0</td>
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<td>7.584</td>
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<td>7.644</td>
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<td>1 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>8.66B</td>
<td>0 - 0</td>
<td>0 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
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<td>1 - 0</td>
</tr>
<tr>
<td>Electives and Thesis</td>
<td>0</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

12  10  11

12  10  11

70

SCHOOL OF CIVIL ENGINEERING

Civil Engineering is broad in its scope, utilizing other specialised branches of engineering in planning, co-ordinating and constructing national works such as water supply and conservation projects, hydro-electric development, roads, railways, bridges, tunnels, large buildings and irrigation, sewerage and harbour and river development. The civil engineer adapts the forces of nature for the use and convenience of mankind. His academic training must include a study of science and of engineering practice. He must combine this with experience and judgment and the knowledge and personality necessary to control large organisations of workers. This profession offers to a young man a considerable variety of types of work, ranging from specialised research and investigations, through routine design and construction work to higher positions which are often largely managerial and organizational in their nature.

The courses in civil engineering are arranged so that all students receive training in the basic principles of mathematics and science, and in the fundamentals of engineering applications of such work to surveying, hydraulics, foundation engineering, structural design, and constructional work in the field. Ancillary subjects from other branches of engineering are also included, such as electrical engineering, mechanical engineering, engineering chemistry and the like. Satisfactory practical experience in industry, concurrent with academic training, is a feature of all courses, and detailed reports of such experience must be submitted by all degree students.

Provision is made in the final year for the student to carry out further work adapted to his special interests by taking two of a range of professional elective subjects.

The elective subjects are arranged so that a detailed study may be made into one or two important phases of civil engineering. The attention of the student may be directed to
preliminary investigations necessary for large civil engineering projects, as considered in hydrology, photogrammetry or geology, or to the design aspects of civil engineering works, preceding the actual construction. Alternatively, a study of both the fundamental behaviour and practical aspects of materials may be undertaken, as in soil mechanics, concrete technology or hydraulics. The problems associated with the construction of projects may be studied in electives dealing with construction equipment and methods, management and highway engineering.

**COURSE VIII—CIVIL ENGINEERING**

**FIRST YEAR**

(24 weeks day course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.41 Physics</td>
<td>3 - 3</td>
<td>3 - 3</td>
</tr>
<tr>
<td>2.111 Chemistry</td>
<td>3 - 3</td>
<td>3 - 0</td>
</tr>
<tr>
<td>5.11 Engineering Drawing</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
</tr>
<tr>
<td>5.41 Descriptive Geometry</td>
<td>1 - 2½*</td>
<td>1 - 2½*</td>
</tr>
<tr>
<td>8.11 Engineering Mechanics</td>
<td>1 - 1*</td>
<td>1 - 1*</td>
</tr>
<tr>
<td>10.11 Mathematics</td>
<td>4 - 2*</td>
<td>4 - 2*</td>
</tr>
<tr>
<td>G10 English</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>14 - 14½</td>
<td>14 - 11½</td>
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</tbody>
</table>

* Tutorial.

**NOTE.**—A survey camp of one week's duration must be attended in the third week of third term.

**SECOND YEAR**

(24 weeks day course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>1.42 Physics</td>
<td>2 - 2½</td>
<td>2 - 2½</td>
</tr>
<tr>
<td>4.912 Materials Technology</td>
<td>1½ - 2</td>
<td>1½ - 2</td>
</tr>
<tr>
<td>5.52 Fluid Mechanics</td>
<td>1 - 1*</td>
<td>1 - 1*</td>
</tr>
<tr>
<td>5.72 Thermodynamics</td>
<td>1 - 1-1*</td>
<td>1 - 1-1*</td>
</tr>
<tr>
<td>7.502 Geology</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>8.1112 Theory of Structures</td>
<td>1½ - 1*</td>
<td>1½ - 1*</td>
</tr>
<tr>
<td>8.122 Structures</td>
<td>1 - 2</td>
<td>1 - 2</td>
</tr>
<tr>
<td>8.92 Properties of Materials †</td>
<td>1 - 2</td>
<td>0 - 0</td>
</tr>
<tr>
<td>10.12 Mathematics</td>
<td>3 - 2*</td>
<td>3 - 2*</td>
</tr>
<tr>
<td>G20 History</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16 - 15½</td>
<td>15 - 13½</td>
</tr>
</tbody>
</table>

* Tutorial.

† This subject may alternatively be given in second term.

**NOTE.**—Field excursions will be arranged on several Saturdays in connection with the instruction in Geology.

**THIRD YEAR**

(24 weeks day course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
<th>Term 1.</th>
<th>Term 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>5.12 Mechanical Engineering Design</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
</tr>
<tr>
<td>6.83 Electrical Engineering</td>
<td>2 - 3</td>
<td>2 - 3</td>
</tr>
<tr>
<td>7.673 Engineering Geology</td>
<td>0 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>8.113 Structures</td>
<td>1½ - 2</td>
<td>1½ - 2</td>
</tr>
<tr>
<td>8.23 Materials of Construction</td>
<td>2 - 2</td>
<td>2 - 2</td>
</tr>
<tr>
<td>8.43 Surveying</td>
<td>1½ - 2</td>
<td>1½ - 2</td>
</tr>
<tr>
<td>8.53 Fluid Mechanics</td>
<td>1 - 1</td>
<td>1 - 1</td>
</tr>
<tr>
<td>8.63A Engineering Construction</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>8.63B Hydrology</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>8.73 Soil Mechanics</td>
<td>1 - 1½</td>
<td>1 - 1½</td>
</tr>
<tr>
<td>10.43 Statistics</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G30 Philosophy</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17 - 14½</td>
<td>16¼ - 14½</td>
</tr>
</tbody>
</table>

* Tutorial.

**NOTE.**—A survey camp of one week's duration must be attended in the third week of third term. A geology camp must be attended in the fourth week of third term.
## FOURTH YEAR

*(34 weeks day course)*

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1 (lec. lab./tut.)</th>
<th>Term 2 (lec. lab./tut.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.114 Structures</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.33 Engineering Computations</td>
<td>1 ¼</td>
<td>1 ¼</td>
</tr>
<tr>
<td>8.44 Surveying</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>8.54 Applied Hydraulics</td>
<td>1 ¼</td>
<td>1</td>
</tr>
<tr>
<td>8.64A Public Health Engineering</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8.64B Road Engineering</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8.65A Railway Engineering</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8.65B Harbours and Rivers Engineering</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8.65C Irrigation Engineering</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8.65D Hydro-Electric Engineering</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8.66A Engineering Construction</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>8.66B Engineering Administration</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8.94 Properties of Materials</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11.82A Theory of Architecture</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11.196 Town Planning</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

### Professional Elective Subjects

- **Professional Elective A**
- **Professional Elective B**

### Advanced Elective (Humanities or Social Science)

2 hours lecture and 4 hours laboratory, drawing office or tutorial.

Six hours per week for 3 terms consisting of 2 hours lecture and 4 hours laboratory, drawing office or tutorial.

<table>
<thead>
<tr>
<th>Term</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24 ± 10</td>
</tr>
<tr>
<td>2</td>
<td>15 ½ ± 14</td>
</tr>
</tbody>
</table>

### Six hours per week for 3 terms consisting of 2 hours lecture and 4 hours laboratory, drawing office or tutorial.

To the approval of the Head of the School. Students may be instructed to attend certain lectures given by learned societies and other educational authorities during the year.

- Theory and design of structures.
- Soil mechanics.
- Hydrology and hydraulics.
- Construction equipment and methods.
- Geology.
- Management.
- Highway engineering.
- Surveying.
- Concrete technology.
- Experimental stress analysis.

### COURSE VIIIb—CIVIL ENGINEERING

This course provides students who are suitably employed during the day with the opportunity of obtaining the degree of Bachelor of Engineering by seven years of evening study.

The total content of the course is the same as that of the day course except that slightly less formal class time is provided in certain subjects in which the student's study is supplemented by his practical experience in industry.

## FIRST YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1 (lec. lab./tut.)</th>
<th>Term 2 (lec. lab./tut.)</th>
<th>Term 3 (lec. lab./tut.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.41d Physics</td>
<td>1 ¼</td>
<td>1 ¼</td>
<td>1 ¼</td>
</tr>
<tr>
<td>2.11 Chemistry</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.11d Engineering Drawing</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
<td>0 - 3*</td>
</tr>
<tr>
<td>5.41b Descriptive Geometry</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>8.11d Engineering Mechanics</td>
<td>1 ¼</td>
<td>¾</td>
<td>1 ¼</td>
</tr>
<tr>
<td>10.11 Mathematics, Part I</td>
<td>6</td>
<td>6 ½</td>
<td>6</td>
</tr>
</tbody>
</table>

*First half year—Descriptive Geometry.
Second half year—Engineering Drawing.

* Tutorial.*
### SECOND YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.912d</td>
<td>Materials Technology</td>
<td>1 1/2- 2</td>
<td>1 1/2- 2</td>
<td>0-0</td>
</tr>
<tr>
<td>7.502</td>
<td>Geology</td>
<td>1-1</td>
<td>1-1</td>
<td>1-1</td>
</tr>
<tr>
<td>8.112d</td>
<td>Theory of Structures</td>
<td>1 1/2- 3*</td>
<td>1 1/2- 3*</td>
<td>0-0</td>
</tr>
<tr>
<td>10.11</td>
<td>Mathematics, Part I</td>
<td>1 1/2- 3*</td>
<td>1 1/2- 3*</td>
<td>1 1/2- 3*</td>
</tr>
<tr>
<td>G10</td>
<td>English</td>
<td>2-0</td>
<td>1-0</td>
<td>1-0</td>
</tr>
</tbody>
</table>

**Total:** 7 1/4- 4 1/2 6 1/4- 4 1/2 3 1/2- 1 1/2

*NOTE.*—Field excursions will be arranged on several Saturdays in connection with instruction in Geology.

* Tutorial.

