FACULTY OF SCIENCE HANDBOOK

CALENDAR 1985

Volume 10
This Volume is intended as a reference handbook for students enrolling in courses conducted by the Faculty of Science.

The colour band, Topaz BCC 4, on the cover is the lining colour of the hood of Bachelor of Science of this University.

The information in this Handbook is correct as at 20 August 1984.

FOREWORD

I bid a hearty “Welcome” to both the “Freshers” and the “Old Hands”.

It is our general wish that your sojourn at the University should be a period of mental stimulation and social enjoyment; a time in which preparation for a future career is intertwined with the development of a sense of responsibility and concern for the world around us.

The rapid advances in science and technology of past decades have led to unsurpassed standards of living and personal comfort, but the social and economic problems that follow in their wake are only currently becoming apparent.

Your enrolment in the Faculty of Science indicates that you desire to contribute to the tasks of controlling and developing our environment, and whether you choose to be a prospecting geologist, research physicist, industrial chemist or one of the many other careers open to science graduates, each career carries with it a moral obligation to consider the impact of your actions on others.

I therefore urge you to adopt the University motto, and “LOOK AHEAD”. During your undergraduate period think beyond the narrow confines of individual subjects and courses; try to relate the knowledge you are accumulating with the problems that surround us.

Broaden your outlook by joining one or more of the social clubs or societies that exist on the campus, and if possible have a circle of friends drawn from other Faculties and other walks of life.

By wisely balancing study and social activities it is possible to achieve academic success and evolve the social characteristics required for your roles in the future.

The degree of success achieved depends primarily upon you. In fact, it is useful to remember that in a majority of cases success can be equated to the product of two factors, intelligence and effort. Intelligence is a natural gift that varies from person to person; effort is the variable that is completely under student control. For maximum effectiveness, the effort should be continual and sustained, not intermittent and short-lived.

The role of the academic staff is to stimulate your sense of critical evaluation, guide your reading, advance your knowledge, excite your interest and act as general mentors. Their aim is to help you to help yourself.

With a balanced programme of work and play, coupled with sustained effort, your period at the University should prove to be both rewarding and enjoyable.

W. F. J. PICKERING,
CONTENTS

Faculty of Science

Page
3 Foreword
5 Faculty of Science
6 Faculty Staff
12 Information for undergraduates
12 Professional employment & professional recognition
12 The University of Newcastle Psychology Students' Association
13 Subject timetable clashes
14 Student academic progress
14 Advisory prerequisite for entry to the Faculty
15 Student advice
15 Russian for the Scientist & Mathematician
15 Prerequisites for Curriculum & Method subjects
16 Undergraduate Courses
16 Bachelor of Science degree Regulations
21 Bachelor of Science (Psychology) degree Regulations
25 Postgraduate courses — requirements and regulations
25 Diploma in Coal Geology
26 Diploma in Psychology
27 Diploma in Science
28 Master Degrees
34 Combined degree courses
35 Faculty policy in regard to standing
35 Important regulations
37 Guide to subject entries
37 SM III
38 Departments of — Biological Sciences
44 Chemistry
47 Psychology
51 Geography
55 Mathematics, Statistics & Computer Science
64 Research in the Faculty of Science
71 Computer Numbers

General Information — Between pages 42 & 43

FACULTY OF SCIENCE

The Faculty of Science comprises the Departments of Biological Sciences, Chemistry, Geology, Physics and Psychology. The Departments of Geography and Mathematics, Statistics & Computer Science also offer major sequences of qualifying subjects for the degree of Bachelor of Science in the Faculty of Science.

The Faculty Board, Faculty of Science, consists of the Professors, Associate Professors, Readers, Senior Lecturers, Lecturers, Senior Tutors, Demonstrators and Tutors/Demonstrators of the Departments composing the Faculty together with the following representatives of the Departments offering services to the Faculty, as determined by Senate:

- six members from the Department of Geography;
- six members from the Department of Mathematics, Statistics & Computer Science;
- two members from the Faculty of Engineering;
- two members from the Faculty of Arts;
- one member from the Department of Metallurgy;
- one member from the Department of Education;
- two members from the Faculty of Medicine; and
- four student members elected from the Faculty of Science.

The Role of the Faculty Board is defined by By-law 2.4.4:

"Subject to the authority of the Council and the Senate and to any resolution thereof, a Faculty Board shall:

(a) encourage and supervise the teaching and research activities of the Faculty;
(b) determine the nature and extent of examining in the subjects in the courses of study for the degrees and diplomas in the Faculty;
(c) determine the grades of pass to be awarded and the conditions for granting deferred or special examinations in respect of the subjects in the courses of study for the degrees and diplomas in the Faculty;
(d) determine matters concerning admissions, enrolment and progression in the courses of study for the degrees and diplomas in the Faculty and make recommendations on such of those matters as require consideration by the Admissions Committee;
(e) consider the examination results recommended in respect of each of the candidates for the degrees and diplomas in the Faculty and make recommendations on such of those matters as require consideration by the Examinations Committee;
(f) deal with any matter referred to it by the Senate;
(g) make recommendations to the Senate on any matter affecting the Faculty;
(h) exercise such other powers and duties as may from time to time be delegated to it by the Council".

4

5
Faculty Officers (1984)

Dean

W. F. J. Pickering, BSc(News South Wales), DSc, ASTC, FRACI

Sub-Dean

R. A. Fredlein, BSc(Queensland), ARACI

Faculty Secretaries


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R. N. Murdoch, BSc(New South Wales), PhD(Sydney)

J. W. Patrick, BScAgr(Sydney), PhD(Macquarie)

T. K. Roberts, BSc(Adelaide), PhD(Nottingham)

R. J. Rose, BScAgr(Sydney), PhD(Macquarie)

Senior Tutor

Christina E. Offer, BSc, PhD(Adelaide)

Tutor

L. Rosemary Parris, BSc(Nottingham), DipAnGen(Edinburgh), DipEd

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Lyndel Sabhlok

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L. A. Summers, BSc, PhD(Glasgow), FRACI (Head of Department)

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B. A. Engel, MSc(New England), PhD (Head of Department)

K. H. R. Moelle, Abs, DrPhil(Innsbruck), AAusIMM

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Lecturer

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Marcia Shileock

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Honorary Research Associate
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(Head of Department)
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J. T. Holland, BSc(Med), MR. BS(Sydney), FRACP

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Allison Clark
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R. Geighorn

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P. W. Smith
R. J. Taylor
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Mary R. Hall, MA(Manchester)
R. J. Loughran, BSc(Durham), MSc, PhD(New England)
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Honorary Associate
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Departmental Office Staff
Marie Carlile

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Cartographer
L. J. Henderson

Technical Officers
Myra L. Graham (Map Library)
A. E. Williams

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(Head of Department)
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R. W. Gibberd, BSc, PhD(Adelaide)
J. R. Giles, BA(Sydney), PhD; DipEd(Sydney), THS
P. K. Smerz, PromPhys, CSc, RNDr(Charles)
W. D. Wallis, BSc, PhD(Sydney), FSS, MACS

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W. T. F. Lau, ME(New South Wales), PhD(Sydney), MAIAA
D. L. S. McElwain, BSc(Queensland), PhD(York (Canada)), MACS
T. K. Sheng, BA(Marin College), BSc(Malaya & London), PhD(Malaya)
R. J. Vaughan, BSc, MEngSc, ME(New South Wales), PhD(Adelaide), FSS, MIEAust, MORSA

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J. G. Cooper, BSc, PhD(New England)
M. J. Hayes, BA(Cambridge)
G. W. Southern, BSc(New South Wales), M.Math, DipCompSc
W. C. Summerfield, BSc(Adelaide), PhD(Flinders)
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Honorary Associate
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Research Fellow
N. Anastasiou, MSc(Manchester), PhD(London)

Computer Programmers
C. S. Hoskins, BMath, PhD
A. Nymeyer, BMath, DipCompSc

Departmental Office Staff
Ros Adams
Cath Claydon
Jan Garney
Vicki Piler
Information for Undergraduates

Students may choose subjects from the Departments of Geology, Physics, Chemistry, Biological Sciences, Psychology, Mathematics and Geography. A student may, with the permission of the Dean, count up to three subjects offered in other degree courses in the University as qualifying subjects.

Professional Employment and Professional Recognition

Geology

For employment as a geologist students must have at least an ordinary BSc degree but preferably an honours degree.

There are three professional organisations which graduates in geology may join — the Geological Society of Australia, Inc., the Australian Institute of Geoscientists and The Australasian Institute of Mining & Metallurgy which has several categories of membership according to qualifications and experience.

The Australasian Institute of Mining & Metallurgy has a code of ethics for professional behaviour to which members are expected to adhere. From 30 June, 1986, Corporate Membership (Member or Fellow) of the Institute will require the basic qualifications of a degree or diploma involving four years of full-time (or equivalent part-time) study. Students who embark on a three-year course in 1984 or later are advised that this will not provide immediate eligibility for corporate membership and that a further year of formal study will be necessary.

The Australian Institute of Geoscientists is a newly formed professional body charged with enhancing the status and welfare of geoscientists in Australia. It also has categories of membership based upon qualifications and experience.

The Geological Society is currently working with the various State Governments and Federal Government to bring about legislation to provide for the registration of geologists.

Psychology

The Australian Psychological Society is the professional organisation of psychologists in this country.

The objects of the Society are the advancement and diffusion of a knowledge of psychology and especially the promotion of the professional standing of its members by setting up a high standard of training and conduct, and by requiring the observance of rules of professional conduct.

There are two categories of membership in the Australian Psychological Society — Fellowship and Membership. Provision is also made for Student Subscribers and Affiliates. Membership normally requires a four year degree in psychology.

The University of Newcastle Psychology Students' Association

The Association is open to all interested students of Psychology at a nominal cost of 50c annually. Members meet regularly to see films, hear recordings and to listen to speakers on a wide variety of topics. In addition, an important object of the Association listed in the Constitution is —

"To provide regular opportunities for social contacts among Psychology students, and Psychology students and staff."

You may join by leaving your name, address and telephone number with the Student Enquiries Office of the Department of Psychology (Room W204).

Subject Timetable Clashes

Students are strongly advised to check on possible timetable clashes before enrolling. Clashes may force students to take those subjects in different years. Although academic staff are always willing to advise students, it is the student's responsibility to ensure that chosen subjects may be studied concurrently. To help in this matter the following table of existing clashes has been compiled for Science Faculty subjects in 1985. However, Science students taking subjects from other faculties must examine the timetable to ensure that clashes do not exist in their proposed courses.

<table>
<thead>
<tr>
<th>Biological Sciences</th>
<th></th>
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<tbody>
<tr>
<td>Biology IIA with</td>
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<tr>
<td>Geology IIA</td>
<td></td>
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<tr>
<td>Chemistry IIIA</td>
<td></td>
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<tr>
<td>Biology IIB with</td>
<td></td>
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<tr>
<td>Geology IIB</td>
<td></td>
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<tr>
<td>Biology IIIA with</td>
<td></td>
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<tr>
<td>Chemistry IIIA, Physics IIIA</td>
<td></td>
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<tr>
<td>Biology IIIIB with</td>
<td></td>
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<tr>
<td>Chemistry IIIA, Physics IIIA</td>
<td></td>
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<tr>
<td>Biology IIIIB</td>
<td></td>
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<tr>
<td>Chemistry IIIA, Physics IIIA</td>
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<tr>
<td>Biology IIIIB</td>
<td></td>
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<tr>
<td>Mathematics III (some topics)</td>
<td></td>
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<tr>
<td>Biology IIIIB, Geology IIA</td>
<td></td>
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<tr>
<td>Geology IIB</td>
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</table>

<table>
<thead>
<tr>
<th>Chemistry</th>
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<tbody>
<tr>
<td>Chemistry IIA with</td>
<td></td>
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<tr>
<td>Geology IIA</td>
<td></td>
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<tr>
<td>Geology IIB</td>
<td></td>
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<tr>
<td>Geology IIIA</td>
<td></td>
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<tr>
<td>Geology IIIB</td>
<td></td>
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<tr>
<td>Mathematics III (some topics)</td>
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<tr>
<td>Biology IIB</td>
<td></td>
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<tr>
<td>Biology IIIA</td>
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<tr>
<td>Biology IIIB</td>
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<tr>
<td>Mathematics III (some topics)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Geology</th>
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<tr>
<td>Geology IIA with</td>
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<tr>
<td>Chemistry IIIA</td>
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<tr>
<td>Biology IIB</td>
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<td>Chemistry IIIA</td>
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<td>Biology IIIA</td>
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<td>Chemistry IIIB</td>
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<tr>
<td>Biology IIIB</td>
<td></td>
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<tr>
<td>Mathematics III (some topics)</td>
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<table>
<thead>
<tr>
<th>Mathematics</th>
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<tbody>
<tr>
<td>Mathematics II with</td>
<td></td>
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<tr>
<td>(some topics only)</td>
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<tr>
<td>Psychology IIB</td>
<td></td>
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<tr>
<td>Psychology IIIA</td>
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<td>Psychology IIIIB</td>
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<tr>
<td>Physics IIIA</td>
<td></td>
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<tr>
<td>Chemistry IIIB</td>
<td></td>
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<tr>
<td>Biology IIIA</td>
<td></td>
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</tbody>
</table>
Chemistry I

least two units

is extremely difficult unless advisory prerequisites have already been completed at the University of Newcastle. Often an arrangement can be made by one or both Departmental representatives to overcome this problem. THEREFORE SEE YOUR REPRESENTATIVE BEFORE DECIDING UPON YOUR FINAL SUBJECT COMBINATIONS.

Student Academic Progress

All students are reminded of the need to maintain satisfactory progress and, in particular, attention is drawn to the Regulations Governing Unsatisfactory Progress. The following should be borne in mind.

1. The Faculty Board requires that students shall pass at least one subject in their first year of full-time attendance or in their first two years of part-time attendance.

2. The Faculty Board has determined that at least four subjects be passed at the end of the first two years of full-time attendance or four years of part-time attendance.

3. The Faculty Board has determined that a student who fails a subject twice shall not be permitted to include that subject in his future programme, and that a student who fails two subjects twice shall be excluded from further enrolment in the Faculty, in each case unless he shows cause to the satisfaction of the Faculty Board why he should be permitted to do so.

4. Notwithstanding paragraphs 1, 2 and 3, above, the Faculty Board may review the academic progress of a student in the later years of the course.

N.B. Where there is a change in attendance status, two part-time years will be taken as the equivalent of one full-time year for the purposes of this policy.

Advisory Prerequisites for entry to the Faculty

Prospective science degree students are advised to include four units of Science and at least two units of Mathematics in their H.S.C. programme. Although prerequisites are not prescribed, unless otherwise indicated students are advised that study of some subjects is extremely difficult unless advisory prerequisites have already been completed at the 30th percentile or above.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Advisory prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology I</td>
<td>Chemistry (2-unit course) or Multistrand (4-unit course).</td>
</tr>
<tr>
<td>Chemistry I</td>
<td>Mathematics (2-unit course) and Chemistry (2-unit course), with ranking in the top 50% in each case.</td>
</tr>
<tr>
<td>Mathematics I</td>
<td>Mathematics (2-unit course). Nevertheless, students who have less than 3 units of preparation will usually find themselves seriously disadvantaged.</td>
</tr>
<tr>
<td>Physics IA</td>
<td>Mathematics (3-unit course) and Physics (2-unit course).</td>
</tr>
<tr>
<td>Physics IB</td>
<td>Physics (2-unit course) or Multistrand (4-unit course).</td>
</tr>
</tbody>
</table>

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Student Advice

Students who have problems should feel free to seek the advice of the DEAN, SUB-DEAN, the appropriate HEAD OF DEPARTMENT OR MEMBER OF TEACHING STAFF whose area of responsibility relates to the particular problem concerned.

THE UNIVERSITY COUNSELLING SERVICE is also available to help with broad educational problems on planning life goals as well as personal difficulties.

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Russian for the Scientist and Mathematician

FORMAL ENROLMENT NOT NECESSARY

**Prerequisites**  
None, although familiarity with a modern language would be of advantage.

**Hours**  
Approximately 27 lecture hours

**Examination**  
None

**Content**  
This is a voluntary course designed to give students and members of staff a working reading knowledge of scientific and technical Russian. Translation from Russian into English is costly, and only a very small proportion of the Soviet Union's technical literature is routinely translated into English: often translation of the abstract alone is sufficient to determine whether a complete translation is warranted. Emphasis throughout the course will be on translation from Russian into English, although both written and spoken Russian will necessarily be involved. The course should provide a good introduction for those seeking a somewhat more literary understanding of the language.

Further details may be obtained from the Department of Mathematics.

Prerequisites for Curriculum and Method Subjects offered in the Diploma in Education

Students who intend to proceed to a Diploma in Education should familiarise themselves with the prerequisites for curriculum and method subjects offered in the Diploma Course. These prerequisites are stated in terms of subjects of the University of Newcastle. Applicants whose courses of study have included subjects which are deemed for this purpose to provide an equivalent foundation may be admitted to the Diploma course as special cases.

In the Diploma course the Curriculum and Method units are grouped as follows:

- **Primary**
  - Humanities (English, History)
  - Social Science
  - (Geography, Commerce, Social Science)
  - Mathematics
  - Science
  - Languages (French, German)

**Prerequisites**

For **secondary** methods a Part III subject in the main teaching area and a Part II subject in another teaching area.

For **primary** methods a Part II subject in one secondary teaching area, and a Part I subject in another secondary teaching area.

N.B. Except in Education, a Part II subject assumes as a prerequisite a pass in a Part I subject in the same discipline.

A Part III subject assumes a pass in a Part II subject in the same discipline.
REGULATIONS RELATING TO THE DEGREE OF
BACHELOR OF SCIENCE

1. These Regulations prescribe the requirements for the degree of Bachelor of Science of the University of Newcastle and are made in accordance with the powers vested in the Council under By-law 5.2.1.

2. Definitions
In these Regulations, unless the context or subject matter otherwise indicates or requires:
"course" means the total requirements prescribed from time to time to qualify a candidate for the degree.
"Dean" means the Dean of the Faculty.
"the degree" means the degree of Bachelor of Science.
"Department" means the Department offering a particular subject and includes any other body so doing.
"Faculty" means the Faculty of Science.
"Faculty Board" means the Faculty Board of the Faculty.
"subject" means any part of the course for which a result may be recorded.

3. Grading of Degree
The degree may be conferred either as an ordinary degree or as an honours degree.

4. Omitted 1983

5. Withdrawal
(1) A candidate may withdraw from a subject or the course only by informing the Secretary to the University in writing and the withdrawal shall take effect from the date of receipt of such notification.
(2) A candidate who withdraws from a subject after the last Monday in second term shall be deemed to have failed in the subject save that, after consulting with the Head of Department, the Dean may grant permission for withdrawal without penalty.

6. Prerequisites and Corequisites
Except with the permission of the Faculty Board granted after considering any recommendation made by the Head of the Department, no candidate may enrol in a subject unless he has passed any subjects prescribed as its prerequisites at any stage which may be specified and has already passed or concurrently enrols in or is already enrolled in any subjects prescribed as its corequisites.

7. Subject
(1) To complete a subject a candidate shall attend such lectures, tutorials, seminars, laboratory classes and field work and submit such written or other work as the Department shall require.
(2) To pass a subject a candidate shall complete it and pass such examinations as the Faculty Board shall require.

8. Omitted 1983

9. Relieving Provision
In order to provide for exceptional circumstances arising in a particular case the Senate on the recommendation of the Faculty Board may relax any provision of these Regulations.

THE ORDINARY DEGREE

10. Omitted 1983

11. Enrolment
(1) A candidate's enrolment in any year must be approved by the Dean or his nominee.

(2) A candidate may not enrol in any year in any combination of subjects which is incompatible with the requirements of the timetable for that year.
(3) Except with the permission of the Dean given only if he is satisfied that the academic merit of the candidate so warrants:
   (a) a candidate shall not enrol in more than four subjects in any one academic year;
   (b) a candidate enrolling in four subjects in any one academic year shall not enrol in a Part III subject nor more than two Part II subjects in that year; and
   (c) a candidate enrolling in three subjects in any one academic year shall not enrol in more than one Part III subject in that year.

12. Qualification for Admission to the Degree
To qualify for admission to the ordinary degree a candidate shall pass nine subjects presented in accordance with the provisions of Regulations 14 and 15 of these Regulations.

13. Standing
(1) The Faculty Board may grant standing in specified and unspecified subjects to a candidate, on such conditions as it may determine, in recognition of work completed in this university or another institution.
(2) A candidate may not be granted standing in more than four subjects which have already counted towards a degree to which he has been admitted or is eligible for admission.

14. Choice of Subjects
(1) The nine subjects presented for the degree shall include:
   (a) not fewer than six subjects selected from the Schedule of Subjects to these Regulations;
   (b) at least three of the following:
      Biology I, Chemistry I, Geography I, Geology I, Mathematics I, Physics IA or Physics IB, and Psychology I;
   (c) (i) at least one Part III subject and two Part II subjects from the Schedule of Subjects to these Regulations; or
      (ii) at least two Part III subjects and one Part II subject from the Schedule of Subjects to these Regulations.
(2) A candidate may select up to three subjects from subjects offered in the courses leading to other degrees of the University with the permission of the Dean, who shall determine the classification of each such subject as a Part I, Part II or Part III subject.
(3) The subjects presented for the degree shall not include:
   (a) more than one of Physics IA and Physics IB;
   (b) more than four subjects listed in Schedule A to the Regulations relating to the degree of Bachelor of Mathematics;
   (c) more than five subjects from any one Department;
   (d) Psychology III B if either Psychology III A or Psychology III B is included;
   (e) Geology III C if either Geology III A or Geology III B is included;
   (f) Psychology III C if either Psychology III A or Psychology III B is included.
(4) A candidate may not present for the degree subjects which have previously been counted towards another degree or diploma obtained by the candidate, except to such extent as the Faculty Board may permit.

1 Subject offered in the Faculty of Mathematics
15. Degree Pattern
Irrespective of the order in which they are passed, the subjects presented for the degree shall conform with one of the following degree patterns:

<table>
<thead>
<tr>
<th>Part I subjects</th>
<th>Part II subjects</th>
<th>Part III subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) 4</td>
<td>(b) 2</td>
<td>(c) 2</td>
</tr>
<tr>
<td>(b) 4</td>
<td>(c) 3</td>
<td>(a) 2</td>
</tr>
<tr>
<td>(c) 5</td>
<td>(a) 2</td>
<td>(b) 2</td>
</tr>
</tbody>
</table>

OR

(d) in exceptional circumstances, with the permission of the Dean

4 4 1

16. Results
The result obtained by a successful candidate in a subject shall be: Terminating, Pass, Pass, Credit, Distinction or High Distinction.

THE HONOURS DEGREE

17. Admission to Candidature
In order to be admitted to candidature for the honours degree an applicant shall:
(a) have completed the requirements for admission to the ordinary degree;
(b) have completed any additional work prescribed by the Head of the Department offering the honours subject; and
(c) have obtained approval to enrol given by the Dean on the recommendation of the Head of the Department offering the honours subject.

18. Qualification for Admission to the Degree
To qualify for admission to the honours degree a candidate shall, in one year of full-time study or two years of part-time study, pass one of the following subjects:

- Biology IV
- Chemistry IV
- Geography IV
- Psychology IV

19. Classes of Honours
There shall be three classes of honours: Class I, Class II and Class III. Class II shall have two divisions, namely Division I and Division 2.

20. Combined Honours
A candidate may qualify for admission to a combined honours degree by passing, in one year of full-time study or two years of part-time study, one of the following combined subjects, namely:

- Geology/Mathematics IV
- Physics/Mathematics IV
- Psychology/Mathematics IV

21. Regulations 17 and 19 of these Regulations shall apply to a combined honours degree. The references in Regulation 17 to the Head of Department shall be construed as references to the Head of each Department offering a component part of the combined subject.

COMBINED DEGREE COURSES

22. General
A candidate may complete the requirements for the degree in conjunction with another Bachelor's degree by completing a combined course approved by the Faculty Board and also the Faculty Board of the Faculty offering that other Bachelor's degree.

23. Admission to a combined degree course:
(a) shall be subject to the approval of the Deans of the two Faculties.

(b) shall, except in exceptional circumstances, be at the end of the candidate's first year of enrolment for the ordinary degree; and
(c) shall be restricted to candidates with an average of at least credit level.

24. The work undertaken by a candidate in a combined degree course shall be no less in quantity and quality than if the two courses were taken separately as shall be certified by the Deans of the two Faculties.

25. To qualify for admission to the two degrees a candidate shall satisfy the requirements for both degree except as provided in Regulations 26, 27 and 28 of these Regulations.

26. Science/Arts
To qualify for admission to the ordinary degrees of Bachelor of Science and Bachelor of Arts, a candidate shall complete all the requirements for the degree of Bachelor of Arts and all the requirements for the degree of Bachelor of Science other than those prescribed in Regulations 11(3) and 15, and shall pass fourteen subjects chosen from the Schedule of Subjects approved for the two degrees, provided that:
(a) at least six subjects, including at least one Part III subject, shall be chosen from Group I of the Schedule of Subjects approved for the degree of Bachelor of Arts;
(b) at least six subjects, including at least one Part III subject and one Part II subject in a different department, shall be chosen from the Schedule of Subjects approved for the degree of Bachelor of Science; the Part III subject selected to be from a department other than that offering the Part III subject mentioned in (a); and
(c) the maximum total number of Arts Part I subjects and Science Part I subjects shall not exceed six.

27. Science/Mathematics
(1) A candidate shall qualify for admission to the ordinary degrees of Bachelor of Science and Bachelor of Mathematics by passing fourteen subjects, as follows:

- five subjects, being Mathematics I, Mathematics II A, Mathematics II C, Mathematics III A and another Part III subject chosen from the Schedule of Subjects approved for the degree of Bachelor of Mathematics; and
- six subjects chosen from the other subjects listed in the Schedule of Subjects approved for the degree of Bachelor of Science; and
- three subjects chosen, with the approval of the Deans of the Faculties of Mathematics and Science, from the subjects approved for any of the degree courses offered by the University.

(2) The following restrictions shall apply to a candidate's choice of subjects, namely:

- the number of Part I subjects shall not exceed six;
- the minimum number of Part III subjects shall be three;
- a candidate counting Psychology IIC shall not be entitled to count either Psychology II A or Psychology II B;
- a candidate counting Psychology IIIC shall not be entitled to count either Psychology III A or Psychology III B;
- a candidate counting Economics IIC shall not be entitled to count either Economics III A or Economics III B;
- a candidate counting Geology IIC shall not be entitled to count either Geology III A or Geology III B.

28. Science/Engineering
A candidate shall qualify for admission to the ordinary degree of Bachelor of Science and the degree of Bachelor of Engineering in any specialisation by completing a combined course approved by the Faculty Boards of Science and Engineering.
### SCHEDULE OF SUBJECTS

**Remarks, Prerequisites, Corequisites, Preparatory Subjects**

**PART I**

<table>
<thead>
<tr>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology I</td>
</tr>
<tr>
<td>Chemistry I</td>
</tr>
<tr>
<td>Geography I</td>
</tr>
<tr>
<td>Geology I</td>
</tr>
<tr>
<td>Mathematics I</td>
</tr>
<tr>
<td>Physics IA</td>
</tr>
<tr>
<td>Physics IB</td>
</tr>
<tr>
<td>Psychology I</td>
</tr>
</tbody>
</table>

- Only one of these two subjects may be taken.

**Remarks, Prerequisites, Corequisites, Preparatory Subjects**

**PART II**

<table>
<thead>
<tr>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology IIA</td>
</tr>
<tr>
<td>Biology IIB</td>
</tr>
<tr>
<td>Chemistry IIA</td>
</tr>
<tr>
<td>Computer Science II</td>
</tr>
<tr>
<td>Electronics &amp; Instrumentation II</td>
</tr>
<tr>
<td>Chemistry IIIB</td>
</tr>
<tr>
<td>Geology IIA</td>
</tr>
<tr>
<td>Geography IIB</td>
</tr>
<tr>
<td>Mathematics IIA</td>
</tr>
<tr>
<td>Physics IA</td>
</tr>
<tr>
<td>Physics IB</td>
</tr>
</tbody>
</table>

- Preparatory Subjects:
  - Mathematics I & either Physics IA or Physics IB
  - Mathematics IIA (Advisory)

**Remarks, Prerequisites, Corequisites, Preparatory Subjects**

**PART III**

<table>
<thead>
<tr>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology IIIA</td>
</tr>
<tr>
<td>Biology IIIB</td>
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<tr>
<td>Chemistry IIIA</td>
</tr>
<tr>
<td>Chemistry IIIB</td>
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<tr>
<td>Geology IIIA</td>
</tr>
<tr>
<td>Geology IIIB</td>
</tr>
<tr>
<td>Geography IIIA</td>
</tr>
<tr>
<td>Geography IIIB</td>
</tr>
<tr>
<td>Mathematics IIIA</td>
</tr>
<tr>
<td>Physics IIIA</td>
</tr>
<tr>
<td>Physics IIIIB</td>
</tr>
</tbody>
</table>

**Remarks, Prerequisites, Corequisites, Preparatory Subjects**

**PART III**

<table>
<thead>
<tr>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology IIIA</td>
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<tr>
<td>Biology IIIB</td>
</tr>
<tr>
<td>Chemistry IIIA</td>
</tr>
<tr>
<td>Chemistry IIIB</td>
</tr>
<tr>
<td>Mathematics IIIA</td>
</tr>
<tr>
<td>Mathematics IIIIB</td>
</tr>
<tr>
<td>Physics IIIA</td>
</tr>
<tr>
<td>Physics IIIIB</td>
</tr>
</tbody>
</table>

**Remarks, Prerequisites, Corequisites, Preparatory Subjects**

**REGULATIONS RELATING TO THE DEGREE OF BACHELOR OF SCIENCE (PSYCHOLOGY)**

1. These Regulations prescribe the requirements for the degree of Bachelor of Science (Psychology) of the University of Newcastle and are made in accordance with the powers vested in the Council under By-law 5.2.1.

**Definitions**

2. In these Regulations, unless the context or subject matter otherwise indicates or requires:
   - "course" means the total requirements prescribed from time to time to qualify a candidate for the degree.
   - "Dean" means the Dean of the Faculty.
   - "the degree" means the degree of Bachelor of Science (Psychology).
   - "Department" means the Department offering a particular subject and includes any other body so doing.
   - "Faculty" means the Faculty of Science.
   - "Faculty Board" means the Faculty Board of the Faculty.
   - "subject" means any part of the course for which a result may be recorded.

**Grading of Degrees**

3. (1) The degree may be conferred either as an ordinary degree or as an honours degree.
   - (2) There shall be three classes of honours: Class I, Class II and Class III. Class II shall have two divisions, namely Division I and Division 2.

**Withdrawal**

4. (1) A candidate may withdraw from a subject or the course only by informing the Secretary to the University in writing and the withdrawal shall take effect from the date of receipt of such notification.

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1. Preparatory subjects are those which students are strongly advised to have completed before enrolling in the subject for which a preparatory subject is recommended.
2. Before enrolling in a Part II subject a candidate who intends proceeding to the honours degree should consult with the Head of Department.

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Not being offered in 1985.
(2) A candidate who withdraws from a subject after the last Monday in second term shall be deemed to have failed in the subject save that, after consulting with the Head of Department, the Dean may grant permission for withdrawal without penalty.

Prerequisites and Corequisites

5. Except with the permission of the Faculty Board granted after considering any recommendation made by the Head of the Department, no candidate may enrol in a subject unless he has passed any subjects prescribed as its prerequisites at any grade which may be specified and has already passed or concurrently enrols in or is already enrolled in any subjects prescribed as its corequisites.

Subject

6. (1) To complete a subject a candidate shall attend such lectures, tutorials, seminars, laboratory classes and field work and submit such written or other work as the Department shall require.

(2) To pass a subject a candidate shall complete it and pass such examinations as the Faculty Board shall require.

Enrolment

7. (1) A candidate's enrolment in any year must be approved by the Dean or his nominee.

(2) A candidate may not enrol in any year in any combination of subjects which is incompatible with the requirements of the timetable for that year.

(3) Except with the permission of the Dean given only if he is satisfied that the academic merit of the candidate so warrants:

(a) a candidate shall not enrol in more than four subjects in any one academic year;

(b) a candidate enrolling in four subjects in any one academic year shall not enrol in a Part III subject nor more than two Part II subjects in that year;

(c) a candidate enrolling in three subjects in any one academic year shall not enrol in more than one Part III subject in that year; and

(d) a candidate enrolling in a Part IV subject shall not enrol in any other subject.

Qualification for Admission to the Degree

8. To qualify for admission to the degree a candidate shall pass ten subjects presented in accordance with the provisions of Regulations 10 and 11 of these Regulations.

Standing

9. (1) The Faculty Board may grant standing in specified and unspecified subjects to a candidate, on such conditions as it may determine, in recognition of work completed in this university or another institution.

(2) A candidate may not be granted standing in more than four subjects which have already counted towards a degree to which he has been admitted or is eligible for admission.

Choice of Subjects

10. The ten subjects presented for the degree shall be chosen in accordance with the following provisions, namely:

(a) A candidate shall include:

(i) five subjects being Psychology I, Psychology II A, Psychology II B, Psychology III A and Psychology IVP or Psychology IV;

(ii) at least two other Part I subjects, unless the Dean, after consultation with the Head of the Department of Psychology, otherwise permits in a particular case; and

(b) At least one subject shall be chosen from each of Part IA and Part IB of the schedule of subjects to these regulations.

(c) With the permission of the Dean a candidate may select one Part I subject from subjects offered in the courses leading to other degrees of the University.

(d) A candidate may not present for the degree subjects which have previously been counted towards another degree or diploma obtained by the candidate, except to such extent as the Faculty Board may permit.

Degree Patterns

11. Irrespective of the order in which they are passed, the subjects presented for the degree shall conform with one of the following degree patterns.

<table>
<thead>
<tr>
<th>Part I subjects</th>
<th>Part II subjects</th>
<th>Part III subjects</th>
<th>Part IV subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) 4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>(b) 3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>(c) 3</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Results

12. The results obtained by a successful candidate in a Part I, Part II or Part III subject or Psychology IVP shall be: Terminating Pass, Pass, Credit, Distinction or High Distinction; in Psychology IV Pass or Honours Class III, II(2), II(1) or I.

Relaxing Provision

13. In order to provide for exceptional circumstances arising in a particular case the Senate on the recommendation of the Faculty Board may relax any provision of these Regulations.

SCHEDULE OF SUBJECTS

Compulsory subjects

<table>
<thead>
<tr>
<th>PART I</th>
<th>Psychology 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prerequisite</td>
</tr>
<tr>
<td>PART II</td>
<td>Psychology II A</td>
</tr>
<tr>
<td></td>
<td>Psychology II B</td>
</tr>
<tr>
<td></td>
<td>Psychology III A</td>
</tr>
<tr>
<td>PART III</td>
<td>Psychology III A</td>
</tr>
<tr>
<td>PART IV</td>
<td>Psychology IVP</td>
</tr>
<tr>
<td></td>
<td>or Psychology IV</td>
</tr>
</tbody>
</table>
PARTIA
Biology I
Chemistry I
Geography I
Mathematics I
Physics I or IA

PART IB
Accounting I
Economics I or IA
Legal Studies I
Mathematics I
Sociology I

PART II
Accounting IIA
Biology IIA
Chemistry IIA
Computer Science IIA
Drama IIA
Economics IIA
Geography IIA
Geology IIA
Legal Studies IIA
Linguistics IIA
Mathematics IIA
Mathematics IIB
Physics IIA
Psychology IIA
Sociology IIA
Statistics IIA

Prerequisite
Accounting I
Biology I
Chemistry I
Mathematics I
Drama I
Economics I
Any 3 subjects or Dean's permission
Geography I
Geology I
Legal Studies I
Linguistics I
Mathematics I
Mathematics IIB
Physics II
Sociology IIA

Corequisite
Chemistry IIA (advisory)

Other subjects

PART III
Biology IIIA
Biology IIIB
Chemistry IIIA
Chemistry IIIB
Drama IIIA
Drama IIIB

Prerequisite
Mathematics I and Physics I or IB

Corequisite
Mathematics IIA

* Preparatory subjects Mathematics I and Physics I or IB.
4. Admission to candidature shall require the approval of the Faculty Board on the recommendation of the Head of the Department. Such approval shall be subject to such conditions as the Faculty Board may determine on the recommendation of the Head of Department.

5. (1) To qualify for the Diploma a candidate shall enrol and shall complete to the satisfaction of the Faculty Board a programme consisting of:
   (a) lectures, tutorials and practical work as determined by the Faculty Board on the recommendation of the Head of the Department; and
   (b) two reports, each embodying the result of a project, at least one of which shall be field-oriented.
   
   (2) Except with the permission of the Faculty Board given on the recommendation of the Head of the Department, the programme shall be completed in not less than two years of part-time enrolment.

6. A candidate may withdraw from the course only by notifying the Secretary to the University in writing and the withdrawal shall take effect from the date of receipt of such notification.

7. In cases where a candidate's performance in the programme has reached a level determined by the Faculty Board the Diploma may be awarded with merit.

8. In order to provide for exceptional circumstances arising in particular cases, the Senate, on the recommendation of the Faculty Board, may relax any of the provisions of these Requirements.

REQUIREMENTS FOR THE DIPLOMA IN PSYCHOLOGY

GENERAL

1. There shall be a Diploma in Psychology.

2. In these Requirements, unless the context or subject-matter otherwise indicates or requires, "the Faculty Board" means the Faculty Board of the Faculty of Science; "the Board of Studies" means the Board of Studies in Psychology, and "the Dean" means the Dean of the Faculty of Science.

3. A candidate for the Diploma shall register in one of the following specialisations:
   (a) Clinical Psychology; or
   (b) Educational Psychology.