### THIRD YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.12d</td>
<td>Mechanical Engineering Design</td>
<td>0-2</td>
<td>0-2</td>
<td>0-2</td>
</tr>
<tr>
<td>5.52</td>
<td>Fluid Mechanics</td>
<td>1-1*</td>
<td>1-1*</td>
<td>0-0</td>
</tr>
<tr>
<td>5.72d</td>
<td>Thermodynamics</td>
<td>1-1</td>
<td>1-1</td>
<td>0-2</td>
</tr>
<tr>
<td>8.122</td>
<td>Structures</td>
<td>1-1</td>
<td>1-1</td>
<td>1-1</td>
</tr>
<tr>
<td>8.43d</td>
<td>Surveying</td>
<td>1-0</td>
<td>1-0</td>
<td>1-0</td>
</tr>
<tr>
<td>8.92d</td>
<td>Properties of Materials</td>
<td>0-0</td>
<td>0-0</td>
<td>1-2</td>
</tr>
<tr>
<td>10.12</td>
<td>Mathematics, Part II</td>
<td>1-1/2*</td>
<td>1-1/2*</td>
<td>1-1/2*</td>
</tr>
</tbody>
</table>

**Total:** 5 - 5 1/2 5 - 5 1/2 4 - 5 1/2

* Tutorial.

*NOTE.*—Seven Saturdays (a total of 42 hours) will be devoted to Surveying field work.

### FOURTH YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.113d</td>
<td>Structures</td>
<td>1-1/4</td>
<td>1-1/4</td>
<td>1-1/4</td>
</tr>
<tr>
<td>8.23d</td>
<td>Materials of Construction</td>
<td>1-1/4</td>
<td>1-1/4</td>
<td>1-1/4</td>
</tr>
<tr>
<td>8.53d</td>
<td>Fluid Mechanics</td>
<td>1-0</td>
<td>1-0</td>
<td>0-1/4</td>
</tr>
<tr>
<td>8.63A</td>
<td>Engineering Construction</td>
<td>1-0</td>
<td>1-0</td>
<td>0-0</td>
</tr>
<tr>
<td>8.73d</td>
<td>Soil Mechanics</td>
<td>1-0</td>
<td>1-0</td>
<td>0-3</td>
</tr>
<tr>
<td>10.43</td>
<td>Statistics</td>
<td>2-0</td>
<td>1-0</td>
<td>0-0</td>
</tr>
<tr>
<td>G20</td>
<td>History</td>
<td>1-0</td>
<td>1-0</td>
<td>2-0</td>
</tr>
</tbody>
</table>

**Total:** 8 - 3 7 - 3 4 - 7 1/2

### FIFTH YEAR

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.83d</td>
<td>Electrical Engineering</td>
<td>1-2</td>
<td>1-2</td>
<td>1-2</td>
</tr>
<tr>
<td>8.44d</td>
<td>Surveying</td>
<td>1 1/4- 0</td>
<td>1 1/4- 0</td>
<td>1 1/4- 0</td>
</tr>
<tr>
<td>8.63b</td>
<td>Hydrology</td>
<td>1 1/4- 0</td>
<td>0-0</td>
<td>0-0</td>
</tr>
<tr>
<td>8.64A</td>
<td>Public Health Engineering</td>
<td>1-0</td>
<td>1-0</td>
<td>0-0</td>
</tr>
<tr>
<td>8.64b</td>
<td>Road Engineering</td>
<td>1-0</td>
<td>1-0</td>
<td>0-0</td>
</tr>
<tr>
<td>8.65a</td>
<td>Railway Engineering</td>
<td>1-0</td>
<td>0-0</td>
<td>0-0</td>
</tr>
<tr>
<td>8.65b</td>
<td>Harbours and Rivers Engineering</td>
<td>0-0</td>
<td>0-0</td>
<td>1-0</td>
</tr>
<tr>
<td>8.65c</td>
<td>Irrigation Engineering</td>
<td>0-0</td>
<td>1-0</td>
<td>0-0</td>
</tr>
<tr>
<td>8.65d</td>
<td>Hydro-Electric Engineering</td>
<td>0-0</td>
<td>0-0</td>
<td>1-0</td>
</tr>
<tr>
<td>8.94</td>
<td>Properties of Materials</td>
<td>0-0</td>
<td>1-2</td>
<td>0-0</td>
</tr>
<tr>
<td>11.196</td>
<td>Town Planning</td>
<td>2-0</td>
<td>0-0</td>
<td>0-0</td>
</tr>
<tr>
<td></td>
<td>Seminar</td>
<td>0-0</td>
<td>0-0</td>
<td>3-0</td>
</tr>
</tbody>
</table>

**Total:** 9 - 2 6 1/4- 6 7 1/4- 2

*NOTE.*—Seven Saturdays (a total of 42 hours) will be devoted to Surveying field work. Students are required to attend a survey camp of one week's duration held in the third week of third term.
SIXTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.42D Physics</td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>2 1/2</td>
</tr>
<tr>
<td>7.673 Engineering Geology†</td>
<td>1 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.114 Structures</td>
<td>2 1/2</td>
<td>2 1/2</td>
<td>2 1/2</td>
</tr>
<tr>
<td>8.54 Applied Hydraulics</td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>10.12 Mathematics, Part II</td>
<td>1 1/2</td>
<td>1 1/2</td>
<td>1 1/2</td>
</tr>
<tr>
<td>11.82A Theory of Architecture</td>
<td>0 0</td>
<td>0 0</td>
<td>1 1/2</td>
</tr>
<tr>
<td>G30 Philosophy</td>
<td>2 0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
</tbody>
</table>

| Total                           | 9 3/4  | 7 1/4  | 9 3/4  |

† Plus two Saturday Geology excursions.

* Tutorial.

SEVENTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.33 Engineering Comp.</td>
<td>1 0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
<tr>
<td>8.66A Professional Elective A</td>
<td>1 0</td>
<td>1 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.66B Professional Elective B</td>
<td>1 0</td>
<td>1 0</td>
<td>1 2</td>
</tr>
<tr>
<td>Thesis</td>
<td>0 0</td>
<td>0 0</td>
<td>0 2</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>2 0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
</tbody>
</table>

| Total                           | 6 6    | 5 6    | 5 6    |

CONVERSION COURSE VIII—CIVIL ENGINEERING

Holders of the diploma in Civil Engineering granted by the N.S.W. Department of Technical Education, who wish to proceed to the degree of Bachelor of Engineering, may qualify upon satisfactory completion of the following conversion course.

FIRST YEAR
(34 weeks evening course)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.42d Physics</td>
<td>1 1/4</td>
<td>1 1/4</td>
<td>1 1/4</td>
</tr>
<tr>
<td>† Conversion Theory of Structures</td>
<td>1 0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
<tr>
<td>Conversion Soil Mechanics</td>
<td>0 3</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Conversion Materials of Construction</td>
<td>0 0</td>
<td>0 2</td>
<td>0 2</td>
</tr>
<tr>
<td>10.12 Mathematics</td>
<td>2 1</td>
<td>2 1</td>
<td>2 1</td>
</tr>
<tr>
<td>Conversion Humanities</td>
<td>2 0</td>
<td>2 0</td>
<td>2 0</td>
</tr>
</tbody>
</table>

| Total                           | 6 1/2  | 7 1/4  | 7 1/4  |

† This subject need only be taken by students who took Materials and Structures in their diploma course, students who completed Strength of Materials I and II being exempt. Students may also be exempted on the basis of their performance in the subject Engineering Design, provided such subject was taken under the revised syllabus (1947 and subsequently).

SECOND YEAR
(34 weeks evening course)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.33 Engineering Comp.</td>
<td>1 0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
<tr>
<td>8.54 Applied Hydraulics</td>
<td>1 0</td>
<td>1 0</td>
<td>1 0</td>
</tr>
<tr>
<td>8.63B Hydrology*</td>
<td>1 4/0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.64A Public Health Engineering*</td>
<td>1 0</td>
<td>1 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.64B Road Engineering*</td>
<td>1 0</td>
<td>1 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.65A Railway Engineering*</td>
<td>1 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.65B Harbours and Rivers</td>
<td>0 0</td>
<td>0 0</td>
<td>1 0</td>
</tr>
<tr>
<td>Engineering*</td>
<td>0 0</td>
<td>1 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.65c Irrigation Engineering*</td>
<td>0 0</td>
<td>1 0</td>
<td>0 0</td>
</tr>
<tr>
<td>8.65b Hydro-electric Engineering</td>
<td>0 0</td>
<td>0 0</td>
<td>1 0</td>
</tr>
<tr>
<td>8.66b Engineering Administration</td>
<td>0 0</td>
<td>0 0</td>
<td>1 0</td>
</tr>
<tr>
<td>10.43 Statistics</td>
<td>2 0</td>
<td>1 0</td>
<td>0 0</td>
</tr>
<tr>
<td>11.196 Town Planning*</td>
<td>2 0</td>
<td>0 2</td>
<td>0 2</td>
</tr>
<tr>
<td>Conversion Humanities</td>
<td>2 0</td>
<td>2 0</td>
<td>2 0</td>
</tr>
</tbody>
</table>

| Total                           | 14 3/4 | 8 2    | 7 0    |

* Students may be exempted from corresponding subjects completed in the diploma course. In addition to the above, students may be required to attend certain lectures and carry out certain assignments in 8.44 Surveying and 8.114 Structures.
THIRD YEAR
(34 weeks evening course)

<table>
<thead>
<tr>
<th>Term 1.</th>
<th>Term 2.</th>
<th>Term 3.</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
<td>lec. lab./tut.</td>
</tr>
<tr>
<td>Properties of Materials</td>
<td>0 — 0</td>
<td>1 — 2</td>
</tr>
<tr>
<td>Elective A</td>
<td>1 — 2</td>
<td>1 — 2</td>
</tr>
<tr>
<td>Elective B</td>
<td>1 — 2</td>
<td>1 — 2</td>
</tr>
<tr>
<td>Thesis</td>
<td>0 — 2</td>
<td>0 — 2</td>
</tr>
</tbody>
</table>

2 — 6 | 3 — 8 | 2 — 6

NOTE.—Students who have completed the first year of the evening conversion course may attend for 34 weeks full-time in the following year and complete in one year of day study the work of the second and third years of the evening conversion course.