4. The Diploma shall be awarded in one grade only.

5. A candidate may withdraw from the course only by informing the Secretary to the University in writing and the withdrawal shall take effect from the date of receipt of such notification.

6. In exceptional circumstances, the Senate, on the recommendation of the Faculty Board, may relax any provision of these Requirements.

Clinical Specialisation

7. An applicant for registration as a candidate for the Diploma in the Clinical Specialisation shall:
   (a) have satisfied all of the requirements for admission to a Bachelor's degree with honours in Psychology in the University of Newcastle or to such a degree in another university approved for this purpose by the Faculty Board; and
   (b) be selected for admission to the course by the Board of Studies which shall, in making this determination, take account of the applicant's academic qualifications, experience, and the report of an interview which shall be conducted by a selection committee which the Board shall appoint.

8. (a) Notwithstanding the provision of subsection (a) of Section 7, the Faculty Board, on the recommendation of the Board of Studies, may permit to register as a provisional candidate a person who has satisfied all of the requirements for admission to a degree of the University of Newcastle or another university approved for this purpose by the Faculty, provided that the course completed for that degree by the applicant included a major study in Psychology.
   
   (b) A candidate permitted to register provisionally under the provisions of subsection (a) of this Section shall complete such work and pass such examinations as the Faculty Board may determine on the recommendation of the Head of Department before his registration may be confirmed by the Faculty Board.

9. A candidate for the Diploma in the Clinical Specialisation shall, in not less than two years of part-time enrolment, attend such lectures, seminars and tutorials; complete such written and practical work; and pass such examinations as may be prescribed by the Board of Studies.

Educational Specialisation

10. An applicant for registration as a candidate for the Diploma in the Educational Specialisation shall:
   (a) (i) have satisfied all of the requirements for admission to a Bachelor's degree in the University of Newcastle and have included in the qualifying course for that degree at least one Part III Psychology subject; or
   (ii) have satisfied all of the requirements for admission to an equivalent qualification in another university recognised for this purpose by the Faculty Board;
   (b) have satisfied all of the requirements for the award of the Diploma in Education in the University of Newcastle or another teaching qualification approved for this purpose by the Faculty Board;
   (c) have at least two years teaching or other relevant practical experience approved by the Board of Studies; and
   (d) be selected for admission to the course by the Board of Studies which shall, in making this determination, take account of the applicant's academic qualifications; experience; and the report of an interview which shall be conducted by a selection committee which the Board shall appoint.

11. A candidate for the Diploma in the Educational Specialisation shall, in not less than two years of full-time enrolment or an equivalent period of part-time enrolment, attend lectures, seminars and tutorials; complete such written and practical work; and pass such examinations as may be prescribed by the Board of Studies.

REGULATIONS RELATING TO THE DIPLOMA IN SCIENCE

1. These Regulations prescribe the requirements for the Diploma in Science of the University of Newcastle and are made in accordance with the powers vested in the Council under By-law 5.2.1.

2. In these Regulations, unless the context or subject-matter otherwise indicates or requires:
   "Department" means the Department offering the subject in which a person is enrolled or is proposing to enrol;
   "Diploma" means the Diploma in Science;
   "Faculty Board" means the Faculty Board of the Faculty of Science; and
   "a Part IV subject" means a Part IV subject offered in the course leading to the degree of Bachelor of Science.

3. (1) An applicant for admission to candidature for the diploma shall have satisfied all the requirements for admission to a degree of the University of Newcastle, or to a degree, approved for this purpose by the Faculty Board, of any other tertiary institution.
   
   (2) An applicant shall have met such requirements for entry to a Part IV subject as may be prescribed from time to time by the Head of the Department and approved by the Faculty Board or have achieved at another tertiary institution a standard of performance deemed by the Head of the Department to be equivalent.
4. (I) To qualify for the Diploma, a candidate shall enrol and shall complete the Part IV subject to the satisfaction of the Faculty Board.

(2) Except with the permission of the Faculty Board, the Part IV subject shall be satisfactorily completed in not less than one year of full-time study or not less than two years of part-time study.

5. To complete the Part IV subject a candidate shall attend such lectures, tutorials, seminars and laboratory classes, and submit such written and other work as the Faculty Board may require and pass such examinations as the Faculty Board may prescribe.

6. (1) A candidate may withdraw from the subject only by notifying the Secretary to the University in writing and the withdrawal shall take effect from the date of receipt of such notification.

(2) A candidate who withdraws from the subject after the last Monday in second term shall be deemed to have failed in that subject unless granted permission by the Dean to withdraw without penalty.

7. The Diploma shall be awarded in one of three classes, namely Class I, Class II and Class III. Class II shall have two divisions. The Classes shall indicate a level of achievement comparable with that of a candidate for the degree of Bachelor of Science (Honours).

8. The Diploma shall specify the Part IV subject completed.

9. In order to provide for exceptional circumstances arising in particular cases, the Senate, on the recommendation of the Faculty Board, may relax any provision of these Regulations.

REGULATIONS GOVERNING MASTERS DEGREES

PART I — GENERAL

1. (1) These Regulations prescribe the conditions and requirements relating to the degrees of Master of Architecture, Master of Arts, Master of Commerce, Master of Education, Master of Educational Studies, Master of Engineering, Master of Engineering Science, Master of Mathematics, Master of Psychology (Clinical), Master of Psychology (Educational), Master of Science, Master of Medical Science and Master of Scientific Studies.

(2) In these Regulations and the Schedules thereto, unless the context or subject matter otherwise indicates or requires: "Faculty Board" means the Faculty Board of the Faculty responsible for the course in which a person is enrolled or is proposing to enrol; "programme" means the programme of research and study prescribed in the Schedule; "Schedule" means the Schedule of these Regulations pertaining to the course in which a person is enrolled or is proposing to enrol; and "thesis" means any thesis or dissertation submitted by a candidate.

(3) These Regulations shall not apply to degrees conferred honoris causa.

(4) A degree of Master shall be conferred in one grade only.

2. An application for admission to candidature for a degree of Master shall be made on the prescribed form and lodged with the Secretary to the University by the prescribed date.

3. (1) To be eligible for admission to candidature an applicant shall:

   (a) (i) have satisfied the requirements for admission to a degree of Bachelor in the University of Newcastle as specified in the Schedule; or

   (ii) have satisfied the requirements for admission to a degree or equivalent qualification, approved for the purpose by the Faculty Board, in another tertiary institution;

   (iii) have such other qualifications and experience as may be approved by the Senate on the recommendation of the Faculty Board or otherwise as may be specified in the Schedule; and

   (b) have satisfied such other requirements as may be specified in the Schedule.

(2) Unless otherwise specified in the Schedule, applications for admission to candidature shall be considered by the Faculty Board which may approve or reject any application.

(3) An applicant shall not be admitted to candidature unless adequate supervision and facilities are available. Whether these are available shall be determined by the Faculty Board unless the Schedule otherwise provides.

4. To qualify for admission to a degree of Master a candidate shall enrol and satisfy the requirements of these Regulations including the Schedule.

5. The programme shall be carried out:

   (a) under the guidance of a supervisor or supervisors either appointed by the Faculty Board or as otherwise prescribed in the Schedule;

   (b) as the Faculty Board may otherwise determine.

6. Upon request by a candidate the Faculty Board may grant leave of absence from the course. Such leave shall not be taken into account in calculating the period for the programme prescribed in the Schedule.

7. (1) A candidate may withdraw from a subject or course only by informing the Secretary to the University in writing and such withdrawal shall take effect from the date of receipt of such notification.

(2) A candidate who withdraws from any subject after the relevant date shall be deemed to have failed in that subject unless granted permission by the Dean to withdraw without penalty.

The relevant date shall be:

(a) in the case of a subject offered in the first half of the academic year — the eighth Monday in first term;

(b) in the case of a subject offered in the second half of the academic year — the second Monday in third term;

(c) in the case of any other subject — the sixth Monday in second term.

8. (1) If the Faculty Board is of the opinion that the candidate is not making satisfactory progress towards the degree then it may terminate the candidature or place such conditions on its continuation as it deems fit.

(2) For the purpose of assessing a candidate's progress, the Faculty Board may require any candidate to submit a report or reports on his progress.

(3) A candidate against whom a decision of the Faculty Board has been made under Regulation 8(1) of these Regulations may request that the Faculty Board cause his case to be reviewed. Such request shall be made to the Dean of the Faculty within seven days from the date of posting to the candidate the advice of the Faculty Board's decision or such further period as the Dean may accept.

(4) A candidate may appeal to the Vice-Chancellor against any decision made following the review under Regulation 8(3) of these Regulations.

9. In exceptional circumstances arising in a particular case, the Senate, on the recommendation of the Faculty Board, may relax any provision of these Regulations.
PART II — EXAMINATION AND RESULTS

10. The Examination Regulations approved from time to time by the Council shall apply to all examinations with respect to a degree of Master with the exception of the examination of a thesis which shall be conducted in accordance with the provisions of Regulations 12 to 16 inclusive of these Regulations.

11. The Faculty Board shall consider the results in subjects, the reports of examiners and any other recommendations prescribed in the Schedule and shall decide:
   (a) to recommend to the Council that the candidate be admitted to the degree; or
   (b) in a case where a thesis has been submitted, to permit the candidate to resubmit an amended thesis within twelve months of the date on which the candidate is advised of the result of the first examination or within such longer period of time as the Faculty Board may prescribe; or
   (c) to require the candidate to undertake such further oral, written or practical examinations as the Faculty Board may prescribe; or
   (d) not to recommend that the candidate be admitted to the degree, in which case the candidature shall be terminated.

PART III — PROVISIONS RELATING TO THESIS

12. (1) The subject of a thesis shall be approved by the Faculty Board on the recommendation of the Head of the Department in which the candidate is carrying out his research.
   (2) The thesis shall not contain as its main content any work or material which has previously been submitted by the candidate for a degree in any tertiary institution unless the Faculty Board otherwise permits.

13. The candidate shall give to the Secretary to the University three months' written notice of the date he expects to submit a thesis and such notice shall be accompanied by any prescribed fee.

14. (1) The candidate shall comply with the following provisions concerning the presentation of a thesis:
   (a) the thesis shall contain an abstract of approximately 200 words describing its content;
   (b) the thesis shall be typed and bound in a manner prescribed by the University;
   (c) three copies of the thesis shall be submitted together with:
      (i) a certificate signed by the candidate that the main content of the thesis has not been submitted by the candidate for a degree of any other tertiary institution; and
      (ii) a certificate signed by the supervisor indicating whether the candidate has completed the programme and whether the thesis is of sufficient academic merit to warrant examination; and
   (iii) if the candidate so desires, any documents or published work of the candidate whether bearing on the subject of the thesis or not.
   (2) The Faculty Board shall determine the course of action to be taken should the certificate of the supervisor indicate that in the opinion of the supervisor the thesis is not of sufficient academic merit to warrant examination.

15. The University shall be entitled to retain the submitted copies of the thesis, accompanying documents and published work. The University shall be free to allow the thesis to be consulted or borrowed and, subject to the provisions of the Copyright Act, 1968 (Cem), may issue it in whole or any part in photocopy or microfilm or other copying medium.

16. (1) For each candidate two examiners, at least one of whom shall be an external examiner (being a person who is not a member of the staff of the University) shall be appointed either by the Faculty Board or otherwise as prescribed in the Schedule.
   (2) If the examiners' reports are such that the Faculty Board is unable to make any decision pursuant to Regulation 11 of these Regulations, a third examiner shall be appointed either by the Faculty Board or otherwise as prescribed in the Schedule.

SCHEDULE 9 — MASTER OF PSYCHOLOGY (CLINICAL)

1. (1) The Faculty of Science shall be responsible for the course leading to the degree of Master of Psychology (Clinical).
   (2) Unless the context or subject matter otherwise indicates or requires, “the Board” means the Board of Studies in Psychology.

2. On the recommendation of the Head of the Department of Psychology, the Board shall appoint a course controller who shall recommend to the Board the nature and extent of the programmes to be prescribed and shall be responsible for the collation of all written work submitted by candidates in pursuing those programmes.

3. To be eligible for admission to candidature an applicant shall:
   (a) have satisfied all the requirements for admission to a degree with honours in Psychology of the University of Newcastle or to an honours degree, approved for this purpose by the Faculty Board, of another university; or
   (b) on the recommendation of the Board, have satisfied all the requirements for admission to a degree of the University of Newcastle or to a degree, approved for this purpose by the Faculty Board, of another university, provided that the course completed for that degree by the applicant included a major sequence in Psychology.

4. (1) The Board shall consider each application for admission to candidature and shall make a decision thereon.
   (2) Before approving an admission to candidature under Section 3(b) of this Schedule the Board may require an applicant to complete such work and pass such examinations at honours level as may be prescribed by the Board.
   (3) Before an application for admission to candidature is approved, the Board shall be satisfied that adequate supervision and facilities are available.
   (4) In considering an application, the Board shall take account of the applicant's academic qualifications and experience, the report of an interview with the applicant and any other selection procedures applied to the applicant as determined by the Board. The interview and selection procedures shall be conducted by a Selection Committee approved by the Board.

5. To qualify for admission to the degree the candidate shall:
   (a) in not less than two years attend such lectures, seminars and tutorials and complete to the satisfaction of the Board such written and practical work and examinations as may be prescribed by the Board; and
   (b) submit a thesis embodying the results of an empirical investigation.

6. (1) Examiners shall be appointed by the Faculty Board on the recommendation of the Board.
   (2) One examiner appointed pursuant to Regulation 4(1) of these Regulations shall be an internal examiner being a member of the staff of the University.

7. Before a decision is made under Regulation 11 of these Regulations the Board shall consider:
   (a) the examiners' reports on the thesis; and
   (b) any other information relevant to the applicants.
5. To qualify for admission to the degree the candidate shall:

6. 

3. To be eligible for admission to candidature an applicant shall:

7. Before a decision is made under Regulation II of these Regulations the Board shall make its decision in the light of these reports and on the recommendation of the Board.

SCHEDULE 10 — MASTER OF PSYCHOLOGY (EDUCATIONAL)

1. (1) The Faculty of Science shall be responsible for the course leading to the degree of Master of Psychology (Educational).

2. Unless the context or subject matter otherwise indicates or requires, “the Board” means the Board of Studies in Psychology.

3. On the recommendation of the Head of the Department of Psychology, the Board shall appoint a course controller who shall recommend to the Board the nature and extent of the programmes to be prescribed and shall be responsible for the collation of all written work submitted by candidates in pursuing those programmes.

4. To be eligible for admission to candidature an applicant shall:

(a) have satisfied all the requirements for admission to a degree of Bachelor of the University of Newcastle or to a degree, approved for this purpose by the Faculty Board, of another university and have satisfactorily completed a Part III Psychology subject or reached a standard in Psychology deemed by the Board to be equivalent; and

(b) have satisfied all the requirements for the award of the Diploma in Education of the University of Newcastle or another teaching qualification approved for this purpose by the Faculty Board; and

(c) have at least two years teaching or other relevant practical experience approved by the Board.

4. (1) The Board shall consider each application for admission to candidature and shall make a decision thereon.

5. To qualify for admission to the degree the candidate shall:

(a) in not less than 2 years, attend such lectures, seminars and tutorials, and complete to the satisfaction of the Board such written and practical work and examinations as may be prescribed by the Board; and

(b) submit a thesis embodying the results of an empirical investigation.

6. (1) Examiners shall be appointed by the Faculty Board on the recommendation of the Board.

(2) One examiner appointed pursuant to Regulation 16(1) of these Regulations shall be an internal examiner being a member of the staff of the University.

7. Before a decision is made under Regulation II of these Regulations the Board shall consider:

(a) the examiners' reports on the thesis; and

(b) a report of the internal examiner made in consultation with the course controller on the candidate's performance in the work prescribed under section 5(a) of this Schedule.

and shall submit these to the Faculty Board together with its recommendation. The Faculty Board shall make its decision in the light of these reports and on the recommendation of the Board.

SCHEDULE 11 — MASTER OF SCIENCE

1. A candidate for the degree of Master of Science may be enrolled in either the Faculty of Engineering or the Faculty of Science. The Faculty in which the candidate is enrolled shall be responsible for the programme.

2. (1) To be eligible for admission to candidature in the Faculty of Science an applicant shall:

(a) have satisfied all the requirements for admission to the degree of Bachelor of Science with honours Class I or Class II of the University of Newcastle or to a degree, approved for this purpose by the Faculty Board, of this or any other university; OR

(b) have satisfied all the requirements for admission to the degree of Bachelor of Science of the University of Newcastle or other approved university and have completed such work and passed such examinations as the Faculty Board may have determined and have achieved a standard at least equivalent to that required for admission to a degree of Bachelor with second class honours in an appropriate subject; OR

(c) in exceptional cases produce evidence of possessing such other qualifications as may be approved by the Faculty Board on the recommendation of the Head of the Department in which the applicant proposes to carry out the programme.

2. (2) To be eligible for admission to candidature in the Faculty of Engineering an applicant shall:

(a) have satisfied the requirements for admission to a degree with honours in the University of Newcastle or other university approved for this purpose by the Faculty Board in the area in which he proposes to carry out his research; OR

(b) have satisfied the requirements for admission to a degree in the University of Newcastle or other university approved for this purpose by the Faculty Board and have completed to the satisfaction of the Faculty Board such work and examinations as determined by the Faculty Board; OR

(c) in exceptional cases produce evidence of possessing such other qualifications as may be approved by the Faculty Board on the recommendation of the Head of the Department in which the candidate proposes to carry out his programme.

3. To qualify for admission to the degree a candidate shall complete to the satisfaction of the Faculty Board a programme consisting of:

(a) such work and examinations as may be prescribed by the Faculty Board; and

(b) a thesis embodying the results of an original investigation or design.

4. The programme shall be completed:

(a) in not less than two academic years except that, in the case of a candidate who has completed the requirements for a degree of Bachelor with honours or a qualification deemed by the Faculty Board to be equivalent or who has had previous research experience, the Faculty Board may reduce this period to not less than one academic year; and

(b) except with the permission of the Faculty Board, in not more than 5 years.

5. (1) Except with the permission of the Faculty Board, which shall be given only in special circumstances, a part-time candidate enrolled in the Faculty of Science shall:
(a) conduct the major proportion of the research or design work in the University, and
(b) take part in research seminars within the Department in which he is carrying out his research.

(2) Except with the permission of the Faculty Board, a candidate enrolled in the Faculty of Engineering shall take part in the research seminars within the Department in which he is carrying out his research.

SCHEDULE 13 — MASTER OF SCIENTIFIC STUDIES

1. The Faculty of Science shall be responsible for the course leading to the degree of Master of Scientific Studies.

2. To be eligible for admission to candidature an applicant shall:
   (a) (i) have satisfied the requirements for admission to a degree with honours in the University of Newcastle or other tertiary institution approved for this purpose by the Faculty Board; or
   (ii) have satisfied the requirements for the Diploma in Science or Equivalent Honours in the University of Newcastle, or an equivalent qualification in another tertiary institution; or
   (iii) in exceptional cases produce evidence of possessing such other qualifications as may be approved by the Faculty Board; and
   (b) satisfy the Faculty Board that he is academically competent to undertake the proposed programme.

3. (1) To qualify for admission to the degree the candidate shall complete to the satisfaction of the Faculty Board a programme prescribed by the Dean on the recommendation of the Heads of the Departments offering the units comprising the programme.

   (2) The programme shall consist of 12 units of work of which not less than 2 nor more than 4 shall comprise the investigation of and report on a project specified by the Dean.

   (3) Units of work, other than those comprising the project, shall require attendance at lectures, seminars and tutorials and the completion to the satisfaction of the Faculty Board of such examinations as the Faculty Board may determine.

4. Except with the permission of the Faculty Board the programme shall be completed in not less than 3 terms and not more than 12 terms.

Combined Degree Courses

Any student contemplating enrolment in a combined degree course under BSc degree Regulations 22-28 is required to consult the Deans of both Faculties with a view to determining his individual programme.

Sample programmes are shown below for guidance only.

Science/Arts

Normally the combined degree programme would be pursued as in either (a) or (b):

(a) Year I Four Science Part I subjects passed with an average performance of credit level or higher.

Year II Three Science Part II subjects and an additional subject which will be an Arts Group I Part I subject if no Arts Group I subject has been passed.

Year III At least one Science Part III subject and two other subjects including an Arts Group I Part II subject if no Arts Group I Part II subject has so far been passed. At the end of Year III students must have passed at least three Arts Group I subjects.

Year IV One subject which is an Arts Group I Part III subject if this requirement has not already been met (and is from a department different from that of the Science Part III subject) and two other subjects to complete the Requirements for the degree of Bachelor of Arts.

(b) Year I Four Arts Part I subjects passed with an average performance of credit level or higher.

Year II Three Arts Part II subjects and an additional subject which will be a Part I subject chosen from the BSc Schedule if no subject included in that Schedule has been passed.

Year III At least one Arts Part III subject and two other subjects including a Science Part II subject if no Science Part II subject has so far been passed. By the end of this year at least three subjects from the BSc Schedule of Subjects must be passed.

Year IV One subject, which is a Science Part III subject if this requirement has not already been met (and is from a department different from that providing the Arts Part III subject), and two other subjects to complete the Requirements for the degree of Bachelor of Science.

Science/Mathematics

Normally the combined degree programme would be pursued as follows:

Year I Mathematics I and three Part I subjects passed with an average performance of credit level or higher.

Year II Three Part II subjects including Mathematics II A and Mathematics II C, and another Part I subject.

Year III Mathematics III A plus two other subjects which must include at least one Part III subject.

Year IV Either Mathematics III B or a schedule B subject from the requirements for BMath, plus two other subjects which will complete the requirements for the Science degree.

Science/Engineering

See details in Faculty of Engineering Handbook

Faculty Policy in regard to Standing for Diploma courses completed at a CAE

Where an applicant has been awarded a Diploma by a recognised College of Advanced Education, the Faculty Board may be willing to approve some standing in the degree programme. For an approved C.A.E. course which has involved study over at least three full-time years in a relevant field, the requirements for admission to the ordinary degree of Bachelor of Science may be satisfied by the completion of two major sequences, i.e. two Part I subjects, two Part II subjects and two Part III subjects, with the two sequences being drawn, in most cases, from two different disciplines.

IMPORTANT REGULATIONS

Students should note that degree and diploma regulations and requirements are intended to supplement the general regulations and are in their turn supplemented by the general regulations.

Attention is particularly drawn to the following groups of regulations:
The most important of these Regulations are listed below.

**Undergraduate Admission**

3. (1) In order to be considered for admission for any qualification other than a postgraduate qualification an applicant shall be required to:
   (a) either:
      (i) attain such aggregate of marks in approved subjects at the one New South Wales Higher School Certificate examination as may be prescribed by the Senate from time to time; or
      (ii) otherwise satisfy the Admissions Committee that he has reached a standard of education sufficient to enable him to pursue his approved course; and
   (b) satisfy any prerequisites prescribed for admission to the course leading to that qualification.

(2) The aggregate of marks prescribed by the Senate shall be determined by aggregating the marks gained in up to 10 units or, where more than 10 units are presented, the 10 units having the highest marks.

**Record of Failure**

4. An applicant who has a record of failure at another tertiary institution shall not be admitted unless he first satisfies
   (a) the Faculty Board or the Doctoral Degree Committee for the Faculty as appropriate, in the case of a postgraduate qualification; or
   (b) the Admissions Committee, in the case of any other qualification; that there is a reasonable prospect that he will make satisfactory progress.

**Enrolment**

5. (1) In order to be admitted an applicant shall:
   (a) satisfy Regulation ..., 3 of these Regulations;
   (b) receive approval to enrol;
   (c) complete the prescribed enrolment procedures; and
   (d) pay any fees and charges prescribed by the Council.

(2) An applicant may be admitted under such conditions as the Admissions Committee may determine after considering any advice offered by the Dean of the Faculty.

6. (1) Except with the approval of the Faculty Board a candidate for a qualification shall not enrol in a subject which does not count towards that qualification.

(2) A candidate for a qualification shall not enrol in a course or part of a course for another qualification unless he has first obtained the consent of the Dean of the Faculty and, if another Faculty is responsible for the course leading to that other qualification, the Dean of that Faculty, provided that a student may enrol in a combined course approved by the Senate leading to two qualifications.

(3) A candidate for any qualification other than a postgraduate qualification who is enrolled in three quarters or more of a normal full-time programme shall be deemed to be a full-time student whereas a candidate enrolled in either a part-time course or less than three-quarters of a full-time programme shall be deemed to be a part-time student.

**Enrolment Status**

10. (1) A candidate for a qualification shall enrol as either a full-time student or a part-time student.

**Non-Degree Students**

11. Notwithstanding anything to the contrary contained in these Regulations, the Admissions Committee may on the recommendation of the Head of a Department offering any part of a course permit a person, not being a candidate for a qualification of the University, to enrol in any year in that part of the course on payment of such fees and charges as may be prescribed by the Council. A person so enrolling shall be designated a "non-degree" student.

**Re-enrolment**

13. A candidate for a qualification shall be required to re-enrol annually during the period of this candidature. Upon receiving approval to re-enrol the candidate shall complete the prescribed procedures and pay the fees and charges determined by the Council not later than the date prescribed for payment under Regulation 7 of these Regulations.

**Limit on Admission**

14. Where the Council is of the opinion that a limit should be placed upon the number of persons who may in any year be admitted to a course or part of a course or to the University, it may impose such a limit and determine the manner of selection of those persons to be so admitted.

**Examination**

A summary of the contents of these Regulations is included in the centre pages of this Handbook.

**Unsatisfactory Progress**

These Regulations are reprinted in the centre pages of this Handbook.

**GUIDE TO SUBJECT ENTRIES**

Subject outlines and reading lists are set out in a standard format to facilitate easy reference. An explanation is given below of some of the technical terms used in this Handbook.

1. **Prerequisites** are subjects which must be passed before a candidate enrols in a particular subject.

2. **Corequisites** refer to subjects or topics which the candidate must either pass before enrolling in the particular subject or be taking concurrently.

3. **Texts** are books recommended for purchase.

4. **References** are books relevant to the subject or topic which need not be purchased.

**Note regarding SM III**

Entry to Mathematics subjects at the part III level requires successful completion of two full Mathematics subjects at the part II level. In order to increase the range of choice available to students in the Faculty of Science at the part II level, a special Science subject has been introduced at the part III level, which will allow students in the Faculty of Science to choose topics from the List of Topics for Part III Mathematics, after successful completion of only one Mathematics subject at the part II level. This subject, SM III, will consist of 4 topics suitably chosen from the List of Topics for Part III Mathematics and will count as a full Science subject at the part III level. The subject SM III will in general provide mathematical backup to other Science subjects chosen at the part III level, so that students intending to enrol in SM III should discuss their choice of topics from the List of Topics for Part III Mathematics with the Head of the Department in the Faculty of Science offering the other part III subject.
663500 SM III (Calculus, Differential Equations and Related Topics)

**Prerequisites**
Mathematics IIA or IIB plus a Part II subject offered by a Department in the Faculty of Science.

**Co-requisite**
A Part III subject offered by a Department in the Faculty of Science. (This condition is to be suitably interpreted in the case of part-time students taking two years to complete their third year requirements for the degree).

**Hours**
4 lecture hours plus 2 tutorial hours per week.

**Examination**
Each topic will be examined separately

**Contents**
Four topics chosen from the list of Part III topics offered by the Department of Mathematics, having regard to topic prerequisites and approved by the Head of the Department offering the co-requisite subject, and the Head of the Department of Mathematics. For list see Subject Computer numbers at the end of this Handbook. For further information see under “Mathematics” in this book. For details of topics see Faculty of Mathematics Handbook.

**DEPARTMENT OF BIOLOGICAL SCIENCES**

**711100 Biology I**

N.B. It is expected that in future this subject will not be offered in the evenings in even years.

**Prerequisites**
Students intending to study in the biological sciences are advised that facility with Chemistry is desirable. H.S.C. Chemistry or 4-unit Science is appropriate, and students are advised to include Chemistry I in their university programme. However, a series of 10 lectures in background chemistry will be offered during orientation week (18th to 22nd February, 1985, between 10.00 a.m. and 12.00 noon each day in the Department of Biological Sciences lecture theatre, JLG08) for those students enrolling in Biology I who have done little chemistry. Attendance at the lectures is optional.

**Hours**
3 lecture hours and 3 hours of tutorial and laboratory classes per week. A two-day excursion.

**Examination**
Two 3-hour papers

**Contents**
Cells, Molecules and Organelles
Proteins, carbohydrates, lipids.
Organisation of cells, cell cycle.

Biological Energy Processes
Photosynthesis, Glycolysis. Fermentation. Respiration.
Production of ATP.

Diversity of Organisms

Plant Classification and Processes
Plant Kingdom. Structure, function and development of higher plants.

Animal Classification and Processes

Immunology
Antigens and antibodies. Blood groups.

Genetics and Development

Population Biology
An introduction to ecology. population genetics and evolution.

Human Biology
The practical classes will present exercises relevant to these topics.

**Texts**

Curtis, H.
Martin, E. A.

Biology 4th edn (Worth 1983)
A Dictionary of Life Sciences (Pan 1976)

**References**

Ayala, F. M. & Kiger, J. A.
Clarke, R. B. & Panchen, A. L.
Moroney, M. J.
Parker, R. E.
Rayle, D. & Wedberg, L.

Modern Genetics (Benjamin Cummings 1984)
Synopsis of Animal Classification (Chapman & Hall)
Facts from Figures (Penguin)
Introductory Statistics for Biology (Edward Arnold 1973)
Botany: A Human Concern (Houghton Miflin 1975)

**712100 Biology IIA**

712101 Biochemistry & Molecular Genetics

712102 Cell Biology

Molecular and Cellular Biology

**Prerequisites**
Biology I

**Hours**
3 lecture hours and 6 hours tutorial and laboratory classes per week.

**Examination**
Two 3-hour papers

**Contents**

Biochemistry and Molecular Genetics
Carbohydrates, lipids, amino acids, proteins and nucleic acids. Vitamins and coenzymes.

Cell Biology
Cellular organization and inter-relationships. Organelles, their structure and function.
Cellular processes.

Statistics
Normal distribution. Tests of significance. Correlation. Regression. The practical classes will present exercises relevant to these fields. Tutorials will deal with biological topics of interest, and provide practice in statistical evaluation of biological data.
Texts

De Robertis, E. D. P. & De Robertis, E. M. Cell and Molecular Biology 7th edn (Holt-Saunders 1980)
Friefelder, D. Molecular Biology (Science Book International 1983)
Lehninger, A. Principles of Biochemistry (Worth 1982)
Thorpe, N. O. Cell Biology (Wiley 1984)

References

Giese, A. Cell Physiology 5th edn (Saunders 1979)
Owens, A. The Molecular Biology of Plant Cells (Blackwell 1977)
Smith, H. (ed.) Genetic Structure and Function (Macmillan 1979)

712200 Biology III

712201 Comparative Structure & Function

712202 Animal Ecology & Population Genetics

Biology of Organisms and Populations

Prerequisites

Biology I

Hours

3 lecture hours and 6 hours tutorial and laboratory classes per week

Examination

Two 3-hour papers

Content

Comparative Structure and Function

Evolutionary development of particular structures in terms of their functional capacities to solve environmental problems.

Ecology and Population Genetics

Physical and biological factors influencing the abundance and distribution of organisms. Determination and measurement of these factors. Genetic analysis of populations. Factors affecting gene frequencies in populations.

Statistics

Normal distribution. Tests of significance. Correlation, Regression. The practical classes will present exercises relevant to these fields. Tutorials will deal with biological topics of interest, and provide practice in statistical evaluation of biological data.

Texts

Bailey, N. T. J. Statistical Methods in Biology (English U.P.)

713100 Biology IIIA

Biology IIIA consists of two units, Developmental Biology, and Immunology and Cell Processes.

It is possible to substitute a unit from Biology IIIB for either of these Biology IIIA units, allowing flexibility of choice of topics.

713101 Developmental Biology

Prerequisite

Biology IIA

Hours

4 lecture hours and 8 hours tutorial and laboratory classes per week for 14 weeks

Examination

One 3-hour paper

Content

Animals

Various aspects of development in animals at the molecular and cellular level. Topics include cellular differentiation, control mechanisms and gene expression and genetic regulation.

Plants

Cell and molecular biology of plant development. Hormonal, environmental and genetic control are considered. Topics also included are the development, architecure and nucleic acids of chloroplasts, and the application of cell and molecular biology and genetic engineering to plant improvement.

Krub, C. J.
Sutcliffe, J.
Wallace, B.

Ecology 2nd edn (Harper & Row)

Modern Genetics (Benjamin/Cummings 1984)


Plants and Water 2nd edn (Arnold 1977)

References

Ayala, F. M. & Kiger, I. A.
Baker, D. A.
Bell, P. & Woodcock, C.
Bloom, W. & Fawcett, D. W.
Clark, L. R. et al.
Darrell, R. M.
Pankak, E. R.
Prosser, C. L.

Ayala, F. M. & Kiger, I. A.
Baker, D. A.
Bell, P. & Woodcock, C.
Bloom, W. & Fawcett, D. W.
Clark, L. R. et al.

The Diversity of Green Plants 2nd edn (Edward Arnold 1971)

A Textbook of Histology 10th edn (W. B. Saunders 1975)

The Ecology of Insect Populations in Theory and Practice (Metheun)

Organism and Environment (Freeman)

Comparative Animal Physiology 3rd edn (Saunders 1973)

A Natural Legacy — Ecology in Australia

Animal Physiology Adaption and Environment

(Persean Press 1979)

Physiology and Biophysics. II. Circulation Respiration and Fluid Balance 20th edn (Saunders 1974)

Minitab Student Handbook (Duxbury Press 1976)

Animal Physiology Adaption and Environment

(Cambridge U.P. 1975)

Morphogenesis of the Vertebrates 4th edn (John Wiley 1979)
Text
Old, R. W. & Primrose, S. B. *Principles of Gene Manipulation*
2nd edn (Blackwell 1981)

References
Brock, D. J. H. & Mayo, O. *The Biochemical Genetics of Man*

Davidson, E. H. *Gene Activity in Early Development*

(Prentice-Hall 1980)

Smith, H. & Grierson, D. (eds) *The Molecular Biology of Plant Development*
(Blackwell 1982)

Biology IIIA, Topic 2

713103 Immunology and Cell Processes

Prerequisites
Biology IIA

Hours
4 lecture hours and 8 hours tutorial and laboratory classes per week for 14 weeks

Examination
One 3-hour paper

Content

**Hormones, Blood and Digestion**
Biochemical and cellular aspects of mammalian hormones will be considered together with their role in homeostasis. The biochemistry of blood and the digestion and absorption of foodstuffs will also be major topics for consideration.

**Immunology**
Molecular and cellular aspects. Emphasis will be on understanding at a molecular level both cellular and humoral immunity.

Text

References
Lehninger, A. L. *Principles of Biochemistry* (Worth 1982)

Martin, C. R. *Textbook of Endocrine Physiology* (Williams & Wilkins 1976)

McGilliver, R. W. *Biochemistry. A functional approach*
2nd edn (Holt-Saunders 1979)

Metzler, D. E. *Biochemistry. The Chemical Reactions of Living Cells*
(Academic Press 1977)

713200 Biology IIIB

Biology IIIB consists of two units, Environmental Physiology, and Ecology and Quantitative Genetics.

It is possible to substitute a unit from Biology IIIA for either of these Biology IIIB units, allowing flexibility of choice of topics.
The University of Newcastle Calendar consists of the following volumes:

Volume 1 — Legislation:
   Part 1 — The University of Newcastle Act,
   Part 2 — By-laws and Regulations,
   Part 3 — Bodies Established by Resolution of Council,
   Part 4 — Scholarships, Prizes and Financial Assistance.

Volume 2 — University Bodies and Staff:
   Part 1 — Principal Officers, Council, Senate, Boards and Committees,
   Part 2 — The Professors and Staff.

Volume 3 — Handbook, Faculty of Architecture
Volume 4 — Handbook, Faculty of Arts
Volume 5 — Handbook, Faculty of Economics and Commerce
Volume 6 — Handbook, Faculty of Education
Volume 7 — Handbook, Faculty of Engineering
Volume 8 — Handbook, Faculty of Mathematics
Volume 9 — Handbook, Faculty of Medicine
Volume 10 — Handbook, Faculty of Science
Volume 11 — Annual Report

All volumes, except Volume 1 — Legislation, are published annually.

Volume 1 — Legislation is published irregularly the last issue being 1982.

All volumes except Volumes 2 Staff and 11 Annual Report are available on microfiche.