SCHOOL OF ARCHITECTURE AND BUILDING

ARCHITECTURE DIPLOMA COURSE

This course, which normally requires the basic first year of full-time attendance plus five years' part-time study, provides training supplementing the experience gained by the cadet or junior serving under an architect. The course leads to the Diploma of Associateship of the Sydney Technical College in Architecture (A.S.T.C.). Students in the course are entitled to admission as student members of the Royal Australian Institute of Architects.

The Diploma in Architecture normally entitles the holder to be registered as an architect under the provisions of the Architects Act, 1921; to Membership of the Royal Australian Institute of Architects; and to Associate Membership of the Royal Institute of British Architects.

Commencing in 1961 the R.A.I.A. and the R.I.B.I. may require all applicants for Associateship who have completed a fully recognised course to sit for an examination in Professional Practice not less than twelve months after completing their courses.

To be eligible for the receipt of the Diploma in Architecture a student must have had four years' experience in the office of a registered architect, or in a Government Department directly under the control of an architect; such approved employment must be taken concurrently with the course. Some part of this practical experience may be taken in outdoor building.

The first year of the Diploma course requires full-time attendance. However, in special circumstances a student may apply to the Head of the School for permission to take the subjects of the basic first year in two part-time years, outlined below as stages 1A and 1B.
### STAGE I

(34 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Term 1. lect. prac.</td>
</tr>
<tr>
<td>Physics</td>
<td>2 - 2</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2 - 2</td>
</tr>
<tr>
<td>Descriptive Geometry</td>
<td>0 - 2</td>
</tr>
<tr>
<td>Drawing (a) Freehand</td>
<td>0 - 3</td>
</tr>
<tr>
<td>(b) Architectural</td>
<td>0 - 5</td>
</tr>
<tr>
<td>History of Architecture (General)</td>
<td>1 - 0</td>
</tr>
<tr>
<td>Building Trades and Crafts (Equiv. time)</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Building Construction I, Surveys and Reports</td>
<td>1 - 0</td>
</tr>
<tr>
<td>Building Science I* (Equiv. time)</td>
<td>2 - 2</td>
</tr>
<tr>
<td>English</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

* Includes Theory of Structures I.

### STAGE Ia

(One or two half-days and two or three evenings per week for 34 weeks)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Term 1. lect. prac.</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Descriptive Geometry</td>
<td>0 - 2</td>
</tr>
<tr>
<td>Drawing (Freehand)</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Drawing (Architectural)</td>
<td>0 - 3</td>
</tr>
<tr>
<td>Building Trades and Crafts (Equiv. time)</td>
<td>0 - 0</td>
</tr>
<tr>
<td>English</td>
<td>2 - 0</td>
</tr>
</tbody>
</table>

**82**

### STAGE II

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Term 1. lect. prac.</td>
</tr>
<tr>
<td>Theory of Structures II</td>
<td>1 - 1</td>
</tr>
<tr>
<td>Freehand Drawing and Presentation II</td>
<td>2 - 2</td>
</tr>
<tr>
<td>Architectural Studies and Design</td>
<td>1 - 3</td>
</tr>
<tr>
<td>History of Architecture II</td>
<td>1 - 1</td>
</tr>
<tr>
<td>Building Science II</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Building Construction II</td>
<td>3 - 3</td>
</tr>
<tr>
<td>Theory of Architecture A</td>
<td>1 - 1</td>
</tr>
</tbody>
</table>

### STAGE III

(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Term 1. lect. prac.</td>
</tr>
<tr>
<td>Theory of Structures III</td>
<td>1 - 1</td>
</tr>
<tr>
<td>Building Services and Equipment A</td>
<td>1 - 1</td>
</tr>
<tr>
<td>History of Architecture III</td>
<td>1 - 1</td>
</tr>
<tr>
<td>Building Construction III</td>
<td>2 - 2</td>
</tr>
<tr>
<td>Theory of Architecture B</td>
<td>1 - 1</td>
</tr>
<tr>
<td>Architectural Design and Construction A</td>
<td>5 - 5</td>
</tr>
</tbody>
</table>

**83**
SCHOOL OF ACCOUNTANCY

Both the Pass and Honours curricula leading to the award of the degree of Bachelor of Commerce in Accountancy give a comprehensive and thorough training in accountancy built upon a foundation of general disciplines such as English, philosophy, history and psychology and subjects such as economics and statistics, which are essential to a thorough study in the field of commerce. The study of these more general subjects enables students to see accountancy in proper perspective.

In the specialist field of accountancy, the treatment of accounting and the associated subject of law is particularly comprehensive. Both the Pass and Honours curricula provide the student with an accountancy training more than sufficient to satisfy the existing requirements of professional bodies.

However, in view of the wide range of the accountant's responsibilities to-day, these courses are designed to do more than provide a vocational training. Students are trained to think clearly and critically about accounting concepts and aims. To this end all students are encouraged to undertake original work as a basis for the thesis compulsorily prescribed in the final year, while Honours students must attend a seminar devoted to the discussion of advanced problems in accounting and a critical review of accounting theory and practice.

Within the field of accountancy, in accordance with the special concern of this University with the application of advanced knowledge to industrial and commercial activities, considerable emphasis is placed upon the problems and methods of management accounting. Thus Honours students, in addition to the studies in cost accounting which form part of the Pass course, follow an intensive course in advanced cost accounting during their final year of study. Moreover, the courses in Accounting Control and Statistical Methods II have been carefully planned to complement each other and in doing so give all students a proper understanding of the way in which statistical and accounting techniques can be used together as control devices. By these means all students are provided with an insight into the role of accounting as an aid to management.

Full-time and part-time courses are offered leading to the degree of Bachelor of Commerce in Accountancy and each may be taken at Pass or Honours standard.
COURSE XIV—COMMERCE (ACCOUNTANCY)

The full-time course in Accountancy extends over three years for the degree of Bachelor of Commerce (Pass), and over four years for Honours.

FIRST YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.91</td>
<td>Psychology I (Com.)</td>
</tr>
<tr>
<td>14.11</td>
<td>Accounting I</td>
</tr>
<tr>
<td>15.11</td>
<td>Descriptive Economics</td>
</tr>
<tr>
<td>15.12</td>
<td>Economics I</td>
</tr>
<tr>
<td>15.21</td>
<td>Statistical Methods I</td>
</tr>
<tr>
<td>G13</td>
<td>English</td>
</tr>
<tr>
<td>G23</td>
<td>History</td>
</tr>
<tr>
<td>G30.1</td>
<td>Logic</td>
</tr>
</tbody>
</table>

SECOND YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.12</td>
<td>Accounting II</td>
</tr>
<tr>
<td>14.15</td>
<td>Accounting Control</td>
</tr>
<tr>
<td>14.33</td>
<td>Taxation</td>
</tr>
<tr>
<td>14.41</td>
<td>Law I</td>
</tr>
<tr>
<td>14.52</td>
<td>Business Finance</td>
</tr>
<tr>
<td>15.13</td>
<td>Economics II</td>
</tr>
<tr>
<td>15.14</td>
<td>Economics III</td>
</tr>
<tr>
<td>15.22</td>
<td>Statistical Methods II</td>
</tr>
</tbody>
</table>

HONOURS
Candidates for Honours will complete the first year of the Pass syllabus and undertake the following programme in second, third and fourth years.

SECOND YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.12</td>
<td>Accounting II</td>
</tr>
<tr>
<td>14.15</td>
<td>Accounting Control</td>
</tr>
<tr>
<td>14.33</td>
<td>Taxation</td>
</tr>
<tr>
<td>14.41</td>
<td>Law I</td>
</tr>
<tr>
<td>15.13</td>
<td>Economics II</td>
</tr>
<tr>
<td>15.14</td>
<td>Economics III</td>
</tr>
<tr>
<td>15.22</td>
<td>Statistical Methods II</td>
</tr>
</tbody>
</table>

THIRD YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.13</td>
<td>Accounting III</td>
</tr>
<tr>
<td>14.14</td>
<td>Accounting IV</td>
</tr>
<tr>
<td>14.23</td>
<td>Auditing</td>
</tr>
<tr>
<td>14.42</td>
<td>Law II</td>
</tr>
<tr>
<td>14.43A</td>
<td>Law III (Bankruptcy)</td>
</tr>
<tr>
<td>14.43B</td>
<td>Law III (Company)</td>
</tr>
<tr>
<td>G30.2</td>
<td>Scientific Method</td>
</tr>
<tr>
<td>Elective Subject*</td>
<td>2</td>
</tr>
</tbody>
</table>

† Bankruptcy Law, 1st term.
* Students will choose as their Elective Subject one of the following (as available):

12.92 Psychology II (Com.)
14.53A Production
14.53B Marketing
15.15 Economics IV.

Short thesis on special subject to be submitted in this year.

HONOURS
Candidates for Honours will complete the first year of the Pass syllabus and undertake the following programme in second, third and fourth years.

SECOND YEAR
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term</th>
<th>Hours per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.12</td>
<td>Accounting II</td>
</tr>
<tr>
<td>14.15</td>
<td>Accounting Control</td>
</tr>
<tr>
<td>14.33</td>
<td>Taxation</td>
</tr>
<tr>
<td>14.41</td>
<td>Law I</td>
</tr>
<tr>
<td>15.13</td>
<td>Economics II</td>
</tr>
<tr>
<td>15.14</td>
<td>Economics III</td>
</tr>
<tr>
<td>15.22</td>
<td>Statistical Methods II</td>
</tr>
</tbody>
</table>

* Honours candidates will choose their Elective Subject from those listed above with the exception of 15.15 Economics IV.
### Third Year
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.13 Accounting III</td>
<td>2 - 2</td>
<td>2 - 2</td>
</tr>
<tr>
<td>14.14 Accounting IV</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>14.23 Auditing</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.42 Law II</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>14.43A Law III (Bankruptcy)</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.43B Law III (Company)</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>15.14 Economics III</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
</tr>
</tbody>
</table>

† Bankruptcy Law, 1st term.