Other Publications
   Undergraduate Prospectus
   Postgraduate Prospectus
   An ABC for New Students
   University News
   Gazette

CONTENTS

I PRINCIPAL DATES 1985
   (iv)

II GENERAL INFORMATION
   (vi) Enrolment of New Students
   (vi) Re-enrolment
   (vi) Student Cards
   (vi) Library Cards
   (vi) Re-admission after absence
   (vii) Attendance Status
   (vii) Change of Address
   (vii) Change of Name
   (vii) Change of Programme
   (vii) Withdrawal
   (viii) Confirmation of Enrolment
   (viii) Indebtedness
   (viii) Leave of Absence
   (viii) Attendance at Classes
   (viii) General Conduct
   (ix) Notices
   (ix) Student Matters Generally

III EXAMINATIONS
   (ix) Examination Periods
   (ix) Sitting for Examinations
   (ix) Rules for Formal Examinations
   (x) Examination Results
   (x) Special Examinations
   (x) Deferred Examinations

IV UNSATISFACTORY PROGRESS
   (xi) Regulations Governing Unsatisfactory Progress

V CHARGES
   (xiii) Payment of Charges
   (xiii) Scholarship Holders and Sponsored Students
   (xiii) Extension of time to pay charges
   (xiii) Refund of Charges
   (xiii) Higher Degree Candidates

VI CAMPUS TRAFFIC & PARKING

(ii) (iii)
# I PRINCIPAL DATES 1985

## January

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Tuesday</td>
<td>Public Holiday — New Year's Day</td>
</tr>
<tr>
<td>11 Friday</td>
<td>Last day for return of Re-Enrolment Forms — Continuing Students</td>
</tr>
<tr>
<td>14 Monday</td>
<td>Deferred Examinations begin</td>
</tr>
<tr>
<td>25 Friday</td>
<td>Deferred Examinations end</td>
</tr>
<tr>
<td>28 Monday</td>
<td>Public Holiday — Australia Day</td>
</tr>
<tr>
<td>31 Thursday</td>
<td>Closing date for applications for residence in Edwards Hall</td>
</tr>
</tbody>
</table>

## February

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Wednesday</td>
<td>New students attend in person to enrol and pay charges</td>
</tr>
<tr>
<td>8 Friday</td>
<td>Late enrolment session for new students</td>
</tr>
<tr>
<td>19 Tuesday</td>
<td>First Term begins</td>
</tr>
</tbody>
</table>

## April

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Friday</td>
<td>Good Friday — Easter Recess commences</td>
</tr>
<tr>
<td>9 Tuesday</td>
<td>Lectures resume</td>
</tr>
<tr>
<td>25 Thursday</td>
<td>Public Holiday — Anzac Day</td>
</tr>
<tr>
<td>29 Monday</td>
<td>Last day for withdrawal without academic penalty from first half year subjects (See page (vii) for Dean's discretion)</td>
</tr>
</tbody>
</table>

## May

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Friday</td>
<td>First Term ends</td>
</tr>
<tr>
<td>20 Monday</td>
<td>Examinations begin</td>
</tr>
<tr>
<td>24 Friday</td>
<td>Examinations end</td>
</tr>
<tr>
<td>27 Monday</td>
<td>Second Term begins</td>
</tr>
</tbody>
</table>

## June

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Monday</td>
<td>Public Holiday — Queen's Birthday</td>
</tr>
<tr>
<td>14 Friday</td>
<td>Last day for return of Confirmation of Enrolment forms</td>
</tr>
<tr>
<td>29 Saturday</td>
<td>Examinations begin</td>
</tr>
<tr>
<td>30</td>
<td>Closing date for Applications for Selection to the Bachelor of Medicine course in 1986</td>
</tr>
</tbody>
</table>

## July

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Saturday</td>
<td>Examinations end</td>
</tr>
</tbody>
</table>

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## August

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Monday</td>
<td>Last day for withdrawal without academic penalty from full year subjects (See page (vii) for Dean's discretion)</td>
</tr>
<tr>
<td>16 Friday</td>
<td>Second Term ends</td>
</tr>
<tr>
<td>19 Monday</td>
<td>Examinations begin</td>
</tr>
<tr>
<td>23 Friday</td>
<td>Examinations end</td>
</tr>
</tbody>
</table>

## September

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Monday</td>
<td>Third Term begins</td>
</tr>
<tr>
<td>30 Monday</td>
<td>Last day for withdrawal without academic penalty from second half year subjects (See page (vii) for Dean's discretion)</td>
</tr>
</tbody>
</table>

## October

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Tuesday</td>
<td>Closing date for Applications for Enrolment 1986 (Undergraduate courses other than Medicine)</td>
</tr>
<tr>
<td>7 Monday</td>
<td>Public Holiday — Labor Day</td>
</tr>
</tbody>
</table>

## November

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Friday</td>
<td>Third Term ends</td>
</tr>
<tr>
<td>11 Monday</td>
<td>Annual Examinations begin</td>
</tr>
<tr>
<td>27 Wednesday</td>
<td>Annual Examinations end</td>
</tr>
</tbody>
</table>

Note: Term dates for students in the Bachelor of Medicine course are printed in Calendar Volume 9 — Medicine Handbook.

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## 1986

## January

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Monday</td>
<td>Deferred Examinations begin</td>
</tr>
<tr>
<td>24 Friday</td>
<td>Deferred Examinations end</td>
</tr>
</tbody>
</table>

## February

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Monday</td>
<td>First Term begins</td>
</tr>
</tbody>
</table>

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(iv)

(v)
II GENERAL INFORMATION

Enrolment of New Students
Persons offered enrolment are required to attend in person at the Great Hall early in February to enrol and pay charges. Detailed instructions are given in the Offer of Enrolment.

Transfer of Course
Students currently enrolled in an undergraduate Bachelor degree course who wish to transfer to a different undergraduate Bachelor degree course must complete an Application for Course Transfer form and lodge it at the Student Administration Office by 11 January 1985.

Enrolment of Continuing Students
The University makes arrangements for continuing students to enrol by mail. There are two steps involved:

1. Lodging Enrolment Forms
Re-enrolment materials will be mailed to all undergraduate students in mid-December. Those who wish to enrol in 1985 and who are eligible to do so (see Regulations Governing Unsatisfactory Progress) should complete the enrolment forms as soon as possible after the release of the 1984 annual examination results, and forward them to The Secretary, University of Newcastle, N.S.W., 2308.

Enrolment forms from continuing students are due by 11 January 1985 except in the case of a student who is required to take a special or deferred examination in which case the enrolment form must be submitted within seven days of the release of those examination results.

Submission of enrolment forms after the due date will render the student liable to a late lodgement charge of $14.00.

Students who, for good reason, are unable to submit their enrolment forms by the due date, may apply for an extension of time. The request, with details of the reason for the extension, must reach the Secretary by the due date if the late lodgement charge is to be avoided. The By-laws provide that no enrolment will be accepted after 31 March without the approval of the Secretary.

2. Completing Enrolment
When the proposed programme has been approved, an Authority to Complete Enrolment form will be mailed to the student showing charges payable. Students are required to complete enrolment by lodging the form with the Cashier with the charges payable. This can be done by mail or in person. The Cashier's office is open 10 am to 12 noon and 2 pm to 4 pm Monday to Friday. At least 14 days notice is allowed from the date of posting to the date by which charges must be paid if a late charge is to be avoided.

Student Cards
The Authority to Complete Enrolment form incorporates the student's identification card which is returned to him after payment of charges. It should be carried by students at all times. It serves as evidence that the student is enrolled and must be presented when applying for travel concessions, a parking permit or to confirm membership of the University Union.

If a student loses his Student Card he should pay the replacement charge of 50 cents to the Cashier and present the receipt at the Student Administration Office when seeking a replacement card.

A student who withdraws completely from studies should return the Student Card to the Student Administration Office.

Library Cards
Students should present their Student Card to the Library desk to be issued with their Library Borrower Number. This card, with its machine readable lettering, must be presented when borrowing books from the Library.

Re-admission after Absence
A person wishing to resume an undergraduate degree course who has been enrolled previously at the University of Newcastle, but not enrolled in 1984, is required to apply for admission again through the Universities and Colleges Admissions Centre, Box 7049 G.P.O. Sydney. Application forms may be obtained from the UCAC or from the Student Administration Office and close with the UCAC on 1 October each year. There is a $30 fee for late applications.

Attendance Status
A candidate for any qualification other than a postgraduate qualification who is enrolled in three quarters or more of a normal full-time programme shall be deemed to be a full­time student whereas a candidate enrolled in either a part-time course or less than three-quarters of a full-time programme shall be deemed to be a part-time student.

A candidate for a postgraduate qualification shall enrol as either a full-time or a part-time student as determined by the Faculty Board.

Change of Address
Students are responsible for notifying the Student Administration Office in writing of any change in their address. A Change of Address form should be used and is available from the Student Administration Office.

Failure to notify changes could lead to important correspondence or course information not reaching the student. The University cannot accept responsibility if official communications fail to reach a student who has not notified the Student Administration Office of a change of address.

It should be noted that examination results, re-enrolment and other correspondence will be mailed to students in December and January. Students who will be away during the long vacation from the address given to the University for correspondence should make arrangements to have mail forwarded to them.

Change of Name
Students who change their name should advise the Student Administration Office.

Marriage, deed poll or naturalisation etc. certificates should be presented for sighting in order that the change can be noted on University records.

Change of Programme
Approval must be sought for any changes to the programme for which a student has enrolled. This includes adding or withdrawing subjects, changing attendance status (for example from full-time to part-time) or transferring to a different degree or faculty.

All proposed changes should be entered on the Variation of Programme form available at the Student Administration Office. Reasons for changes and where appropriate documentary evidence in the form of medical or other appropriate certificates must be submitted.

Withdrawal
Application to withdraw from a subject should be made on a Variation of Programme form and lodged at the Student Administration Office or mailed to the Secretary.

Applications received by the appropriate date listed below will be approved for withdrawal without a failure being recorded against the subject or subjects in question.

(vi)
Withdrawal after the above dates will normally lead to a failure being recorded against the subject or subjects unless the Dean of the Faculty grants permission for the student to withdraw without a failure being recorded.

If a student believes that a failure should not be recorded because of the circumstances leading to his withdrawal, it is important that full details of these circumstances be provided with the application to withdraw.

**Confirmation of Enrolment**

In May each year the University mails to all students a **Confirmation of Enrolment** form which also serves as the application to sit for examinations. This form must be checked carefully, signed and returned by all students (including non-degree students and postgraduate students not taking formal subjects) to confirm that they are actively pursuing subjects for which they are enrolled and that the information on University records is correct and complete.

**Indebtessedness**

The Council of the University has directed that students who are indebted to the University because of unpaid charges, library fines or parking fines may not:

- complete enrolment in a following year;
- receive a transcript of academic record; or
- graduate or be awarded a Diploma.

Students are requested to pay any debts incurred without delay.

**Leave of Absence**

A student who does not wish to re-enrol for any period up to three years should apply for leave of absence. Leave of absence is normally granted only to those students who are in good standing. Applications should be submitted before the end of first term in the first year for which leave of absence is sought. Leave of absence will not be granted for more than three years and will not be granted retrospectively.

Any student who does not enrol for a period of two years and does not obtain leave of absence must apply for re-admission to the University when he wishes to resume his studies. Application for re-admission to undergraduate degree courses must be made through the UCAC (see p.vii).

**Attendance at Classes**

Where a student's attendance or progress has not been satisfactory, action may be taken under the Regulations Governing Unsatisfactory Progress.

In the case of illness or absence for some other unavoidable cause, a student may be excused for non-attendance at classes.

All applications for exemption from attendance at classes must be made in writing to the Head of the Department offering the subject. Where tests or term examinations have been missed, this fact should be noted in the application.

The granting of an exemption from attendance at classes does not carry with it any waiver of the General Services Charge.

**General Conduct**

In accepting membership of the University, students undertake to observe the by-laws and other requirements of the University.

Students are expected to conduct themselves at all times in a secrurity manner. Smoking is not permitted during lectures, in examination rooms or in the University Library. Gambling is forbidden.

**Notices**

Official University notices are displayed on the notice boards and students are expected to be acquainted with the contents of those announcements which concern them.

A notice board on the wall opposite the entrance to Lecture Theatre B01 is used for the specific purpose of displaying examination time-tables and other notices about examinations.

**Student Matters Generally**

The main notice board is the display point for notices concerning enrolment matters, scholarships, University rules and travel concessions, etc. This notice board is located on the path between the Union and the Library.

### III EXAMINATIONS

Tests and assessments may be held in any subject from time to time. In the assessment of a student's progress in a university course, consideration will be given to laboratory work, tutorials and assignments and to any test or other tests conducted throughout the year. The results of such assessments and class work may be incorporated with those of formal written examinations.

**Examination Periods**

Formal written examinations take place on prescribed dates within the following periods:

- **End of First Term**: 20 to 24 May, 1985
- **Mid Year**: 29 June to 13 July, 1985
- **End of Second Term**: 19 to 23 August, 1985
- **End of Year**: 11 to 27 November, 1985

Timetables showing the time and place at which individual examinations will be held will be posted on the examinations notice board near Lecture Theatre B01 (opposite the Great Hall).

Misreading of the timetable will not under any circumstances be accepted as an excuse for failure to attend an examination.

**Sitting for Examinations**

Formal examinations, where prescribed, are compulsory. Students should consult the final timetable in advance to find out the date, time and place of their examinations and should allow themselves plenty of time to get to the examination room so that they can take advantage of the 10 minutes reading time that is allowed before the examination commences. Formal examinations are usually held in the Great Hall area and (in November) the Auchmuty Sports Centre. The seat allocation list for examinations will be placed on the Noticeboard of the Department running the subject, and on a noticeboard outside the examination room.

Students can take into any examination any writing instrument, drawing instrument or calculating instrument. Logarithmic tables may not be taken in; they will be available from the supervisor if needed.

Calculators may be used, if permitted by the examiner in any examination. They must be hard held, battery operated and non-programmable and students should note that no concession will be granted:

- (a) to a student who is prevented from bringing into a room a programmable calculator;
- (b) to a student who uses a calculator incorrectly; or
- (c) because of battery failure.

* A programmable calculator will be permitted provided program cards and devices are not taken into the examination room.
Deferred Examinations

The Boards of the Faculties of Architecture, Engineering, and Mathematics may grant deferred examinations. Such examinations, if granted, will be held in January-February and candidates will be advised by mail of the times and results of the examinations.

IV UNSATISFACTORY PROGRESS

The University has adopted Regulations Governing Unsatisfactory Progress which are set out below.

Students who become liable for action under the Regulations will be informed accordingly by mail after the release of the End of Year examination results and will be informed of the procedure to be followed if they wish to 'show cause'. Appeals against exclusion must be lodged together with re-enrolment forms by Friday 11 January 1985.

The Faculty's progress requirements are set out elsewhere in this volume.

Regulations Governing Unsatisfactory Progress

1. (1) These Regulations are made in accordance with the powers vested in the Council under By-law 5.1.2.

(2) These Regulations shall apply to all students of the University except those who are candidates for a degree of Master or Doctor.

(3) In these Regulations, unless the context or subject matter otherwise indicates or requires:

"Admissions Committee" means the Admissions Committee of the Senate constituted under By-law 2.3.5;

"Dean" means the Dean of a Faculty in which a student is enrolled;

"Faculty Board" means the Faculty Board of a Faculty in which a student is enrolled.

2. (1) A student's enrolment in a subject may be terminated by the Head of the Department offering that subject if that student does not maintain a rate of progress considered satisfactory by the Head of the Department. In determining whether a student is failing to maintain satisfactory progress the Head of Department may take into consideration such factors as:

(a) unsatisfactory attendance at lectures, tutorials, seminars, laboratory classes or field work;
(b) failure to complete laboratory work;
(c) failure to complete written work or other assignments; and
(d) failure to complete field work.

(2) The enrolment of a student in a subject shall not be terminated pursuant to regulation 2 (1) of these Regulations unless he has been given prior written notice of the intention to consider the matter with brief particulars of the grounds for so doing and has also been given a reasonable opportunity to make representations either in person or in writing or both.

(3) A student whose enrolment in a subject is terminated under regulation 2 (1) of these Regulations may appeal to the Faculty Board which shall determine the matter.

(4) A student whose enrolment in a subject is terminated under this Regulation shall be deemed to have failed the subject.

3. (1) A Faculty Board may review the academic performance of a student who does not maintain a rate of progress considered satisfactory by the Faculty Board and may determine:

(a) that the student be permitted to continue the course;
4. Where the progress of a student who is enrolled in a combined course or who has previously been excluded from enrolment in another course or Faculty is considered by the Faculty Board to be unsatisfactory, the Faculty Board may:

(i) in the course; or
(ii) in the course and any other course offered in the Faculty; or
(iii) in the Faculty; or

(d) if the Faculty Board considers its powers to deal with the case are inadequate, that the case be referred to the Admissions Committee together with a recommendation for such action as the Faculty Board considers appropriate.

(2) Before a decision is made under regulation 3 (1) (b) (c) or (d) of these Regulations the student shall be given an opportunity to make representations with respect to the matter, either in person or in writing or both.

(3) A student may appeal against any decision made under regulation 3 (1) (b) or (c) of these Regulations to the Admissions Committee which shall determine the matter.

5. (1) An appeal made by a student to the Admissions Committee pursuant to Regulation 3 (3) of these Regulations shall be in such form as may be prescribed by the Admissions Committee and shall be made within fourteen (14) days from the date of posting to the student of the notification of the decision or such further period as the Admissions Committee may accept.

(2) In hearing an appeal the Admissions Committee may take into consideration any circumstances whatsoever including matters not previously raised and may seek such information as it thinks fit concerning the academic record of the appellant and the making of the determination by the Faculty Board. Neither the Dean nor the sub-Dean shall act as a member of the Admissions Committee on the hearing of any such appeal.

(3) The appealant and the Dean or his nominee shall have the right to be heard in person by the Admissions Committee.

(4) The Admissions Committee may confirm the decision made by a Faculty Board or may substitute for it any other decision which the Faculty Board is empowered to make pursuant to these Regulations.

6. (1) The Admissions Committee shall consider any case referred to it by a Faculty Board and may:

(a) make any decision which the Faculty Board itself could have made pursuant to regulation 3 (1) (a) (b) or (c) of these Regulations; or

(b) exclude the student from enrolment in any other subject, courses, or Faculties as it thinks fit; or

(c) exclude the student from the University.

(2) The Committee shall not make any decision pursuant to regulation 6 (1) (b) or (c) of these Regulations unless it has first given to the student the opportunity to be heard in person by the Committee.

(3) A student may appeal to the Vice-Chancellor against any decision made by the Admissions Committee under this Regulation.

7. Where there is an appeal against any decision of the Admissions Committee made under Regulation 6 of these Regulations, the Vice-Chancellor may refer the matter back to the Admissions Committee with a recommendation or shall arrange for the appeal to be heard by the Council. The Council may confirm the decision of the Admissions Committee or may substitute for it any other decision which the Admissions Committee is empowered to make pursuant to these Regulations.

8. (1) A student who has been excluded from further enrolment in a Faculty may enrol in a course in another Faculty only with the permission of the Faculty Board. A student who has been excluded from further enrolment in a Faculty may enrol therein again provided that in no case shall such re-enrolment commence before the expiration of two academic years from the date of the exclusion. A decision on such application shall be made:

(a) by the Faculty Board, where the student has been excluded from a single course or a single Faculty; or

(b) by the Admissions Committee, in any other case.

(2) A student who has been excluded from further enrolment in any course, Faculty or from the University under these regulations may apply for permission to enrol therein again provided that in no case shall such re-enrolment commence before the expiration of two academic years from the date of the exclusion. The Council may confirm the decision of the Admissions Committee or may substitute for it any other decision which the Council may make.

V CHARGES

Enrolment is completed by lodging with the Cashier the approved Authority to Complete Enrolment form with a remittance to cover all charges due or written evidence that a sponsor will meet all charges.

New students are required to pay all charges when they attend to enrol.

For re-enrolling students at least 14 days notice is allowed from the date of mailing the Authority to Complete Enrolment form to the date by which charges must be paid if late charges are to be avoided. The actual date, which will not be before mid February, will be printed on the form. A later date will be set if approval of the proposed programme has been delayed or if the student has taken Special or Deferred examinations.

Charges

1. General Services Charge

(a) Students Proceeding to a Degree or Diploma

Full-time students ............................................. $154 Per annum

Part-time students ........................................... $148 Per annum

Plus Students joining Newcastle University Union for the first time ........................................... $10

(b) Non-Degree Students

Newcastle University Union charge .................................. $70 Per annum

The exact amount must be paid in full by the prescribed date.
2. Late Charges

(a) Late Lodgement of Enrolment Form
- Where a continuing student does not lodge the Enrolment Form by Friday, 11 January, 1985 ............... $14
- where a candidate for a special or deferred examination in January does not lodge the Enrolment Form by Monday, 11 February, 1985.................. $14

(b) Late Lodgement of Authority to Complete Enrolment Form with Cashier
Where the Authority to Complete Enrolment Form together with
(i) General Services Charge payable; or
(ii) evidence of sponsorship (e.g. scholarship voucher or letter from Sponsor); or
(iii) an Extension of Time to Pay Charges form
is not lodged with the Cashier by the Due Date prescribed by the Secretary on the Authority to Complete Enrolment form .................................................. $14

(c) Late Payment of Charges
Where all charges have not been paid by the Due Date
(i) if not more than 14 days overdue .................. $8
(ii) if more than 14 days overdue .................. $14

3. Other Charges
(a) Examination under special supervision .................. $15 per paper
(b) Review of examination results .................. $8 per subject
(c) Statement of matriculation status for non-members of the University ............... $8
(d) Academic statements in excess of six per annum ......... 15c per copy
(e) Replacement of student cards .................. 50c each

Payment of Charges
Enrolment is completed by lodging with the University Cashier the approved Authority to Complete Enrolment Form with a remittance to cover all charges due or written evidence that a sponsor will meet these charges. Payment by mail is encouraged. Money Orders should be made payable at the Newcastle University Post Office, N.S.W. 2308. The Cashier's Office is located on the First Floor of the McMullin Building, and is open from 10 am to 12 noon, and 2 pm to 4 pm.

Students are urged to pay charges by mail and a pre-addressed envelope will be forwarded with the Authority to Complete Enrolment form.

Scholarship Holders and Sponsored Students
Students holding scholarships or receiving other forms of financial assistance must lodge with the University Cashier their Authority to Complete Enrolment Form together with warrants or other written evidence that charges will be paid by sponsors. Sponsors must provide a separate voucher, warrant or letter for each student sponsored.

Extension of Time to Pay Charges
Students who have finalised their programme and been issued with their Authority to Complete Enrolment form but who, due to circumstances beyond their control, are unable to pay the charges due, may apply for an extension of time to pay charges. The Extension of Time form should be completed and presented in person at the Student Administration Office where arrangements will be made for the student to be interviewed.

Refund of Charges
Students who notify the Student Administration Office of a complete withdrawal from their courses should also lodge a claim form for a refund of charges that they have paid. A refund cheque will be mailed to the student or, if applicable, to the sponsor.

The refund will be based on the date of notification of withdrawal, as follows:
- Notification on or before Monday, 25 February, 1985 .................. 100%
- Notification on or before Friday, 22 March, 1985 .................. 90%
- Notification on or before Friday, 28 June, 1985 .................. 50%

No refund will be made before 31 March 1985.

Higher Degree, Candidates
Higher degree candidates are required to pay the General Services charge and Union Entrance charge, if applicable. Where the enrolment is effective from First or Second Term, the General Services charge covers the period from the first day of the term to the Friday immediately preceding the first day of First Term in the following academic year. Where enrolment is on or after the first day of Third Term, the General Services charge paid will cover liability to the end of the long vacation following the next academic year.

VI CAMPUS TRAFFIC AND PARKING

Persons wishing to bring motor vehicles (including motor cycles) on to the campus are required to obtain and display on the vehicle a valid permit to do so. Permits may be obtained from the Attendant (Patrol) Office which is located off the foyer of the Great Hall. Permit holders must comply with the University's Traffic and Parking Regulations including parking in approved parking areas, complying with road signs and not exceeding 35 k.p.h. on the campus.

If the Vice-Principal, after affording the person a period of seven days in which to submit a written statement is satisfied that any person is in breach of Regulations, he may:
- warn the person against committing any further breach; or
- impose a fine; or
- refer the matter to the Vice-Chancellor.

The range of fines which may be imposed in respect of various categories of breach include:

<table>
<thead>
<tr>
<th>Category</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parking in areas not set aside for parking</td>
<td>up to $10</td>
</tr>
<tr>
<td>Parking in special service areas, e.g. loading bays, by fire hydrants, etc.</td>
<td>up to $15</td>
</tr>
<tr>
<td>Failing to display a valid permit</td>
<td>up to $10</td>
</tr>
<tr>
<td>Driving offences — including speeding and dangerous driving</td>
<td>up to $30</td>
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<td>Failing to stop when signalled to do so by an Attendant (Patrol)</td>
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<td>Refusing to give information to an Attendant (Patrol)</td>
<td>up to $30</td>
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The Traffic and Parking Regulations are stated in full in the Calendar, Volume I.
Biology IIIB, Topic 3

713201 Environmental Physiology

Prerequisites
Biology II A or II B

Hours
4 lecture hours and 8 hours tutorial and laboratory classes per week for 14 weeks

Examination
One 3-hour paper

Content

Plants
Interrelationships between the environment and the operation of key physiological processes including photosynthesis, mineral ion acquisition and assimilate transfer.

Animals
Biology of reproduction in vertebrates with particular emphasis on gamete physiology.

Texts
Baker, D. A.
Johnson, M. H. & Everitt, B. J.
Milthorpe, F. L. & Moorby, J.

References
Austin, C. R. & Short, R. V.
Bloom, W. & Fawcett
Evans, L. T.
Leopold, A. C. & Kriedemann, P. E.
Setchell, B. P.
Torrey, T. W. & Feduccia, A.

Biology IIIB, Topic 4

713204 Ecology and Quantitative Genetics

Prerequisites
Biology II A or II B

Hours
4 lecture hours and 8 hours tutorial and laboratory classes per week for 14 weeks

Examination
One 3-hour paper

Content

Ecology
Structure and dynamics of biological communities, evolutionary ecology.

Quantitative Genetics
Texts
Falconer, D. S. Introduction to Quantitative Genetics
2nd edn (Longman 1981)
Krebs, C. J. Ecology 2nd edn (Harper & Row)
Stewart, J. (ed.) 7299 Genetics, Units 11, 12, 13 (Open University Press 1976)

References
Kershaw, K. A. Ecological Genetics (Methuen 1975)

714100 Biology IV
Prerequisite Nil
Hours Examination
Examination To be advised

DEPARTMENT OF CHEMISTRY
721100 Chemistry 1
Prerequisites Nil
Advisory Prerequisites At least Mathematics (2-unit course), Physics (2-unit course) and Chemistry (2-unit course) with ranking in the top 50% in each case.

Hours
Content
Analytical Chemistry Basic principles; spectroscopic procedures; separation methods.
Inorganic Chemistry Symmetry, structure and bonding; main group chemistry; transition metal chemistry and co-ordination complexes; structure elucidation; acceptor complexes and organometallic compounds.

Organic Chemistry Aliphatic and aromatic chemistry.

Thermodynamics Basic laws, and applications to ideal and non-ideal systems.

Texts
Atkins, P. W. Physical Chemistry 2nd edn (Oxford 1982)
Purcell, K. F. & Koiz, J. C. An Introduction to Inorganic Chemistry softback edn (Holt-Saunders 1980)
Hendrickson, J. B. Cram, D. J. & Hammond, G. S. Also advisable, particularly if proceeding to Chemistry II A.
Pocsok, R. L. Sheldrick, L. D., McWilliam, I. G. Modern Methods of Chemical Analysis 2nd edn (J. Wiley & Sons (Sydney) 1976)

Physical Chemistry 30 lectures
Revision of basic concepts; periodic properties of the elements and their compounds; bonding and structure; co-ordination compounds.

Organic Chemistry 30 lectures
Historical development. The shapes, structures and names of organic compounds; reactions of common functional groups; synthesis, differentiation and structural elucidation of organic compounds.

Physical Chemistry 30 lectures
Chemical equilibria; thermodynamics; electrochemistry; chemical kinetics.
722300 Chemistry IIIB
This subject is offered in some years. It will not be given in 1985.

Prerequisites
Chemistry I

Corequisites
Chemistry II (advisory)

Hours
3 lecture hours and 6 laboratory hours per week. The subject is divided into 5 or 6 units.

Examination
One hour examination for each unit.

The laboratory mark counts 20% towards the final grading. A pass in the laboratory course is required in order to pass the subject.

Content
The units offered may vary from year to year and the topics available include: electronic instrumentation for chemists; problem solving; evaluation of chemical pollution; analysis in organic systems; radiochemistry; chemistry in industrial processes; polymers. In the industrial processes unit, attendance on factory excursions is compulsory.

Texts
To be advised

CHEMISTRY — PART III SUBJECTS

Prerequisites
Mathematics I; Chemistry II. Chemistry IIIB is a pre-or corequisite for Chemistry IIIB.

Hours
The Chemistry Department offers two Part III subjects, each involving ninety hours of lectures. Associated with each subject are 8 hours per week of laboratory work.

Examination
Both subjects will be examined by progressive examinations. To pass each subject, students must achieve an acceptable aggregate mark and earn a pass grading in the specified laboratory programme.

The laboratory mark counts 25% towards the final grading.

Content
Each student enrolling in Chemistry IIIB must select nine topics from the list provided by the Department. Likewise, students enrolling in Chemistry IIIB must nominate six topics from the IIIB listing. All proposed programmes must be approved by the Head of Department (or his nominee) before the start of the academic year.

Texts
To be advised; see departmental topic summaries.

724100 Chemistry IV

Prerequisites
Completion of ordinary degree requirements and permission of Head of Department.

Hours
To be advised

Examination

Content
A subject extending over one full-time academic year or its part-time equivalent, comprising:

(i) a minimum of 50 hours of lectures and tutorials, and a course of directed reading;

(ii) a supervised research project, the results of which are to be embodied in a thesis and presented at a seminar.

The lecture and tutorial course will be assessed progressively, whereas the directed reading course will be examined by two papers, each of three hours duration. Assessment of the grade of Honours to be awarded will be based on the standard achieved in the formal courses; the quality of the research project and thesis; and performance in the undergraduate programme.

Texts
To be advised

DEPARTMENT OF GEOLOGY

731100 Geology I

Prerequisite
Nil

Hours
3 lecture hours and 2½ laboratory hours per week and 2 days field work

Examination
Two 3-hour papers, class assignments and practical examinations

Content
Material Geology
Introductory crystallography; mineralogy and petrology; classification of rocks; economic mineral deposits; applications of geology to engineering.

Physical Geology
Erosion cycle; agents of erosion; diastrophism; structural geology; marine geology; geomorphology.

Historical Geology
Introductory palaeontology and stratigraphy; brief geological history of Australia.

Texts

732200 Geology IIIB

Prerequisite
Geology I

Hours
3 lecture hours and 4 laboratory hours per week and 8 days field work

Examination
Two 3-hour papers, class assignments and practical examinations

Texts
The Elements of Palaeontology (Cambridge U.P. 1970)
Perspective of the Earth (Australian Academy of Science, 1983; Tien Wah Press)
Rutley's Elements of Mineralogy 24th edn (Murby 1960)
Mineralogy (Freeman 1959)
The New View of the Earth (Freeman 1978)
Content
Mineralogy
Crystallography and optical mineralogy.

Petrology
Rock forming minerals; nature of and crystallization from a magma; chemical equilibrium studies; petrology of igneous rock associations; petrography and classification of igneous and sedimentary rocks.

Stratigraphy and Palaeontology
Stratigraphy of Australia; invertebrate palaeontology.

Structural Geology
Concept of stress and strain; mechanical behaviour of rocks; fold mechanisms; cleavage; faulting.

Texts
Bishop, A. C. An Outline of Crystal Morphology (Hutchinson 1967)
Clarkson, E. N. K. Invertebrate Palaeontology and Evolution (Allen & Unwin 1979)
Park, R. G. Foundations of Structural Geology (Blackie 1983)
Kerr, P. F. Optical Mineralogy (McGraw-Hill 1977)

732300 Geology IIIB

Prerequisite
Geology I

Hours
4 lecture hours and 3 laboratory hours per week and 8 days field work

Examination
Two 3-hour papers, class assignments and practical examinations

Subjects
Marine Geology — the morphology of ocean basins
Nature and origins of morphological features of the oceans and their floors. Destructive and constructive processes; submarine volcanicity; genesis types and potential of heavy and economic mineral deposits; the role of crustal changes.

Introduction to Mineralogical and Petrological Techniques
Crystallography; methods of preparing materials for mineralogical and petrological examination; introduction to natural gem materials and synthetic and cultured gem materials; presentation of mineralogical and petrological data.

Environmental Geology
Development of Earth's primary and secondary atmospheres; importance of trace metals; bacterial oxygen demand; litho-, hydros- and atmospheric balances; waste disposal; geological hazards; mineral and energy resources — present and future demands.

Introduction to Engineering and Mining Geology
Geological parameters related to engineering works; geological hazards associated with foundations, stability problems, sampling and mining.

Geomathematics
Elementary introduction to basic mathematics and data processing in geology.

Extraterrestrial Geology
Origin of the solar system; structure, distribution, age, chemical characteristics and petrogenesis of lunar rocks; astrobeles; meteorites; geology of other planets.

Palaeoecology
Application of ecological laws to modern and ancient plant and animal communities.

Texts
Francis, P. Volcanoes (Penguin 1976)
Till, R. Statistical Methods for the Earth Scientist (Macmillan 1974)

733100 Geology IIIA

Preparatory Subjects
Chemistry I & either Physics 1A or 1B

Hours
5 lecture hours and 6 laboratory hours per week and 8 days field work. (Includes Geophysics lectures which are given during one week of the first vacation).

Examination
Two 3-hour papers, class assignments and practical examinations

Prerequisites
Geology I & II A

Texts
Francis, P. Volcanoes (Penguin 1976)
733200 Geology IIIB

**Prerequisites**
Geology I & IIA

**Corequisite**
Geology IIIA

**Hours**
6 lecture hours and 6 laboratory hours per week and 4 days field work

**Examination**
Two 3-hour papers, class assignments and practical examinations

**Content**

**Economic and Exploration Geology**
Source, transport and precipitation of ore minerals; sulphide mineralogy, wall-rock alteration; ore-forming fluids; sulphur, oxygen and lead isotopes in ore mineral genesis; fluid inclusions; geochemical environments; dispersion of metals; geochemical exploration.

**Mineralogical and Geochemical Techniques**
X-ray diffraction and fluorescence; X-radiography; atomic absorption, infra-red and optical spectroscopy; differential thermal and thermogravimetric analysis; scanning and transmitted electron microscopy; the electron microprobe; differential staining techniques.

**Sedimentology**
Lithologic associations in relation to the depositional facies of their environment of formation with emphasis on the genetic connection between the geological setting of a depositional area and its sedimentary fill (basin analysis).

**Stratigraphic Principles**
Stratification; top and bottom criteria; stratigraphic breaks; facies changes; factors in lithostratigraphy (rock units, lithofacies, lithosomes); catastrophic stratigraphy; uniformitarianism and the processes of sedimentation; stratigraphic nomenclature; biostratigraphic zones; correlation, stratigraphic palaeontology.

Types of stratigraphic maps and sections; numerical analysis of data strings; numerical map analysis.

**Coal Geology**
Origin, distribution, classification and economic potential of coal.

**Petroleum Geology**
Origin, source, migration, entrapment and distribution of petroleum and gas; the exploration and exploitation techniques for its detection, evaluation and recovery.

**Mining and Engineering Geology**
Mechanical properties and behaviour of rocks; movement picture and movement plan; stress-strain relationships; symmetry concepts.

Design and stability of structures in rocks; geological problems in engineering design and construction; rock mechanics.

**Igneous Petrology**
Interpretation and representation of chemical analyses of minerals and rocks; micrometric analysis; petrology of selected igneous rock associations.

**Metamorphic Petrology**
Examination of the texture of metamorphic rocks; determination of processes involved in the production of grain shapes and deformation features within grains.

**Texts**
Consult lecturers concerned.

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734100 Geology IV

**Prerequisites**
Geology IIIA, completion of ordinary degree requirements and permission of the Head of Department

**Hours**
To be advised

**Examination**
(i) performance in one 3-hour paper
(ii) a viva voce examination
(iii) research work carried out and its presentation in a thesis
(iv) such other work, e.g. seminars, assignments, earlier academic record, which may be considered relevant.

**Content**

**Part A**
Lecture-tutorial work with directed reading in two of the following fields of geology; mineralogy and crystallography; geochemistry; igneous petrology; metamorphic petrology; coal petrology; sedimentology; stratigraphy; palaeontology; structural geology; economic geology.

Not all fields will be available every year.

**Part B**
A research project, the results of which are to be embodied in a thesis.

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664500 Geology/Mathematics IV

**Prerequisites**
Geology IIIA or IIIC and Mathematics IIIA and such additional work as is required for combined honours students by the Department of Mathematics. A student desiring admission to this subject must apply in writing to the Dean of the Faculty of Science before 7th December of the preceding year.

**Hours**
To be advised

**Examination**

**Content**
At least four topics chosen from those available to honours students in Mathematics for the current year together with work offered by the Department of Geology for that year.

The subject will also include a major thesis which embodies the results of a field research project involving the application of mathematical studies to a particular geological problem. Other work e.g. seminars and assignments may be required by either Department.

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741200 Physics IIA

**Prerequisite**
Nil, however refer to Advisory Prerequisite for entry to the Faculty on p.15.

**Hours**
3 lecture hours and an average of 3 hours of laboratory and tutorial work per week.

**Examination**
One paper midyear, one paper at the end of year, together with laboratory and tutorial assessment.
For students who may wish to proceed to Physics II, and for all students in the Faculty of Engineering except Civil Engineering, some of whom may be advised to read Physics IB. A rigorous, mathematically based discipline with emphasis on the unifying principles which link together different areas of the subject. Lectures will cover mechanics, oscillations and waves, electrostatics, current electricity and electromagnetism, thermal physics, geometrical and physical optics, and quantum physics. The treatment throughout will assume some knowledge of calculus.

Texts
Refer to Physics Department Noticeboard.

741300 Physics IB
Prerequisite Nil, however refer to Advisory Prerequisite for entry to the Faculty on p.15.
Hours 3 lecture hours and 3 hours of laboratory and tutorial work per week.
Examination One paper midyear, one paper at end of year, together with laboratory and tutorial assessment.

Content
For students who in general do not intend to proceed with further studies in Physics. The coverage of the subject will be somewhat broader than in Physics IA, but the treatment will involve a slightly lower level of mathematics.

Texts
Arya, A. P. 
Introductory College Physics (Macmillan Publishing Co. Inc. 1979)
Arya, A. P. & Goldberg, F. M.
Student Study Guide (Macmillan Publishing Co. Inc. 1979)

742200 Electronics & Instrumentation II
This subject will not be offered in 1985.
Prerequisites Physics IA or IB
Hours 3 lecture hours, 4 laboratory hours and 2 tutorial hours with directed assignments each week.
Examination One 2-hour paper on each of the 3 topics selected.