### Hours per week.

Term 1: 38 hours, Term 2: 36 hours, Term 3: 36 hours.

---

### Fourth Year
(34 weeks day course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.16 Advanced Cost Accounting</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>14.161 Seminar in Accounting</td>
<td>0 - 1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>14.52 Business Finance</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.53A Production</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.53B Marketing</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>15.15 Economics IV</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
</tr>
<tr>
<td>15.22 Statistical Methods II</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>G30.2 Scientific Method</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
</tbody>
</table>

### Hours per week.

Term 1: 38 hours, Term 2: 36 hours, Term 3: 36 hours.

---

### Course XIV-B—Commerce (Accountancy)

The part-time course extends over five years for a Pass degree, and six years for Honours.

### First Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.11 Accounting I</td>
<td>2 - 2</td>
<td>2 - 2</td>
</tr>
<tr>
<td>15.11 Descriptive Economics</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G13 English</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G23 History</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>G30.1 Logic</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
</tbody>
</table>

### Hours per week.

Term 1: 38 hours, Term 2: 36 hours, Term 3: 36 hours.

---

### Second Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.12 Accounting II</td>
<td>2 - 2</td>
<td>2 - 2</td>
</tr>
<tr>
<td>14.41 Law I</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>15.12 Economics I</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
</tr>
<tr>
<td>15.21 Statistical Methods I</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
</tr>
</tbody>
</table>

### Hours per week.

Term 1: 38 hours, Term 2: 36 hours, Term 3: 36 hours.

---

### Third Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.13 Accounting III</td>
<td>2 - 2</td>
<td>2 - 2</td>
</tr>
<tr>
<td>14.42 Law II</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>14.43A Law III (Bankruptcy)</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.43B Law III (Company)</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
</tr>
<tr>
<td>15.14 Economics II</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
</tr>
</tbody>
</table>

### Hours per week.

Term 1: 38 hours, Term 2: 36 hours, Term 3: 36 hours.

---

### Fourth Year
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>12.91 Psychology I (Com.)</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.14 Accounting IV</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>14.33 Taxation</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>15.14 Economics III</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
<td>1$\frac{1}{2}$ - $\frac{3}{4}$</td>
</tr>
</tbody>
</table>

### Hours per week.

Term 1: 38 hours, Term 2: 36 hours, Term 3: 36 hours.

---

### Short thesis on special subject to be submitted in this year.
### FIFTH YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.15 Accounting Control</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>14.23 Auditing</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.52 Business Finance</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>15.22 Statistical Methods II</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>G30.2 Scientific Method</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>Elective Subject*</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td></td>
<td>9 - 0</td>
<td>9 - 0</td>
<td>9 - 0</td>
</tr>
</tbody>
</table>

* The list of Elective Subjects is set out on page 87.

Short thesis on special subject to be submitted in this year.

### HONOURS

Candidates for Honours in the part-time course complete the first three years of the Pass syllabus and undertake the following programme in their fourth, fifth and sixth years.

### FOURTH YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.14 Accounting IV</td>
<td>2 - 1</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>14.23 Auditing</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.33 Taxation</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>15.14 Economics III</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
</tr>
<tr>
<td></td>
<td>7½ - ½</td>
<td>7½ - ½</td>
<td>7½ - ½</td>
</tr>
</tbody>
</table>

### FIFTH YEAR

*(34 weeks part-time course)*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>12.91 Psychology I (Com.)</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.15 Accounting Control</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>15.53 Production or Marketing</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>15.15 Economics IV</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
</tr>
<tr>
<td>15.22 Statistical Methods II</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td></td>
<td>7½ - ½</td>
<td>7½ - ½</td>
<td>7½ - ½</td>
</tr>
</tbody>
</table>

* Honours candidates will choose their Elective Subject from the list printed on page 87, with the exceptions of 15.15 Economics IV, and 14.53a Production or 14.53b Marketing (whichever subject was taken in fifth year).

Short thesis on special subject to be submitted in this year.
SCHOOL OF ECONOMICS

The demand for persons trained in the methods of economic analysis is considerable. Moreover, it continues to grow. This is not merely because the study of economics gives an understanding of the workings of modern society and develops the habit of rigorous analysis, though both these consequences are of considerable general educational value. It is largely because, in recent years, not only the public service but also commercial, financial and industrial concerns have found it much to their benefit to employ economists in a professional capacity and to encourage their promising young executives to acquire a training in the methods of economic analysis. Both the Pass and Honours curricula of the degree course in economics are designed to meet these needs by making it possible for a specialist training in economics to be combined with the study of such liberal disciplines as philosophy, history, English and psychology, and such essential commercial subjects as accounting, statistics and commercial law.

The study of economics itself is based upon a firm foundation of economic theory which is built up partly in those courses which are taken by all students reading for the degree of Bachelor of Commerce, and partly in the additional specialist courses. In the selection of these specialist courses as much latitude as possible will be given to the individual student. The student's choice, however, must be made from a list of courses offered by the School of Economics. Moreover, it must be approved by the Head of the School.

The application of advanced knowledge in the fields of industry and commerce is a special concern of the University of New South Wales. In accordance with this, particular emphasis in the teaching of economics is placed upon the application of the principles of economic analysis to problems of policy—both public and private. Students are encouraged to undertake original investigations as a basis for their compulsory thesis. Moreover, they are required to attend and participate in a seminar in contemporary economic problems. In this way the student acquires an understanding of the methods and limitations of applied economics and receives training in employing the tools of analysis developed by the economic theory.

Full-time and part-time courses are offered leading to the degree of Bachelor of Commerce in Economics and each may be taken at Pass or Honours standard.

COURSE XV—COMMERCE (ECONOMICS)

FIRST YEAR

(34 weeks day course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>12.91 Psychology I (Com.)</td>
<td>2 — 0</td>
<td>2 — 0</td>
</tr>
<tr>
<td>14.11 Accounting I</td>
<td>2 — 2</td>
<td>2 — 2</td>
</tr>
<tr>
<td>15.11 Descriptive Economics</td>
<td>2 — 0</td>
<td>2 — 0</td>
</tr>
<tr>
<td>15.12 Economics I</td>
<td>1½ — ½</td>
<td>1½ — ½</td>
</tr>
<tr>
<td>G13 English</td>
<td>2 — 0</td>
<td>2 — 0</td>
</tr>
<tr>
<td>or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G23 History</td>
<td>1 — 0</td>
<td>1 — 0</td>
</tr>
<tr>
<td>G30.1 Logic</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Hours per week.</th>
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</thead>
<tbody>
<tr>
<td>10½ — 2½</td>
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SECOND YEAR

(34 weeks day course)

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>lec. tut.</td>
<td>lec. tut.</td>
<td>lec. tut.</td>
</tr>
<tr>
<td>15.13 Economics II</td>
<td>1½ — ½</td>
<td>1½ — ½</td>
</tr>
<tr>
<td>15.14 Economics III</td>
<td>1½ — ½</td>
<td>1½ — ½</td>
</tr>
<tr>
<td>15.21 Statistical Methods I</td>
<td>1½ — ½</td>
<td>1½ — ½</td>
</tr>
<tr>
<td>Special Subject I</td>
<td>1½ — ½</td>
<td>1½ — ½</td>
</tr>
<tr>
<td>Special Subject II</td>
<td>1½ — ½</td>
<td>1½ — ½</td>
</tr>
<tr>
<td>Elective Subject*</td>
<td>2 — 0</td>
<td>2 — 0</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9½ — 2½</td>
</tr>
</tbody>
</table>

* Students will choose as their Elective Subject one of the following (as available):

12.92 Psychology II (Com.).
14.52 Business Finance.
14.53A Production.
14.53B Marketing.
14.53C Law.
14.53D Science I.
14.53E Humanities Elective.
14.53F Education I (for intending teachers).

† Economics students who intend to enter the teaching profession may take Geography I and II.
### Third Year

(34 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Control</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>Economics IV</td>
<td>1½ - ¼</td>
<td>1½ - ¼</td>
<td>1½ - ½</td>
</tr>
<tr>
<td>Statistical Methods II</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
<tr>
<td>Seminar in Economic Problems</td>
<td>0 - 1</td>
<td>0 - 1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Special Subject III</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
</tr>
<tr>
<td>Special Subject IV</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
</tr>
<tr>
<td>Seminar in Specialisation</td>
<td>0 - 1</td>
<td>0 - 1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>G30.2 Scientific Method</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
</tbody>
</table>

**Hours per week.**

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>7½ - 3½</td>
<td>7½ - 3½</td>
<td>7½ - 3½</td>
</tr>
</tbody>
</table>

Short thesis on special subject to be submitted in this year.

### Honours

Candidates for Honours will complete the first year of the full-time syllabus as set out above, and undertake the following programme in second, third and fourth years.

### Fourth Year

(34 weeks day course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production or Marketing</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Economics IV</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
</tr>
<tr>
<td>Seminar in Economic Problems</td>
<td>0 - 1</td>
<td>0 - 1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Special Subject IV</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
<td>1½ - ½</td>
</tr>
<tr>
<td>Special Subject V</td>
<td>2 - 1</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>Seminar in Special Subject</td>
<td>0 - 1</td>
<td>0 - 1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>G30.2 Scientific Method</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>1 - 0</td>
</tr>
</tbody>
</table>

**Hours per week.**

<table>
<thead>
<tr>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 - 4</td>
<td>8 - 4</td>
<td>8 - 4</td>
</tr>
</tbody>
</table>

Short thesis on special subject to be submitted in this year.

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**Footnotes:**

- Economics students who intend to enter the teaching profession may take Geography I and II.
- The two Elective Subjects will be chosen from those listed on page 93 with the exception of 14.52 Business Finance. Students may not take both 14.53A Production and 14.53B Marketing as electives.