Content
For students who in general do not intend to proceed with further studies in Physics. The coverage of the subject will be somewhat broader than in Physics IA, but the treatment will involve a slightly lower level of mathematics.

Texts
Malmstadt, H. V. et al.
Instrumentation for Scientists Series, Texts with Experiments Modules 1, 2, 3 & 4 (Benjamin).

742100 Physics II
Prerequisites Physics IA and Mathematics I
Students achieving a pass at the level of credit or better in Physics IB may be admitted to Physics II with the consent of the Head of Department.
Advisory Corequisite While Mathematics I is not an essential corequisite for Physics II, Physics II students who have completed only Mathematics I should include a Mathematics II subject. It is suggested that in addition to Topic CO this should include Topic B and one of the Topics D, F and H.
Hours 3 lecture hours and 6 laboratory hours per week.
Examination Equivalent of 6 hours total examination.

Content
Mechanics
Thermal Physics
Quantum Physics
Electromagnetics
Physical Optics

Texts
Refer to the Physics Department notice board.

743100 Physics IIIA
Prerequisites Physics I, at least one Mathematics II subject which should include, in addition to topic CO (which counts as two topics), topic B and one of the topics D, F and H.
Hours Approximately 120 lecture hours and 240 laboratory and tutorial hours.
Examination Assessment to the equivalent of 12½ hours of examination time.

Content
The areas of classical and quantum physics essential to the understanding of both advanced pure physics and also the many applications of physics. Some electronics is also included.
A. Classical Physics
Mathematical methods, advanced mechanics, special theory of relativity, electromagnetics including waveguide and antenna theory.

B. Quantum Physics
Quantum mechanics, atomic and molecular physics, statistical physics, solid state physics, nuclear physics, electronics.

C. Laboratory
Parallels the lecture course in overall content, with at least one experiment available in each topic, although students are not expected to carry out all the experiments available.

Texts
Refer to the Physics Department notice board. Students should retain their Physics II texts.

743200 Physics IIIA
This subject will not be offered in 1985.

Corequisite
Physics IIIA

Hours
90 lectures, 180 hours laboratory total, and two Mathematics topics.

Examination
Two 2½-hour papers and assessment. The Mathematics topics will be examined by the Department of Mathematics.

Content
The subject emphasizes the experimental and applied aspects of Physics. The Department considers it desirable that some mathematical studies should be continued through this level, so two mathematics topics are included in Physics IIIA, to be selected in consultation with the Physics Department.

The Physics lecture course will treat the following topics:

Experimental Techniques
- Photometry and Instrumental Optics
- Nuclear Measurements
- Radio-frequency Spectroscopy
- Electronics
- Geophysics
- Statistical Mechanics
- Solid State Physics
- Physics of Fluids

744100 Physics IV

Prerequisite
Physics IIIA. Attention is drawn to degree requirements for Honours, p.18. Normally a pass in Physics IIIA at the level of credit or better is required.

Hours
100-120 lecture hours and a research project.

Examination
Assessment on each topic in the lecture course will be by agreement between the lecturer and students. It may take the form of formal examinations, essays, problems, open-book examinations etc. As a guide, for each ten lectures in a topic there will be a 1½ to 2 hour formal examination, or equivalent. The research project is also assessed on the basis of the written report, a seminar on the project and in general an oral examination.

Content
Physics IV is intended to give students an advanced understanding of the fundamentals of modern physics appropriate for an Honours graduate in the discipline as well as an exposure to the current interests of the Department viz. solid state and surface physics, geophysics, electromagnetic signal propagation, and aspects of applied physics.

In 1985, these aims will be achieved by offering topics from the following list: Quantum Mechanics, Relativity, Statistical Physics, Plasma Physics, Applied Nuclear Physics, Surface Physics, Atomic Collisions in Solids, Radio Astronomy, Fast Atomic Processes, Fourier Transforms. Additional topics may be added depending on visitors to the Department and all topics need not necessarily be offered in any one year.

Research Project
The research project is carried out under the supervision of a staff member and results are embodied in a formal report. The Department generally provides to prospective students a short list of research projects carefully chosen for suitability as Physics IV projects, and for relevance to research within the Department. The choice is not necessarily confined to this list. Students should consult with staff members on choice of project topic. Project work is to be started in the first week of February.

Texts
Texts and literature references will be given as needed by the lecturers concerned.

664300 Physics/Mathematics IV

Prerequisites
Physics IIIA & Mathematics IIIA

Hours
To be advised and, in addition, a research project of mathematical and physical significance jointly supervised.

Examination
Assessment will be in the appropriate Physics IV and Mathematics IV topics selected. In addition the research project will be evaluated and normally an oral examination will be conducted.

Content
Four topics from Mathematics IV chosen for relevance to Physics, and topics from Physics IV, as approved by the Head, Department of Physics. Project work will normally begin in the first week of February.

DEPARTMENT OF PSYCHOLOGY

751100 Psychology I

Prerequisites
Nil

Hours
3 lecture hours and one 2-hour practical/tutorial session
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<td>One 3-hour paper and an assessment of practical work</td>
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**Content**
A general introduction to psychology, including such topics as learning theory, perception, developmental psychology, neuroscience, theory of measurement and descriptive statistics, statistical analysis of data, human information processing, and humanistic psychology.

**Texts**
To be advised

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<th>752100 Psychology IIA</th>
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<td><strong>Prerequisite</strong></td>
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<td><strong>Hours</strong></td>
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**Content**
Will examine topics such as Experimental Methodology, Developmental Psychology, Individual Differences, Information Processing, Learning and Conditioning, Social Psychology, Animal Behaviour and Behavioural Neurosciences. Statistical Methods will be taught and tested during the year.

**Texts**
To be advised

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<th>752200 Psychology IIB</th>
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<td><strong>Prerequisite</strong></td>
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<td><strong>Hours</strong></td>
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<td><strong>Examination</strong></td>
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**Content**
Will examine topics such as Methodology and Quantitative Psychology, Information Processing and Perception, Behavioural Neurosciences, Learning and Conditioning, Social and Developmental Psychology and Individual Differences. Statistical methods will be taught and tested during the year.

The practical work is divided into
(a) Laboratory sessions — 3 hours per week.
(b) An investigation carried out under supervision. The topic of this will usually be selected by the student, although some restrictions may be decided by the Department — 2 hours per week.

**Texts**
To be advised

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<td><strong>Prerequisite</strong></td>
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<td><strong>Hours</strong></td>
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**Content**
Will examine topics which complement and/or are supplementary to Psychology IIA. Such topics may include Developmental Psychology and Psychobiology, Neurosciences, Social Psychology, Quantitative Methods, Personality, Abnormal and Clinical Psychology, Self Awareness and Interpersonal Skills. Practical work comprises workshop and laboratory work for up to 3 hours per week plus a supervised independent experimental project.

**Texts**
To be advised

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<th>754100 Psychology IV</th>
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<td><strong>Prerequisites</strong></td>
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<td><strong>Hours</strong></td>
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<td><strong>Examination</strong></td>
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**Content**
The student is expected to cover such fields as abnormal and clinical psychology, animal behaviour, developmental psychology, learning and cognition, motivation, perception, personality, physiological psychology, quantitative psychology, and social psychology.

**Texts**
To be advised
754300 Psychology IV

Prerequisites
9 subjects passed towards the degree of Bachelor of Science (Psychology), including Psychology IIIA.

Hours
To be advised

Examination
Assessment of a project. Seminar material may be examined either by assignment during the year or by examination at the end of the year.

Content
The student is expected to cover such fields as abnormal and clinical psychology, animal behaviour, developmental psychology, learning and cognition, motivation, perception, personality, physiological psychology, quantitative psychology, and social psychology.

Texts
To be advised

664200 Psychology/Mathematics IV

Prerequisites
Mathematics IIIA & Psychology IIIC

Hours
To be advised

Examination

Content
4 Mathematics topics chosen from the Part IV Mathematics topics (see Faculty of Mathematics Handbook). Psychological Measurement (see below). Mathematical Models in Perception and Learning (see below).

(i)
Psychological Measurement — J. A. Keats

Prerequisites
Nil

Hours
1½ hours per week

Examination
To be advised

Content
The logic of measurement and its application to psychological phenomena and at least one paper on one of the more recently developed psychological scaling methods.

Text
Nil

(ii)
Mathematical Models in Perception and Learning — R. A. Heath

Prerequisites
Part II Mathematics Topic H recommended

Hours
1½ hours per week

Examination
To be advised

Content
An introduction to the application of stochastic process models to the analysis of psychological processes involved in human information processing. Use of a real-time computer.

Text
Nil

References
To be advised

Master of Psychology (Clinical)

The course leading to the degree of Master of Psychology (Clinical) is offered in the Faculty of Science.

Prerequisites
Honours degree in Psychology or other qualifications approved by the Faculty Board of the Faculty of Science. It is considered highly desirable, if not essential, that candidates for this degree be concurrently employed in a position related to the practice of Clinical Psychology.

Hours
The course is a part-time course extending over 2 years. There are 9 hours of classwork per week plus a clinical internship organised either as two full days per week or an equivalent period of time in longer blocks.

Examination
Assessment is continuous and is achieved by:
1. Evaluation of practical performance by academic and field supervisors.
2. Evaluation of written or other exercises required in specific course components.
3. Evaluation of case presentation with viva voce defence to an interrogation panel.
4. Internal and external examination of research thesis.

Content
There are three major sections of the course:

(i) Classwork includes both didactic and practical components and covers topics such as: Professional Practice and Forensic Psychology; Psychopathology; Psychological Assessment and Clinical Decision Making; Therapy; Preventative Psychology; Programme Development; Clinical Child Psychology; Psychotropic Drugs.

(ii) Clinical internship provides 2 days per week (or equivalent blocks) supervised clinical experience in professional settings outside that of the candidates' regular employment. It is intended to augment and consolidate instruction provided in classwork. A wide range of institutions and agencies are available for internship placements.

(iii) A Research Thesis is required embodying the results of a research investigation in an approved area.
Master of Psychology (Educational)

Prerequisites
A bachelor's degree including at least one Part III Psychology subject, a Diploma in Education or equivalent qualification and at least two years teaching or other relevant practical experience approved by the Board of Studies in Psychology.

Hours
18 formal hours and six practical hours per week in the first year. 10 formal hours and 24 practical hours per week in the second year.

Examination
Professional proficiency is evaluated through practical examinations and ongoing assessments. There is a formal examination at the end of the first year and an assessment of professional competence and progress of the thesis at the end of the second year.

Content
First Year
Seminars on psychological development of the child, the child in school and society, cognitive development, exceptional and problem children, counselling theory and procedures, education systems and personal development.
Workshops concentrating on the development of diagnostic skills and methods of psychological testing and assessment. Further activities include case study skills, consulting, communication and report writing, counselling procedures and personal development. Approximately equal time is devoted to seminar and workshop activities and thesis supervision continues throughout the year.

Second Year
The course work consists of seminars and workshops which extend the work from the first year in counselling theory and procedures, case work, consulting and communication skills. Work continues on the thesis begun in the previous year.

DEPARTMENT OF GEOGRAPHY

351100 Geography I

Prerequisites
Nil

Hours
4 hours of lectures

Examination
To be advised

Content
The course provides an introduction to Geography. It consists of four strands all of which are continued in later years and each of which receives the same weighting in hours of lectures and in the final assessment.
Australian environments: Introduction to the geography of Australia.
Human geography Introduction to human geography with particular reference to settlement and cultural geography.
Methods Introduction to methodological procedures used in geography.
Physical geography Introduction to physical geography with particular reference to climatology, hydrology, and biogeography.

352100 Geography III: Human Geography

Prerequisite
Geography I

Hours
5 hours of lectures/ practicals and tutorials, one hour per week of Methods*; and up to 6 days of fieldwork
(Note: Students also enrolled in Geography IIB must undertake both Methods and Environmental Issues in Australia in IIB only)

Examination
To be advised

Content
A continuation of the study of human activities within the context of space and time which were introduced in Geography I.
Because of uncertainties regarding the staff who will be available in 1985, the details of the course have not been determined.
A statement setting out the course will be available early in January 1985 and may be obtained from the Faculty Secretary or the Department of Geography.

352200 Geography IIB

Prerequisite
Geography I

Hours
5 hours of lectures/practicals and tutorials and one hour of Methods* per week; up to 6 days of fieldwork
(Note: Students also enrolled in Geography IIA must count Methods in IIB only, and count the alternative strand, Environmental Issues in Australia in IIB only)

Examination
To be advised

Content
A study of man's physical environment. In 1985 themes will be established around the following specific fields of interest:
Geomorphology (Dr R. J. Loughran): An introduction to the study of landforms, including some basic geology, weathering, soils, mass movement, river processes, landforms of arid and cold climatic zones, and coastal geomorphology.
Climatology (Dr H. A. Bridgman, Mr G. N. McIntyre): An introduction to the study on a synoptic and meso-climatic scale including radiation and heat budgets; thermodynamics; precipitation processes; climates of the world; climate change; agricultural climatology; applied climatology.
Biogeography (Dr J. C. Turner) An introduction to biogeography. Definitions and scope of the subject will be examined and its inter-disciplinary nature emphasized. Ways of describing and analysing the geographical ranges of organisms will be explored.

References
Haggett, P. Geography: a modern synthesis latest paperback edn (Harper & Row)
### 353200 Geography IIIB - Physical Geography

**Prerequisite**

Geography IIIB

**Hours**

Five hours of lectures/practicals/tutorials, and one hour of Methods* per week; up to six days of fieldwork.  
(Note: Students also enrolled in Geography IIIA must undertake both Methods and Environmental Issues in Australia*).

**Examination**

To be advised

**Content**

A continuation of the study of man's physical environment. In 1985 themes will be established around the following specific fields of interest.

**Biogeography** (Dr J. C. Turner) A continuation of the study of Biogeography, emphasizing the botanical side of the subject which is seen as part of the broader field of Ecology. As well as the exploration of the major themes of Kellman's book (see Texts below), attention is paid to (i) Australian vegetation and its history; (ii) rainforest; and (iii) case studies of field research on Australian plants and animals.

**Advanced Climatology** (Dr H. A. Bridgman, Mr G. N. McIntyre) The application of principles studied in Geography IIIB to (i) processes in agricultural climatology; and (ii) meso- and macro-scale pollution problems and their relationship to climatic change.

**Drainage Basin Hydrology** (Dr R. J. Loughran) Precipitation, runoff, soil erosion, and sediment and solute transport within the context of the drainage basin system.

**Texts**

- Heatwole, H. *A coral island* (Collins 1981)
- Kellman, M. C. *Plant geography,* (Methuen paperback, 2nd edn. 1980)
- Leopold, A. *A sand country almanac,* with other essays on conservation from Round River (Oxford paperback, 1966)
- McCormac, B. M. (ed.) *Introduction to the scientific study of atmospheric pollution* (Reidel Publishing 1971)
- Mowat, F. *Never cry wolf* (Pan paperback, 1979)
- Wiens, C. J. *Climate, irrigation and agriculture* (Angus and Robertson, 1970)

### Strands common to Geography IIIA and IIIB

(a) **Methods** (to be taken by all students) - 1 hour per week

Further development of geographical techniques: introduction to computer-aided mapping and geographical analysis. No previous experience with computers is assumed.

**Text**

Nil

(b) **Environmental issues in Australia** (to be taken only by those students taking both IIIA and IIIB) - 1 hour per week

The aim of this strand is to acquaint students with some of the major issues related to the Australian environment. The issues, while being based on the fundamental characteristics of climate, soils, vegetation and other physical phenomena, also have a significant human element. Thus the study, by focusing on the linkages between man and his environment through particular cases, emphasizes the links which exist between the two broad fields of physical and human geography. Issues to be dealt with include: the environmental impact of pastoralism, agriculture and mining; the incidence and effects of droughts, floods and other natural hazards; the problems of population distribution.

**Text**

Nil

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### 353100 Geography IIIA - Human Geography

**Prerequisite**

Geography IIIA

**Hours**

Five hours of lectures/practicals/tutorials, and one hour of Methods* per week; up to six days of fieldwork.  
(Note: Students also enrolled in Geography IIIA must undertake both Methods and Environmental Issues in Australia*).

**Examination**

To be advised

**Content**

A continuation of the study of human activities within the context of space and time which were developed in Geography IIA. Because of uncertainties regarding the staff who will be available in 1985, the details of the course have not been determined.

A statement setting out the course will be available early in January 1985 and may be obtained from the Faculty Secretary or the Department of Geography.

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**Strands common to Geography IIIA and IIIB**

- (a) **Methods** (to be taken by all students) - 1 hour per week
- (b) **Environmental issues in Australia** (to be taken only by those students enrolled in both Geography IIIA and IIIB) - 1 hour per week

This is a continuation of the strand which was commenced in Geography II. It includes the study of the Australian arid zone and of the conservation of Australia's environments and cultural heritage.

**Texts**

Nil
In order to qualify for admission to Geography IV, a student must normally have completed a sequence of Geography I, II and III subjects; two of these, including the Part III subject, must have been passed at Credit level or better. The student must also satisfy the Head of the Department of his/her ability in the area of study within which the proposed research topic lies.

As prescribed by the Head of the Department

To be advised

A thesis embodying the results of an original investigation on a topic approved by the Head of the Department and coursework as prescribed.

To be advised

Note: A candidate who wishes to proceed to Honours should notify the Head of Department by the commencement of Third Term of the previous year, and must confirm this as soon as final results for the year are known. Candidates are expected to commence work on their theses early in the new year.
Calculus (Topic CA) — R. F. Berghout and W. P. Wood

Prerequisites
Nil.

Hours
1 lecture hour and $\frac{1}{2}$ tutorial hour per week.

Content

Text

References
Ayres, F. Calculus (Schaum 1974).

Statistics and Computing (Topic SC) — W. Brisley and R. W. Gibberd

Prerequisites
Nil.

Hours
1 lecture hour and $\frac{1}{2}$ tutorial hour per week.

Content

A requirement is the writing of successful computer programmes to solve problems in statistical and numerical analysis.

Text
University of Newcastle Statistical Tables.

References

Part II Subjects
The Department offers three Part II Mathematics subjects and Computer Science II. Students whose course restricts them to one such subject must study Mathematics IIA or Mathematics IIB or Computer Science II. The subject Mathematics IIA is a pre- or corequisite for Mathematics IIC, and IIA and IIC together a prerequisite for any Part III subject, so students wishing to take two Part II subjects would normally choose Mathematics IIA and IIC.

When selecting topics for Part II subjects, students are advised to consider the prerequisites needed for the various Part III subjects offered by the Department of Mathematics (Mathematics IIA, Mathematics IIB and Statistics III).

Summaries and extended booklists for these topics will appear in the handbook of the Faculty of Mathematics and will also be available from the Department.