---

*† For footnotes see next page.*
COURSE XVIII—COMMERCE (ECONOMICS)

The part-time course extends over five years for a Pass degree, and six years for Honours.

FIRST YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. tut.</td>
</tr>
<tr>
<td>14.11 Accounting I</td>
</tr>
<tr>
<td>15.11 Descriptive Economics</td>
</tr>
<tr>
<td>16.12 English</td>
</tr>
<tr>
<td>17.21 Statistical Methods I</td>
</tr>
</tbody>
</table>

SECOND YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. tut.</td>
</tr>
<tr>
<td>15.12 Economics I</td>
</tr>
<tr>
<td>15.21 Statistical Methods I</td>
</tr>
</tbody>
</table>

THIRD YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. tut.</td>
</tr>
<tr>
<td>16.13 Economics II</td>
</tr>
<tr>
<td>16.22 Statistical Methods II</td>
</tr>
<tr>
<td>Special Subject II</td>
</tr>
</tbody>
</table>

FOURTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. tut.</td>
</tr>
<tr>
<td>15.14 Economics III</td>
</tr>
<tr>
<td>Special Subject III</td>
</tr>
<tr>
<td>Seminar in Economic Problems</td>
</tr>
</tbody>
</table>

FIFTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Hours per week.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term 1.</td>
</tr>
<tr>
<td>lec. tut.</td>
</tr>
<tr>
<td>15.15 Economics IV</td>
</tr>
<tr>
<td>Seminar in Economic Problems</td>
</tr>
<tr>
<td>Special Subject IV</td>
</tr>
</tbody>
</table>

* Students will choose one subject from the list of Electives set out on page 93.
† For footnote see next page.
FOURTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.53A Production</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>14.53B Marketing</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>15.14 Economics III</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
</tr>
<tr>
<td>Special Subject I</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>Elective Subject*</td>
<td>7 - 1</td>
<td>7 - 1</td>
<td>7 - 1</td>
</tr>
</tbody>
</table>

* Students will choose two Elective Subjects from those listed on page 93 with the exception of 14.52 Business Finance.

FIFTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.52 Business Finance</td>
<td>2 - 0</td>
<td>2 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>15.15 Economics IV</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
</tr>
<tr>
<td>Special Subject III</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
</tr>
<tr>
<td>Special Subject III</td>
<td>6½ - 1½</td>
<td>6½ - 1½</td>
<td>6½ - 1½</td>
</tr>
</tbody>
</table>

†Economics students who intend to enter the teaching profession may take Geography I and II.

SIXTH YEAR
(34 weeks part-time course)

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Economic Problems</td>
<td>0 - 1</td>
<td>0 - 1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Special Subject IV</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
<td>1½ - ¾</td>
</tr>
<tr>
<td>Special Subject V</td>
<td>2 - 1</td>
<td>2 - 1</td>
<td>2 - 1</td>
</tr>
<tr>
<td>Seminar in Specialisation</td>
<td>0 - 1</td>
<td>0 - 1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>3½ - 3½</td>
<td>3½ - 3½</td>
<td>3½ - 3½</td>
<td></td>
</tr>
</tbody>
</table>

Short thesis on special subject to be submitted in this year.

SCIENCE COURSES

In addition to the courses in Applied Science which are described under the names of the various Schools, the University offers a more broadly based course leading to the degree of Bachelor of Science.

No industrial experience is required. A Pass degree may be awarded after three years, or an Honours degree after four years, of full-time study. The course may be taken by part-time study, normally requiring seven years for the Pass degree.

Students are required to discuss the choice of their subjects with the Dean of the Faculty of Science or his representative.

Students who commenced the Science course in 1955 or later years will follow the curriculum as here set out. Students who have completed a stage of the Science course IIb2 prior to 1955, may, subject to normal progression, follow the syllabus set out in the 1954 Calendar.

COURSE XXII—SCIENCE

1. A student is required to select his course from the following groups of qualifying subjects in accordance with the provisions set out in subsequent clauses.

(a) Humanities—

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>G10 English</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G20 History</td>
<td>1 - 0</td>
<td>1 - 0</td>
<td>2 - 0</td>
</tr>
<tr>
<td>G30 Philosophy</td>
<td>0 - 0</td>
<td>2 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>Social Science</td>
<td>2 - 0</td>
<td>0 - 0</td>
<td>0 - 0</td>
</tr>
<tr>
<td>Advanced Elective (Humanities or Social Science)</td>
<td>0 - 0</td>
<td>2 - 0</td>
<td>0 - 0</td>
</tr>
</tbody>
</table>

(b) Science Subjects—

<table>
<thead>
<tr>
<th>Course</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
</table>
| Group I—
| Chemistry I     | 3 - 4  | 3 - 4  | 3 - 4  |
| Mathematics I   | 4 - 2  | 4 - 2  | 4 - 2  |
| Physics I       | 3 - 3  | 3 - 3  | 3 - 3  |
| Geology I       | 3 - 4  | 3 - 4  | 3 - 4  |
| Psychology I    | 3 - 4  | 3 - 4  | 3 - 4  |
| General Biology*| 2 - 4  | 2 - 4  | 2 - 4  |
| Geography I     | 2 - 3  | 2 - 3  | 2 - 3  |
2. In order to qualify for admission to the degree of Bachelor of Science under these regulations a candidate must attend the classes and satisfy the examiner in the following subjects:

(a) The Humanities listed under Section 1 (A);

(b) eight subjects selected from the Science subjects listed under Section 1 (B) to include three subjects from Group I, three subjects from Group II, and two subjects from Group III of which at least one must be from Part (a) provided that:

(i) A student may substitute a subject from Group I for a subject from Group II;

(ii) A student may substitute a subject from Group II for a subject from Group III, if the selection of this subsidiary subject is one approved by the Faculty of Science;

(iii) The proposed course must be approved by the Dean of the Faculty of Science or his representative during enrolment;

(iv) The selected course includes at least two of the subjects Chemistry I, Physics I, Mathematics I;

(v) The requirements of Section 4, with respect to pre-requisite and co-requisite subjects are satisfied;

(vi) A student may not include in his eight subjects:

(i) both Chemistry II and Chemistry II A;

(ii) both Mathematics II (Pure) and Higher Mathematics II (Pure);

(iii) both Mathematics II (Applied) and Higher Mathematics II (Applied);

(iv) both Mathematics III (Pure) and Higher Mathematics III (Pure);

(v) both Chemistry II A and Biochemistry I.

<table>
<thead>
<tr>
<th>Group I —</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry II</td>
<td>4 - 8</td>
<td>4 - 8</td>
<td>4 - 8</td>
</tr>
<tr>
<td>Mathematics II (Pure)</td>
<td>3 - 2</td>
<td>3 - 2</td>
<td>3 - 2</td>
</tr>
<tr>
<td>Mathematics II (Applied)</td>
<td>3 - 2</td>
<td>3 - 2</td>
<td>3 - 2</td>
</tr>
<tr>
<td>Higher Mathematics II (Pure)</td>
<td>6 - 0</td>
<td>6 - 0</td>
<td>6 - 0</td>
</tr>
<tr>
<td>Higher Mathematics II (Applied)</td>
<td>5 - 0</td>
<td>5 - 0</td>
<td>5 - 0</td>
</tr>
<tr>
<td>Physics II</td>
<td>4 - 4</td>
<td>4 - 4</td>
<td>4 - 4</td>
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<tr>
<td>Geology II</td>
<td>4 - 6</td>
<td>4 - 6</td>
<td>4 - 6</td>
</tr>
<tr>
<td>Psychology II</td>
<td>3 - 6</td>
<td>3 - 6</td>
<td>3 - 6</td>
</tr>
<tr>
<td>Theory of Statistics I</td>
<td>4 - 3</td>
<td>4 - 3</td>
<td>4 - 3</td>
</tr>
<tr>
<td>Chemistry II A</td>
<td>3 - 6</td>
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<tr>
<td>Biochemistry I</td>
<td>3 - 6</td>
<td>3 - 6</td>
<td>3 - 6</td>
</tr>
<tr>
<td>Botany I*</td>
<td>3 - 6</td>
<td>3 - 6</td>
<td>3 - 6</td>
</tr>
<tr>
<td>Zoology I*</td>
<td>3 - 6</td>
<td>3 - 6</td>
<td>3 - 6</td>
</tr>
<tr>
<td>Geography II</td>
<td>2 - 3</td>
<td>2 - 3</td>
<td>2 - 3</td>
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</table>

<table>
<thead>
<tr>
<th>Group II —</th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry III</td>
<td>4 - 10</td>
<td>4 - 10</td>
<td>4 - 10</td>
</tr>
<tr>
<td>Mathematics III (Pure)</td>
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<td>4 - 1</td>
<td>4 - 1</td>
</tr>
<tr>
<td>Higher Mathematics III (Pure)</td>
<td>6 - 1</td>
<td>6 - 1</td>
<td>6 - 1</td>
</tr>
<tr>
<td>Physics III</td>
<td>4 - 8</td>
<td>4 - 8</td>
<td>4 - 8</td>
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<tr>
<td>Geology III</td>
<td>5 - 8</td>
<td>5 - 8</td>
<td>5 - 8</td>
</tr>
<tr>
<td>Psychology III</td>
<td>4 - 7</td>
<td>4 - 7</td>
<td>4 - 7</td>
</tr>
<tr>
<td>Biochemistry III*</td>
<td>3 - 10</td>
<td>3 - 10</td>
<td>3 - 10</td>
</tr>
<tr>
<td>Botany III*</td>
<td>3 - 10</td>
<td>3 - 10</td>
<td>3 - 10</td>
</tr>
<tr>
<td>Zoology III*</td>
<td>3 - 10</td>
<td>3 - 10</td>
<td>3 - 10</td>
</tr>
<tr>
<td>Microbiology III*</td>
<td>3 - 6</td>
<td>3 - 9</td>
<td>3 - 9</td>
</tr>
<tr>
<td>Geography III</td>
<td>2 - 3</td>
<td>2 - 3</td>
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<table>
<thead>
<tr>
<th>Group III —</th>
<th>Part (a)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry III</td>
<td>4 - 10</td>
<td>4 - 10</td>
</tr>
<tr>
<td>Mathematics III (Pure)</td>
<td>4 - 1</td>
<td>4 - 1</td>
</tr>
<tr>
<td>Higher Mathematics III (Pure)</td>
<td>6 - 1</td>
<td>6 - 1</td>
</tr>
<tr>
<td>Physics III</td>
<td>4 - 8</td>
<td>4 - 8</td>
</tr>
<tr>
<td>Geology III</td>
<td>5 - 8</td>
<td>5 - 8</td>
</tr>
<tr>
<td>Psychology III</td>
<td>4 - 7</td>
<td>4 - 7</td>
</tr>
<tr>
<td>Biochemistry III*</td>
<td>3 - 10</td>
<td>3 - 10</td>
</tr>
<tr>
<td>Botany III*</td>
<td>3 - 10</td>
<td>3 - 10</td>
</tr>
<tr>
<td>Zoology III*</td>
<td>3 - 10</td>
<td>3 - 10</td>
</tr>
<tr>
<td>Microbiology III*</td>
<td>3 - 6</td>
<td>3 - 9</td>
</tr>
<tr>
<td>Geography III</td>
<td>2 - 3</td>
<td>2 - 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part (b)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics III (Applied)</td>
<td>3 - 2</td>
</tr>
<tr>
<td>Higher Mathematics III (Applied)</td>
<td>6 - 1</td>
</tr>
<tr>
<td>Theory of Statistics II</td>
<td>4 - 4</td>
</tr>
<tr>
<td>Advanced Inorganic Chemistry</td>
<td>2 - 8</td>
</tr>
<tr>
<td>Advanced Organic Chemistry</td>
<td>2 - 8</td>
</tr>
<tr>
<td>Advanced Physical Chemistry</td>
<td>2 - 8</td>
</tr>
<tr>
<td>Physics III (Applied)</td>
<td>4 - 4</td>
</tr>
</tbody>
</table>

* Available at Sydney only.

† A student who selects an unusual combination of subjects or subjects chosen from more than one group in one year may be required, owing to the exigencies of the timetable, to attend for more than the minimum number of years and/or at night classes.
3. In general a full-time student should complete his course as follows:—

First Year
(a) G10 English, G20 History.
(b) Three Subjects from Group I.

Second Year
(a) G30 Philosophy, Social Science Elective.
(b) Three subjects from Group II, or two subjects from Group II and one from Group I.

Third Year
(a) Advanced Elective (Humanities or Social Science).
(b) Two subjects from Group III, Part (a) and one from Group III Part (b), or one subject from Group II approved by the Faculty of Science.

4. (a) Before enrolling for any subject listed in Group II, the student shall have attended the classes and satisfied the examiners in the corresponding subject in Group I and before enrolling for any subject listed in Group III, the student shall have attended classes and satisfied the examiners in the corresponding subject listed in Group II.

(b) Before enrolling in any subject listed in the left hand column below, the student shall have attended the classes and satisfied the examiners in the subjects indicated as pre-requisites.

Subject

<table>
<thead>
<tr>
<th>Group II</th>
<th>Pre-requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry II A</td>
<td>Chemistry I and General Biology.</td>
</tr>
<tr>
<td>Physics II</td>
<td>Mathematics I.</td>
</tr>
<tr>
<td>Botany I</td>
<td>General Biology.</td>
</tr>
<tr>
<td>Zoology I</td>
<td>General Biology.</td>
</tr>
<tr>
<td>Biochemistry I</td>
<td>General Biology.</td>
</tr>
<tr>
<td>Theory of Statistics I</td>
<td>Mathematics I.</td>
</tr>
</tbody>
</table>

Subject

<table>
<thead>
<tr>
<th>Group III</th>
<th>Pre-requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry III</td>
<td>Mathematics I.</td>
</tr>
<tr>
<td>Physics III</td>
<td>Mathematics II (Pure) or Higher Mathematics II (Pure).</td>
</tr>
</tbody>
</table>

Subject

Pre-requisite

Chemistry II A or Biochemistry I or Chemistry II.
Chemistry II A or Biochemistry I or Chemistry II.
Chemistry II A or Biochemistry I.
Mathematics II (Pure) or Higher Mathematics II (Pure).
Physics II.

Subject

<table>
<thead>
<tr>
<th>Group II</th>
<th>Pre-requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics II (Applied)</td>
<td>Mathematics II (Pure) or Higher Mathematics II (Pure).</td>
</tr>
<tr>
<td>Higher Mathematics II (Applied)</td>
<td>Higher Mathematics II (Pure).</td>
</tr>
<tr>
<td>Biochemistry I</td>
<td>Chemistry II.</td>
</tr>
</tbody>
</table>

Subject

Pre-requisite

Advanced Inorganic Chemistry
Advanced Organic Chemistry
Advanced Physical Chemistry
Theory of Statistics II
Mathematics III (Applied)
Higher Mathematics III (Applied)
Higher Mathematics III (Pure).
(d) Before enrolling in an Advanced Elective (Humanities or Social Science), the student shall have attended the classes and satisfied the examiners in each of the subjects G10 English, G20 History, G30 Philosophy and G41 or G51 or G61 or G81 Social Science Electives.

5. (a) Where any alteration in the course approved at enrolment is desired, the student must obtain the approval of the Dean of the Faculty of Science or his representative for the new course.

(b) A student who wishes to attempt an Honours Degree in a School should seek the advice of the Head of that School at the end of his first year programme (see 3 above).

(c) A student wishing to enrol in an Honours Course in a School may be required to complete extra work concurrently with the Pass Degree work.

COURSE XXIIb—SCIENCE

6. For the benefit of part-time students the subjects of the courses are provided in sections so that the requirements for the Pass Degree may be satisfied by seven years of part-time study of approximately 12 hours per week.†

The following table shows the time allocation (hours/week) for the various subjects:

(A) HUMANITIES—As listed under Section 1 (A).

(B) SCIENCE SUBJECTS—

<table>
<thead>
<tr>
<th>Group I—</th>
<th>Hours per week for 34 weeks. lec. lab./tut.</th>
<th>lec. lab./tut.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry I</td>
<td>Part I 2 — 2</td>
<td>Part II 1 — 2</td>
</tr>
<tr>
<td>Mathematics I</td>
<td>Part I 1½ — 1</td>
<td>Part II 1½ — 1</td>
</tr>
<tr>
<td>Physics I</td>
<td>Part I 2 — 1</td>
<td>Part II 2 — 1</td>
</tr>
<tr>
<td>Geology I</td>
<td>Part I 2 — 1</td>
<td>Part II 2 — 1</td>
</tr>
<tr>
<td>Biology I</td>
<td>Part I 2 — 4</td>
<td>Part II 2 — 4</td>
</tr>
<tr>
<td>Geology I I</td>
<td>Part I 2 — 3</td>
<td>Part II 2 — 3</td>
</tr>
<tr>
<td>Psychology I</td>
<td>Part I 2 — 4</td>
<td>Part II 2 — 4</td>
</tr>
<tr>
<td>Theory of Statistics I</td>
<td>Part I 2 — 2</td>
<td>Part II 2 — 2</td>
</tr>
<tr>
<td>Botany I</td>
<td>Part I 2 — 4</td>
<td>Part II 2 — 4</td>
</tr>
<tr>
<td>Zoology I</td>
<td>Part I 2 — 4</td>
<td>Part II 2 — 4</td>
</tr>
<tr>
<td>Geography I</td>
<td>Part I 2 — 3</td>
<td>Part II 2 — 3</td>
</tr>
<tr>
<td>Psychology III</td>
<td>Part I 2 — 4</td>
<td>Part II 2 — 4</td>
</tr>
<tr>
<td>Biochemistry I</td>
<td>Part I 1 — 5</td>
<td>Part II 2 — 5</td>
</tr>
<tr>
<td>Botany II</td>
<td>Part I 1 — 5</td>
<td>Part II 2 — 5</td>
</tr>
<tr>
<td>Zoology II</td>
<td>Part I 1 — 5</td>
<td>Part II 2 — 5</td>
</tr>
<tr>
<td>Microbiology I</td>
<td>Part I 1 — 5</td>
<td>Part II 2 — 5</td>
</tr>
<tr>
<td>Geography III</td>
<td>Part I 2 — 3</td>
<td>Part II 2 — 3</td>
</tr>
</tbody>
</table>

† All possible combinations of subjects allowed by these regulations will not, owing to the exigencies of the timetable, be available to lead to the degree in the minimum time.

* Available at Sydney only.

7. A part-time student must select his subjects in compliance with the regulations set out above for full-time students.

* Psychology III will not be offered part-time until demand for the subject increases. A psychology major is available in the Applied Psychology course on a part-time basis.

† Available at Sydney only.
HONOURS

8. (a) A suitably qualified candidate may be admitted to an Honours Course in one of the following subjects requiring an extra year of full-time or two extra years of part-time work:

(i) Biochemistry*.
(ii) Botany*.
(iii) Chemistry.
(iv) Geography.
(v) Geology.
(vi) Mathematics.
(vii) Microbiology*.
(viii) Physics.
(ix) Psychology.
(x) Theory of Statistics.
(xi) Zoology*.

(b) A student desiring admission to the Honours Course must apply to the Head of the appropriate School on completion of the Pass Degree requirements.

(c) A student proceeding to Honours in any School must attend lectures, read and engage in laboratory work as may be required by the Head of the School.

(d) A student wishing to proceed to Honours in Physics will be required to have completed Physics III and Mathematics III (Pure) or Higher Mathematics III (Pure).

(e) A student wishing to proceed to Honours in Geography must attend special seminars while taking Geography II and Geography III.

(f) A student wishing to proceed to Honours in Mathematics must complete Higher Mathematics III (Pure) and Higher Mathematics III (Applied).