LIST OF MATHEMATICS PART II TOPICS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Corequisite or Prerequisite</th>
<th>Part III Topic Requiring this Part II Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Mathematical Models</td>
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<tr>
<td>B</td>
<td>Complex Analysis</td>
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<tr>
<td>CO</td>
<td>Vector Calculus &amp; Differential Equations (Double topic)</td>
<td>M, N, P, PD, Q, QRS, R, TC, V, Z</td>
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<tr>
<td>D</td>
<td>Linear Algebra</td>
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<tr>
<td>E</td>
<td>Topic in Applied Mathematics</td>
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<tr>
<td></td>
<td>e.g. Mechanics, Potential Theory and Fluid Dynamics</td>
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<tr>
<td>F</td>
<td>Numerical Analysis &amp; Computing</td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>Applied Statistics</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Probability and Statistics</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Topic in Pure Mathematics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e.g. Group Theory</td>
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</tr>
<tr>
<td>L</td>
<td>Analysis of Metric Spaces</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>Introduction to Computer Architecture and Assembly Language</td>
<td>FM, O, P, V, W</td>
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<tr>
<td>SI</td>
<td>Introduction to Structuring of Information</td>
<td></td>
</tr>
<tr>
<td>SP</td>
<td>Systematic Programming</td>
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</tbody>
</table>

Summaries and extended booklists for these topics will appear in the handbook of the Faculty of Mathematics and will also be available from the Department.

The selection rules and definitions of the Part II subjects follow.

662100 Mathematics IIA

Prerequisite
Mathematics I

Hours
4 lecture hours and 2 tutorial hours per week.

Examination
Each topic is examined separately.

Content
Topics B, CO and D. In exceptional circumstances and with the consent of the Head of Department, one other topic may be substituted for B. Additional substitutions may be allowed in the case of candidates who have passed the subject Mathematics IIB.
662200 Mathematics II B

**Prerequisite**
Mathematics I

**Hours**
4 lecture hours and 2 tutorial hours per week

**Examination**
Each topic is examined separately

**Content**
Four topics chosen from A to L, where CO counts as two topics, and approved by the Head of Department. In exceptional circumstances, and with the consent of the Head of Department one or more of the topics SP, K or L may be included.

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662300 Mathematics II C

**Prerequisite**
Mathematics I

**Pre- or Corequisite**
Mathematics II A

**Hours**
4 lecture hours and 2 tutorial hours per week

**Examination**
Each topic is examined separately

**Content**
The topics H, I, K, L or A, H, K, L or A, E, K, L or I, A, K, L. Students who may wish to proceed to Statistics III as a Part III subject should select H, I, K, L. In exceptional circumstances, and with the consent of the Head of Department, some substitution may be allowed.

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662400 Computer Science II

**Prerequisite**
Mathematics I

**Hours**
168 hours of lectures, tutorials and practical work as listed below

**Examination**
See component descriptions below

**Content**
Topics SI — Introduction to Structuring of Information
SP — Systematic Programming
ML — Introduction to Computer Architecture and Assembly Language
F — Numerical Analysis and Computing

**Notes**
1. Mathematics II B is no longer offered in two parts in the Faculty of Science. Students who passed Mathematics II B part (i) before 1971 should consult Note 1 on page 90 of the 1971 handbook.
2. Mathematics II A is a corequisite or prerequisite for Mathematics II C.
3. Students whose course includes Physics II A are advised to include topics CO, B and one of D, F and H in their Part II Mathematics subject/subjects. This may require the use of the substitution rules.

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Part III Subjects

In the Faculty of Science this Department offers Mathematics IIIA comprising four topics chosen from the list below, and the subject Statistics III. See also the separate entry in this Handbook for SMIII (page 37).
663300  Statistics III

Prerequisites  Mathematics IIA & IIC (including topics CO, H and I)

Hours  4 lecture hours and 2 tutorial hours per week

Examination  Each topic is examined separately

Content  A subject comprising four topics: Topics R, S, SS and Y.
Summaries of the Part III Topics, together with extended booklists, will appear in the Handbook of the Faculty of Mathematics and will also be available from the Department.

RESEARCH IN THE FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGICAL SCIENCES

Current experiments in the field of mammalian reproduction involve studies of the mechanism by which alcohol abuse leads to birth defects. Elucidation of the nature of embryonic stimuli responsible for the establishment of pregnancy is also under investigation.

The biology of spermatozoa and comparative structure and function of the vertebrate epididymis are being studied.

Within the field of immunological influences on fertility, the following topics are currently under investigation: the detection of antispermatozoal antibodies in sera from infertile and vasectomized men; the isolation and characterization of human spermatozoal auto- and iso-antigens; early pregnancy factor.

In a study on a hypothesis on the initiation of cancer, histones H1 are being compared in chromatin from normal and malignant cells.

Investigation into infertility in humans resulting from auto- and isoimmunity to spermatozoa. The study of non-immunological spermagglutinins in human sera.

The preservation by freezing of human spermatozoa for artificial insemination is being studied.

Current topics in genetics include chemical mutagenesis in Drosophila and the application of quantitative genetics to pig improvement.

The ecology and genetics of populations, geographic variation and hybrid zones in Lepidoptera are currently being studied.

The effects on plants and ecosystems of fluoride and sulphur dioxide are being investigated and fluoride fluxes within ecosystems are being quantified.

Research in carbon partitioning within plants is focused on elucidating the cellular pathway and mechanisms of phloem unloading together with assessing the regulatory role served by phytohormones.

Strategies of phosphorus acquisition by and distribution within eucalypt seedlings growing under conditions of phosphorus limitation are being examined.

In the area of chloroplast development and chloroplast DNA in plant cells, research is being carried out into the organisation of chloroplast DNA in chloroplasts and chloroplast genetic interaction in protoplasts. Chloroplasts are being examined as possible vehicles for genetic change in plants.
DEPARTMENT OF CHEMISTRY

The research interests of members of the Department are as follows.

Aliphatic, Aromatic and Heterocyclic Chemistry (Associate Professor L. A. Summers)
Synthesis, with particular reference to the preparation of new fungicides and plant growth regulators; mass spectral fragmentation of organic molecules; electron transfer agents for the solar conversion of water to hydrogen.

Analytical and Environmental Chemistry
(Professor W. F. J. Pickering)
Trace analysis studies; sorption, and selective extraction, of heavy metals by (or from) soil components; metal-organic acid complexes; heterogeneous oxidation mechanisms.

Analytical Chemistry: Wine Science (Dr G. L. Orr)
Instrumental methods of chemical analysis; application to oenology.

Electrochemistry (Dr R. A. Fredlein)
Mechanisms of electrode reactions; semiconductor electrochemistry; double-layer structure and electroosmosis at solid electrodes; electrochemistry of oxide bronzes.

Molecular Spectroscopy (Associate Professor R. P. Cooney)
Laser Raman, Fourier-transform infrared spectroscopy and electron microspectroscopy applied to metal complexes, molecules adsorbed on oxide surfaces of catalytic interest, species at metal electrode surfaces, polymers, and surfactants.

Natural Products (Associate Professor H. Duwell)
Elucidation of the components of Xanthorrhoea resin and the synthesis of related compounds. Pericyclic reactions, oxygen heterocycles.

Organic Reaction Mechanism (Associate Professor L. K. Dyall)
Studies on the mechanisms of pyrolytic reactions; reactions of nitrenes.

Organic Synthesis and Stereochimistry (Dr K. H. Bell)
Development of new synthetic reactions; synthesis of potential local anaesthetics and strong analgetics; chemical methods for determining absolute configurations.

Radiochemistry (E. B. Jacobs)
Applications of tracers in studies of equilibria in solvent extractions and kinetics of transport of inorganic ions in plants and plant tissue.

Theoretical Chemistry (Dr E. von Nagy-Felsohuki)
Modelling of infrared spectra of triatomic molecules that are of astronomical interest. Theoretical description of infrared, Raman and photoelectron spectra of bipyridyl and related molecules.

Transition Metal Chemistry (Dr G. A. Lawrance)
Kinetics and mechanisms of reactions of co-ordination and organometallic compounds; synthetic and biorganic chemistry of co-ordination complexes, particularly with macrocyclic ligands; electrochemistry of metal amine complexes.

DEPARTMENT OF GEOLOGY

Carboniferous
Stratigraphy/Palaeontology
Carboniferous palaeogeographic and tectonic evolution of the Tasman Mobile Zone; evolutionary and ecological variation in Carboniferous marine invertebrate zones of Eastern Australia. Studies of Carboniferous trilobites, fenestrate bryozoa and brachiopods. (Associate Professor B. A. Engel)

Coalfield Geology
Coal formation and sedimentology of associated clastic sediments. Coal petrology, reflectance of coalified and graphitized organic matter in sediments and its application to metamorphic grade and petroleum exploration. Petrographic studies of the reactivity of so-called inert macerals during carbonization. (Associate Professor C. F. K. Diesel)

Coal and Oil Shale Mineralogy
Investigations into the development and application of advanced mineralogical techniques to mineral mixtures in and associated with coal and oil shales and their technological implications. (Associate Professor S. St.J. Warne)

Economic Geology
Ore genesis with a special emphasis on the geochemistry of hydrothermal fluids in the ore-forming process. Sulphur isotope, fluid inclusion and mineralogical studies of precious metal vein deposits, magmatic nickel-copper ores and strataform base metal sulphide mineralisation. Metallurgy of the Lachlan and New England Fold Belts, New South Wales. (Dr P. K. Seccombe)

Engineering Geology
Application of geology to engineering problems, directional mining and foundation stability. (Associate Professor K. H. R. Moelle)

Geology of the Hunter Valley
Detailed geology, including stratigraphy, structural geology, petrology, sedimentology, palaeontology and palaeoecology. (All staff)

Igneous Petrology
Petrology of basaltic rocks of Barrington Volcanic Field, NSW; petrology of bimodal volcanic suite, Lachlan Fold Belt, NSW; mineral chemistry of Permian granitoids, Barrington Tops, NSW; petrology of syn-plutonic dykes and mafic inclusions, California, USA. (Dr R. L. Mason)

Metamorphic Petrology
Mineralogy and geochemistry of low-grade metamorphic rocks, north of Newcastle, and Central Peru, South America; the structure and metamorphism of rocks south-east of Mudgee, New South Wales; and wall rock alteration patterns around base metal deposits. (Dr R. Olifer)

Mineralogy
Detailed studies of mineral species, groups, mixtures and isomorphous substitution series with emphasis on applications of thermal analysis and infrared techniques to their composition and decomposition products. (Associate Professor S. St.J. Warne)

Structural Geology
Assessment of brittle deformation features and their interpretation in a regional setting; aspects of faulting in the northern fringe area of the Sydney Basin, New South Wales. (Associate Professor K. H. R. Moelle)

DEPARTMENT OF PHYSICS

Surface Physics — Ion-surface Interaction (Professor R. J. MacDonald, Dr D. J. O'Connor, Dr F. T. Bagnall, Dr B. V. King)
When an energetic ion beam interacts with a solid surface, a complex collisional situation develops which includes elastic
and linear scattering events. The research of the ion-surface interaction group involves studies of the interaction and the collisional and atomic processes leading to scattering, sputtering, ionization and excitation of the particles involved in the event. The application of ion-surface interaction to studies of the structure and composition of surfaces is an important part of the work of the group. Finally work is beginning on the way in which the properties of a surface may be modified by ion implantation.

**Surface Physics — Electron-surface Interaction** (Associate Professor J. A. Ramsey, Mr R. H. Roberts, Dr F. V. Smith, Mr J. F. Cleary)
The use of electron beams in surface studies is concerned principally with Low Energy Electron Diffraction (LEED) and Auger Electron Spectroscopy (AES). The use of these techniques is directed towards the study of the structure and composition of clean metal surfaces and the adsorption of other species thereon. In particular, one area of special interest is the initial stages of oxidation, specifically the interaction of oxygen with aluminium. A fast scanning TV system adapted for the quantitative LEED study of adsorption is being developed. A low spatial resolution (~1μm) Auger Electron Microprobe system for the study of surfaces and their modification is also being developed.

**Geophysics — Geomagnetic Pulsations** (Associate Professor B. J. Fraser, Dr F. W. Ricketts)
Studies in ultra low frequency plasma waves (geomagnetic pulsations) in the earth's magnetic field environment, the magnetosphere being undertaken experimentally using a network of seven geomagnetic recording stations situated across Australia and in the Antarctic. Of particular interest are ion cyclotron wave generation and propagation mechanisms in the magnetosphere and the ionosphere and the origin of standing wave resonant field lines. Spacecraft studies are also carried out in cooperation with experimenters in the U.S.A. Sophisticated digital time series analysis techniques are employed and microprocessor recording and analysis systems are under development.

**Geophysics — Radar Meteor Studies** (Associate Professor C. S. L. Keay)
A fully automated radar meteor system at a field station north of Newcastle has been established. A new HF pulse transmitter is soon to be installed, and data is communicated to the Department on campus by a radar relay link. Digital Techniques employing ganged high speed micro-computers have been developed to allow signal processing to be carried out in real time.

**Geophysics — Fireball Studies** (Associate Professor C. S. L. Keay)
Investigations of anomalous phenomena connected with the atmospheric entry of very large meteor fireballs is continuing with laboratory studies of some of the mechanisms involved, particularly low frequency electromagnetic production of acoustic waves.

**Theoretical Solid State Physics** (Dr P. V. Smith)
Investigations in theoretical solid state physics involve the application of semi-empirical techniques incorporating total-energy algorithms to the determination of the surface geometries of both metals and covalent solids. The role of dilute substitutional and interstitial impurities in simple and transition metal hosts is also under study with particular reference to hydrogen.

**Electromagnetic Wave Propagation and Instrumentation** (Dr P. A. McGovern)
A study of electromagnetic wave propagation in non-uniform structures and transverse electromagnetic (TEM) cells using time-domain measurement techniques. This programme includes development of analog IC techniques to enable the simplification of solutions to some microwave instrumentation problems.

**Medical Physics Related to Vision**
Work is continuing on a joint project with the Department of Psychology involving studies and characterisation of kinematic stereopsis.

**DEPARTMENT OF PSYCHOLOGY**
The research activities of the department may be grouped under different broad headings reflecting the special interests of the staff members. However, there is sufficient overlap among the groups to maintain communication at a high level.

**Cognitive Processes**
Research into the development of cognitive processes has continued with particular emphasis on factors associated with the acquisition of concepts. Several theoretical formulations are being explored as part of this research.

**Cross-Cultural Research**
Current research includes work on cognitive processes, the role of language in concept development, the cultural bases of concepts of intelligence and the development of values. Cultural groups studied are from Malaysia, the People's Republic of China and migrant groups in the Newcastle area.

**Developmental Psychology**
The efficacy of various types of experiences throughout the lifespan on patterns of human development and change.

**Social Development**
A programme of research is being carried out on developmental aspects of children's friendship patterns. In the programme the development of social skills, the social learning of isolated children and small group interaction are being studied.

**Perception and Performance**
The Perception and Performance Laboratory is currently conducting research in the areas of image processing, filtering, associative memory, models for reaction time and motion perception. New techniques for computer-assisted diagnosis of information processing abilities are being investigated.

**Transpersonal Psychology**
The investigation of conscious experience including the study of meditation, fantasy and daydreams, and dreams.

**Infant Perception**
Research is currently examining various perceptual and attentional abilities in infants. The studies incorporate autonomic system measures as well as the more usual behavioural measures.

**Animal Learning**
Research is being conducted to examine the stimulus control of behaviour with particular attention being paid to phenomena such as conditioned inhibition, blocking and overshadowing.

**Mathematical Psychology**
In mathematical psychology, experimental studies of new methods of measuring abilities and personality are continuing. Geometric and filtering approaches to the structure and processing of images and motion perception are of current interest, in conjunction with scaling procedures relevant to the analysis of perceptual data. Work on stochastic models for reaction time is also being carried out.

**Physiological and Comparative Psychology**
Physiological and biochemical systems involved in behaviour are being investigated with both human and infrahuman subjects. Central neurochemical and autonomic nervous system correlates of learning and memory are under investigation. Several parameters of the cardiac response during a range of behaviours, e.g., aversive conditioning, open field activity, are being investigated using biofeedback and telemetric devices. The infrahuman subjects effect of early experience on adult behaviour are being examined.

**Neuropsychology**
Developmental norms for evoked responses and other electrophysiological measures are being assembled for children of primary school age. Cerebral lateralization of response is the focus of interest. Studies in progress include the electrophysiology of post-concussive states, validation of neuro-psychological tests, event-related potential correlates of emotional experience as well as other complex stimulation schedules and evoked potential indices of stereopsis using random dot patterns.
Epidemiology
Assoc. Prof. A. J. Dobson and R. W. Gibberd collaborate with the Faculty of Medicine to investigate various problems in epidemiology. Current research includes: regional variations in mortality and morbidity; age and sex-specific death rates from ischaemic heart disease in Australia; collection and analysis of data from the Hunter Valley Heart Attack Study; design and analysis for surveys of smoking habits of schoolchildren; validation of routinely collected data on ischaemic heart disease; spatial behaviour of hospital patients in the Hunter Region, doctor-patient interactions; use of antibiotics; evaluation of intervention programmes.

Number Theory
Dr R. B. Egginton is interested in number theory, particularly in combinatorial aspects of the subject.

Dr T. K. Sheng studies the application of dispersive and explosive linear operators, distribution of algebraic numbers in the complex plane, and functions defined on rational numbers. Lines determined by lattice points and application of the results obtained to statistical mechanics are studied. Convexity indices and their applications to transport networks, etc.

Problems in Biostatistics
Mathematical problems arising from analysis of epidemiological data are investigated theoretically. For example Mrs D. O'Connell and Assoc. Prof. A. J. Dobson are studying measures of agreement between judges.

Statistical Mechanics
Associate Professor C. A. Croxton is working on the statistical mechanics of liquids, polymers and liquid interfaces. Professor A. J. Guttmann is working on the theory of equilibrium critical phenomena. He is particularly interested in the analysis of power series expansions which are frequently used to study systems exhibiting phase transitions. Professor A. J. Guttmann is using renormalisation group and series analysis methods to study the critical behaviour of systems with free surfaces.

Transportation Problems
Dr R. J. Vaughan is continuing his work in the application of mathematics to traffic engineering, traffic accidents and transportation planning.

Subject Computer Numbers for the Bachelor Degree Courses
The subjects selected should be written on the enrolment form in the following manner.

<table>
<thead>
<tr>
<th>Computer Number</th>
<th>SUBJECT NAME</th>
<th>Computer Number</th>
<th>NAMES OF COMPONENTS</th>
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<td>Biology I</td>
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<tr>
<td>721100</td>
<td>Chemistry I</td>
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<td>351100</td>
<td>Geography I</td>
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<td>751100</td>
<td>Psychology I</td>
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<td>Biochem. &amp; Molecular Genetics</td>
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<td>Cell Biology</td>
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<td>Biology II B</td>
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<td>Comparative Struct. &amp; Function</td>
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<td></td>
<td>712202</td>
<td>Animal Ecol. &amp; Population Genetics</td>
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<td>(Not offered in 1985)</td>
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<td>Electronics &amp; Instr.</td>
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Subject Computer Numbers for the Bachelor Degree Courses

The subjects selected should be written on the enrolment form in the following manner.

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