(g) A student wishing to proceed to Honours in Theory of Statistics must have completed Higher Mathematics III (Pure) and additional work in connection with Theory of Statistics I and II.

* Available at Sydney only.

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

All undergraduates are required to complete a number of courses in the humanities and social sciences. Students in the Departments of Science, Engineering or Technology must take a course in each of the subjects, English, History, and Philosophy, and must elect to take one of the social science subjects, Psychology, Economics, and Government. Students taking the Advanced Elective will complete a further course in one of the four subjects already studied. In the Department of Commerce, students must take Logic and Scientific Method, and either English or History, and they may elect to study a further course in the humanities or social sciences. The syllabi of the courses offered are set out in detail in the Calendar of the University of New South Wales.

| G10  | English     | Compulsory subjects. |
| G20  | History     |
| G30  | Philosophy  |
| G41  | Economics   |
| G61  | Psychology  |
| G12  | English     |
| G22  | History     |
| G32  | Philosophy  |
| G42  | Economics   |
| G62  | Psychology  |
| G13  | English     |
| G23  | History     |
| G33  | Philosophy  |
| G43  | Economics   |
| G63  | Psychology  |
| G50.1| Government  |

| Social Science Elective subjects. |
| Advanced Elective subjects. |
| Conversion course subjects. |
DEPARTMENT OF ARTS

Courses leading to a degree in Arts are offered at the College. Prior to the passing of the University of New South Wales Act, 1958, these courses led to the award of the B.A. degree of the University of New England. The 1958 Act, however, gave the University power to award its own degrees in this field, and from 1959 students enrolling in Arts courses at Newcastle will proceed to the degree of Bachelor of Arts of the University of New South Wales.

A Degree of Bachelor of Arts (B.A.) is awarded in two grades (Pass and Honours) and what is required of Honours students differs substantially after the first year from what is required of Pass students. The option to undertake a Pass or an Honours course is exercised by the student generally at the beginning of the second academic year. The present regulations require that to secure a Pass B.A. students must have to their credit nine “qualifying courses” obtained in not less than three years; to secure a B.A. with Honours students are required to qualify in eight courses normally taken over a four-year period. A “Qualifying course” is a course in which a student has passed and which meets certain requirements regarding “groups” and “sequences”. Attendance at lectures is compulsory and satisfactory completion of class work (essays, exercises, etc.), is a pre-requisite for candidature at the annual examinations.

SELECTION OF COURSES

In 1959 the following courses preparatory to a degree in Arts will be offered at Newcastle.

**GROUP I**

- English.
- French.
- German.
- Latin.
- Greek.

Elementary courses in German and in Greek may also be offered if suitably qualified students are forthcoming. These courses only count as “qualifying courses” for degrees if in each case they form the first of a sequence of three.

**GROUP II**

- History.
- Philosophy.
- Pure Mathematics.

**GROUP III**

- Economics.
- Education.
- Geography.
- Psychology.

**GROUP IV**

- Applied Mathematics.
- Chemistry.
- Geology.
- Physics.

Candidates are required to pass in nine courses chosen from at least two groups: a maximum of three qualifying courses can be chosen from Group IV.

**Sequences**

A major sequence is a subject studied in three consecutive courses (e.g., English I, English II, English III).

A minor sequence is a subject studied in two consecutive courses (e.g., English I, English II).

The nine courses for the degree must comprise one of the following patterns of sequences:

(a) Two major sequences, one minor sequence and one other subject.

(b) Three major sequences (three third-year courses may be taken in one year only by special permission of the Faculty).

(c) One major sequence and three minor sequences.

(d) Two major sequences and three first year courses.

(e) One major sequence, two minor sequences and two first-year subjects.

Degree courses of patterns (c), (d) and (e) require the approval of the Faculty.
Candidates are not permitted to take the courses in Education until they have completed two other qualifying courses including either Philosophy I or Psychology I. Education I may be counted as the second of a sequence of two courses of which the first is either Philosophy I or Psychology I.

Graduates in other Faculties who desire to obtain the degree of Bachelor of Arts (either Pass or Honours) must complete at least seven courses in Arts chosen in accordance with the regulations after special approval has been granted in each individual case.

Candidates desiring to graduate with Honours are subject to slightly different regulations as to the choice of the eight qualifying courses, which are to be taken in a minimum period of four years.

Honours are at present offered in English, French, German, History, Philosophy, Psychology, Economics, Education and Geography.

The Annual Examinations (both Pass and Honours) are held in Newcastle during November and December each year. Notice of intention to sit must be given on the prescribed form and, in the case of students proceeding to a New England degree, accompanied by the examination fee of £3 during the month of June.

CLUBS AND SOCIETIES

The following Clubs and Societies are open to students of the College. Further details are available from Mr. K. G. Booth, Student Welfare Officer.

Alliance Française.
Architectural Club.
Athletics Club.
Australian Student Christian Movement.
Badminton Club.
Basketball Club—Men.
Basketball Club—Women.
Bushwalking Club.
Chess Club.
Commerce Society.
Cricket Club.
Debating Club.
Evangelical Union.
Goethe Society.
Hockey Club—Women.
Metallurgical Society.
Newcastle University College Students’ Association.
Newman Society.
Photography Club.
Recorded Music Society.
Rugby Union Club.
Speleological Club.
Squash Club.
Strathspey and Reel Club.
Table Tennis Club.
Tennis Club.
Weightlifting Club.
PRIZES

DEPARTMENT OF SCIENCE

Physics Staff Prize
A prize of twenty-five pounds, provided by the staff of the School of Applied Physics at Newcastle University College, is to be awarded on the recommendation of the donors to the outstanding third year student in Physics.

1957—L. Williams.

Royal Australian Chemical Institute (Newcastle Section) Prize for Chemistry
A prize of five guineas is awarded annually for the best pass in first year Chemistry gained by a student member of the Institute in Newcastle.

1957—C. J. Fell.

DEPARTMENT OF ENGINEERING

The Institution of Engineers, Australia (Newcastle Division) Prize in Engineering
A prize of twenty-five guineas has been made available for award annually to the outstanding third year student in a full-time degree course in the Faculty of Engineering at the Newcastle University College.

1957—Not awarded.

The William Edward Clegg Memorial Prize in Mechanical Engineering
A prize of twenty pounds, provided by the staff of the School of Mechanical Engineering and industrial and commercial organisations in Newcastle, is to be awarded annually to the outstanding graduate in Mechanical Engineering at Newcastle University College.

1957—Not awarded.

DEPARTMENT OF TECHNOLOGY

The Edward John Phillips Memorial Prize in Geology
A prize is donated annually by the Hunter Valley Branch of the Geological Society of Australia to the outstanding student in first year Geology at Newcastle University College.

1957—M. Johnson (i).

K. Marjoribanks (ii).

DEPARTMENT OF COMMERCE

C. J. Chandler Prize for General Proficiency in Commerce I
A prize of five guineas donated annually.

1957—B. McGregor.

SCHOOL OF ARCHITECTURE AND BUILDING

Royal Australian Institute of Architects (Newcastle Division) Prize in Architecture
The Royal Australian Institute of Architects (Newcastle Division) donates annual prizes of five guineas each for award to the outstanding students in the senior and junior schools.

1957—R. Armstrong—Senior School.

Board of Architects of N.S.W. Special Prize of £10 10s. to the outstanding student completing the Diploma Course in Architecture at Newcastle each year.

1957—Not awarded.

DEPARTMENT OF ARTS

The prizes are awarded on the recommendation of the heads of the individual schools after the results of the annual examinations have been announced. In the case of first year prizes a preference is given to students pursuing a full-time course; and for second or later year prizes, credit or distinction standard is normally demanded.

Sarah Wheeler History Prizes
Established by a gift of five hundred pounds from Linda May and Harry Lambert Wheeler in memory of the latter’s mother, Sarah Wheeler; the income to provide prizes for the outstanding students in the first three years of the History course.

First year:
1957—W. E. Gore.

Second Year:
1957—E. H. Williams.

Third Year:
1957—Nola Thomas.
Helmore Prizes in French

Established by two separate gifts of one hundred pounds each from Dr. Basil A. Helmore; the interest on the first one hundred pounds to provide a prize for the outstanding student in French in the first year; and the interest on the second one hundred pounds to provide the Gertrude Helmore Prize in second year French, commemorating the donor’s mother.

Helmore French Prize:
1957—Kathleen Temple.

Gertrude Helmore French Prize:
1957—Judith Bullerwell.

Geographical Society of N.S.W. (Newcastle Branch) Prize in Geography

The Geographical Society of New South Wales (Newcastle Branch) donates an annual prize of five guineas for the outstanding student in first year Geography.

1957—G. Spencer.

"Newcastle Morning Herald" English Prizes

The directors of the "Newcastle Morning Herald and Miners' Advocate Pty. Ltd." have agreed to make available annually a sum of money towards the provision of prizes in English during the various years of the undergraduate courses.

First year:
1957—Marjorie Biggins.

Second year:
1957—Beryl Alexander.

Third year:
1957—C. A. Whitehead.

Fourth year:
1957—D. C. Laycock.

Morison Economics Prizes

Founded by Miss Annie Jean Morison in 1957, with the donation of one thousand pounds in memory of her sisters Gwendolyn Emily Morison and Vina Winifred Morison, daughters of David Niven Morison, of the firm of Morison and Bearby, of the City of Newcastle. The interest is to provide prizes, open to students of any faculty, in all years of the courses in Economics.

First year:
1957—K. W. Tisdell (Commerce I).

Second year:
1957—J. Cardenzana (Commerce II).

Third year:
1957—J. J. Grady (Arts III).

Fourth year:
1957—J. W. Hemmings (Arts IV).
CURRENT RESEARCH AND PUBLICATIONS

The following research activities and publications were undertaken in the various Schools of Newcastle University College during the previous year.

SCHOOL OF APPLIED PHYSICS

(a) As a requirement for the degree of Doctor of Philosophy:


(b) As a requirement for the degree of Master of Science:

Some applications of electronic techniques to high resolution spectroscopy—J. E. Cleary.

Other Research


Address


SCHOOL OF CHEMISTRY

(a) As a requirement for the degree of Doctor of Philosophy:

(i) A study of naturally occurring resins—T. J. Batterham.


(iii) The mechanism of electro-chromatography—F. L. Ward.

(b) As a requirement for the degree of Master of Science:

(i) Kinetics of substitution in square complex compounds—G. Curthoys.

(ii) Quantitative microphotometric analyses in filter paper—E. B. Jacobs.


Other Research

(i) Reactions of unsymmetrical phthalic acid derivatives—K. A. Allen.


(iii) Synthesis of polyazo condensed ring systems—H. Duewell.

(iv) Application of chelating agents to metal analysis—J. Miller and W. F. Pickering.

(v) Construction of radio-frequency spectroscope—W. Hay and E. Sullivan.

(vi) Dielectric measurements under high strength electric fields—E. Sullivan and D. Swinkels.

(vii) Atomic polarisation studies—E. Sullivan.

(viii) Complexes of molybdenum (iii)—W. R. Walker.

(ix) Gas chromatography—W. R. Walker and E. Curthoys.

(x) Unusual complex of copper with O. phenantholin—W. R. Walker.

Publications


Address

"Radiation Hazards"—W. R. Walker. Presidential address, Royal Australian Chemical Institute (Newcastle).
SCHOOL OF CHEMICAL ENGINEERING

(a) As a requirement for the degree of Doctor of Philosophy:

(i) Steady state chlorination of the polychloroethanes—J. S. Ratcliffe.

(ii) Mass transfer in sieve trays—W. G. Kirchner.

(b) As a requirement for the degree of Master of Science:

(i) Aerodynamic and thermodynamic studies of blast furnaces—K. V. Barratt.

(ii) Electrodeposition of aluminium—B. O. Holland.


SCHOOL OF METALLURGY

(a) As a requirement for the degree of Doctor of Philosophy:


(ii) Thermodynamics of alloys—W. A. Oates.

(b) As a requirement for the degree of Master of Science:

(i) Deformation of B.C.C. metals—J. E. McLennan.


Other Research

(i) Kinetics of solid state reactions—W. A. Oates.

(ii) Mechanism of eutectic solidification—W. A. Oates.


SCHOOL OF MECHANICAL ENGINEERING

(a) As a requirement for the degree of Master of Engineering:

The design, construction and experimental testing of a high pressure quick-steaming boiler—K. R. Bridger.

Other Research

(i) Hydraulic model research on wave dispersion—A. K. Johnston.

(ii) The mechanical properties of rubber under slow cyclic loading conditions—E. Betz.

Publications


SCHOOL OF ELECTRICAL ENGINEERING
Research
(i) The development of transformerless transistor audio amplifiers—J. H. Caldwell.
(ii) Sample data-servo systems—T. Glucharoff.
(iii) Aspects of V.H.F. radio communication by single side band technique—C. Yates.
(iv) Speed control of squirrel cage induction motors—H. G. Middlehurst.

Addresses

SCHOOL OF MINING ENGINEERING AND APPLIED GEOLOGY
Research
(i) The stratigraphy of the Stuart Town-Mumbie district—Elizabeth A. Teasdale.
(ii) The effect of hydrothermal activity on volcanic rocks with special reference to the tertiary basalts, Barrington Tops, N.S.W.—Beryl Nashar.
(iii) The petrology and remanent magnetism of the coastal dykes of N.S.W.—A. S. Ritchie and Beryl Nashar.
(iv) The stratigraphy and palaeontology of the lower carboniferous rocks of the western limb of the Werrie Syncline—B. A. Engel et al.
(v) The glaciology of portions of the Snowy Mountains—A. S. Ritchie.
(vi) Geology applied to conservation in the Wollombi Brook catchment—A. S. Ritchie.
(vii) The nature and origin of the Tomago Sandbeds—A. S. Ritchie.
(viii) The stratigraphy and palaeontology of the Bulahdelah-Port Stephens district—B. A. Engel. (Thesis being prepared for submission to the University of New England for the degree of Master of Science.)

Publications

Address

SCHOOL OF CIVIL ENGINEERING
(a) As a requirement for the degree of Doctor of Philosophy:
   An investigation of structure foundation interaction—G. J. Haggarty.
(b) As a requirement for the degree of Master of Engineering:
   Effect of additives on the strength of stabilized soil—A. Herzog.

Other Research
(i) An investigation of methods of stabilizing the “Black Soils” of Western New South Wales—A. Herzog.
(ii) An investigation of the shear characteristics of the soils in the Newcastle area—G. J. Haggarty.
(iii) Determination in infiltration indices for a small catchment—A. Herzog.
(iv) Effect of moisture content at testing on the indicated strength of concrete—W. S. Butcher.
(v) The effect of revibration on concrete properties—W. S. Butcher.
(vi) Programming structural design problems for the digital computer—K. Sellick.

Publications


**Addresses**


(iii) “Modern Concepts of the Shear Strength of Clays”—G. J. Haggarty. Institution of Engineers, Australia, Newcastle Division.

(iv) “Concrete Practice in Building”—W. S. Butcher. Newcastle Division of the N.S.W. Chapter of the Royal Australian Institute of Architects.

**SCHOOL OF MATHEMATICS**

**Research**

(i) Some technological applications of the flow of fluids through porous conduits—I. L. Rose.

(ii) Statistical thermodynamics for nearly spherical molecules—J. A. Lambert.

(iii) An axiomatic theory of sets—R. F. Matlak.

(iv) Problems arising out of the electro-magnetic levitation and heating of materials—W. Brisley.

**Publication**


**SCHOOL OF ARCHITECTURE**

**Research**

(i) Plan for the integrated development of recreational areas in Toronto for the Toronto Workers Club and the Toronto Urban Area Committee of the Lake Macquarie Shire Council—E. C. Parker.


**Department of Arts**

**Classics**

**Research**

Continuation of work on the character of poetic diction in Latin poetry—J. Duhigg.

**Publication**


**English**

**Research**

(i) A study of the prose writings of Dylan Thomas—D. C. Muecke.


(v) Christ-consciousness in the Middle Ages—J. P. Beston.

**Publication**


**French**

**Research**


(iii) La formation de Loys Masson, poète et romancier contemporain—M. Caillot.

**Publications**


122
Geography

Research

(i) Moisture problems in Eastern Australia—A. D. Tweedie.
(iii) Origin of stepped erosion surfaces in Eastern Australia—W. F. Geyl.
(iv) A study of the geographical character of Queensland and Northern Australia—A. D. Tweedie.

Address


German

Research

(i) A modern English-German word and phrase book—G. K. Connolly.
(ii) 18th century German literature on the South Pacific—L. Bodi.
(iii) Literary life in Eastern Germany—L. Bodi.
(v) Georg Forster: the Pacific expert of 18th century Germany—L. Bodi.
(vi) On certain aspects of Stifter’s narrative style—Marlene J. Norst. (Thesis being prepared for submission to the University of Sydney for the degree of Master of Arts.)

Addresses

(i) Georg Forster und die Probleme des Pazifik”—L. Bodi. German Languages Research Seminar, University of Melbourne, April, 1958.

History

Research

(i) The role of the small power in international organisation with particular reference to Australia—G. A. Cranfield.
(v) Pearling industry, with particular reference to coloured labour in Queensland—J. P. S. Bach.
(vi) The economic objectives and history of the first settlements on the North Coast of New Holland—J. P. S. Bach.
(vii) The administration of the naval station at Port Jackson 1788-1915, with particular reference to the problems of naval stores and ship maintenance—J. P. S. Bach.
(viii) The exploitation of Australian coastal waters by foreign fishing enterprises (including whaling, sealing, trepanging and pearling)—J. P. S. Bach.
(ix) Australian history—historical background of the Australian universities—J. J. Auchmuty. A chapter has been prepared for the forthcoming “Australian Humanities Survey” in collaboration with Professor A. N. Jeffares of the University of Leeds.
(x) The history of international law and organisation—G. A. Cranfield, with particular reference to the part played by Australia in the League of Nations and the United Nations.

Publications


Addresses


Philosophy

Research

(i) The relation between logical systems and language in use—A. M. Ritchie.

(ii) The actual structure of the sentential calculus as an uninterpreted and interpreted calculus—A. M. Ritchie.


Address


Psychology

Research

(i) Opinions and attitudes in relation to personality; a theoretical and methodological study—D. R. Martin.

(ii) The hyperbola as the theoretical model of problem-solving, with particular reference to relatively unstructured situations—A. C. Hall.

(iii) Some aspects of aesthetic appreciation in pictorial art—A. C. Hall.

(iv) Study of reading efficiency at the tertiary level—Irene Edmonds.

(v) The perception of slant—Irene Edmonds.

(vi) Experimental studies of habituation—K. H. Star.

(vii) Experimental study of re-active inhibition and its relationship to certain personality traits—K. H. Star. (Thesis accepted by the University of London for the degree of Doctor of Philosophy.)

Publication


Addresses


Department of Commerce

Research

(i) Problems in growth and development—W. P. Hogan.

(ii) The control of selling costs in retail organisations—B. T. Colditz as Chairman of a Research Group of Newcastle Branch of the Australian Society of Accountants.

(iii) A comparative study of the national accounts of Australia, the United Kingdom and the United States—B. L. Johns.
(iv) Income survey and land use survey of Hunter Valley Region—R. W. Peters, as Chairman of the Economic Committee of the Hunter Valley Research Foundation.

(v) Liquidity, the Monetary Supply and Investment—Observations on the treatment of money in macroeconomic theory—R. W. Peters. (Thesis being prepared for submission to the University of Cambridge for the degree of Doctor of Philosophy.)

(vi) The Australian Tariff Policy—M. Bernasek. (Thesis being prepared for submission to the University of Sydney for the degree of Master of Economics.)

(vii) The organisation and operation of the sales finance company in the hire purchase process in Australia—B. J. Gordon. (Thesis being prepared for submission to the University of Sydney for the degree of Master of Economics.)

Publications

