



**THE UNIVERSITY OF ADELAIDE**  
**SOUTH AUSTRALIA**

**1978**

**HANDBOOK**  
**OF**  
**COURSES**

# APPLICATIONS FOR ADMISSION IN 1978

EVERY PERSON SEEKING ADMISSION IN 1978 TO

- any of the undergraduate (Bachelor degree) courses described in this Handbook, *or*
- the postgraduate diplomas in Applied Psychology, Computing Science, Education, Library Studies

IS REQUIRED TO APPLY FOR SUCH ADMISSION through the South Australian Tertiary Admissions Centre (SATAC), and on the prescribed form, as follows:

## UNDERGRADUATE COURSES:

- (a) Persons NOT previously enrolled in the University or in one of the other member institutions of SATAC (*see* The SATAC Guide, 1978)

**Form L:**

Students with matriculation qualifications obtained in South Australia.

**Form M:**

Students with matriculation qualifications obtained outside South Australia.

- (b) Persons enrolled in the University or in one of the other member institutions of SATAC in 1977 or previously, who wish to enrol in 1978 in a different course:

**Form T.**

## POSTGRADUATE DIPLOMA COURSES:

Suitably qualified persons who wish to enrol in 1978 for the Diploma in Applied Psychology, or Computing Science, or Education, or Library Studies:

**Form P.**

The completed form must be sent or delivered to:

SATAC,  
Red Cross House,  
228 North Terrace,  
ADELAIDE, S.A. 5000.

The closing date for receipt of all applications is  
**31 OCTOBER, 1977.**

Late applications, if accompanied by the prescribed late fee, will be accepted by SATAC up to 3 January 1978 and considered with those received by 31 October. The late fee is \$10 for late applications received by 30 November, and \$20 for applications received after 30 November. The late fee is not refundable.

# FURTHER INFORMATION

This handbook is intended to provide in brief and readable form most of the information required by a student who is considering the possibility of entering a course at the University. It is hoped that it will be useful particularly to students in their fourth and fifth years of secondary school study, to their parents, and to their teachers.

More detailed information about the requirements of the various courses may be found in Volume II of the University Calendar which contains:

Regulations, Schedules and Syllabuses of degree and diploma courses.  
Rules.  
Timetables.

Volume II of the Calendar for 1978 will be available in late December from the University Office. Price 50c (plus postage).

A leaflet of general information is also available from the University Office; it contains basic general information about the University in a condensed form and is particularly suitable for persons making a preliminary enquiry about courses, admission conditions and so on.

Forms of Application for Admission in 1978 are available, free of charge, from the University Office or from the South Australian Tertiary Admissions Centre (SATAC). See page 1.

Persons who have read the various publications and wish to obtain further information or advice are invited to write to the Academic Registrar.

All correspondence should be addressed to:

The Academic Registrar,  
The University of Adelaide,  
Box 498, G.P.O.,  
Adelaide, S.A., 5001.

The University's telephone number is 223 4333 (Area Code: 08), and its telegraphic address is UNIVAD.

H. E. WESLEY SMITH,  
*Academic Registrar.*

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# FOREWORD

BY THE VICE-CHANCELLOR

If you have now completed your matriculation requirements (or will do so soon), and have reached a decision about your need for further education, you will be in a position to consider the courses of study the University offers you.

This Handbook is intended to give information on these courses, and it should be of great value to you as you decide on your likely future career. However, do not forget to look at the sections of the Handbook dealing with the functions of the University other than teaching. There is information on procedures for admission, details of matriculation requirements for admission, an outline of the history of the University and a brief description of the way in which the University is managed.

One important feature of the University to keep in mind is its size. There are around 11,000 members of the University—a population greater than all but three or four towns in South Australia and certainly larger than most institutions many of you will have encountered. Hence the views represented on campus cover a wide spectrum; and if you do attend University, as much of your education will come through discussion with people as through lectures, theatre and laboratory.

Your reasons for considering the University as the place to continue your education are no doubt varied. Whatever your reason, I enjoin you to remain continually aware of the fact that your years at University can, and should, lay the basis of your whole life. They will provide you with not only a grounding in the professional sphere that particularly interests you, but also in a wider sense through social contact and activity. The University has a large number of clubs and societies centred in the Union which enable students to meet one another, to relate their ideas and to become socially oriented. Winston Churchill once remarked that 'the most important thing about education is appetite'. Avenues such as this can be used to excite your imagination, cultivate your mind and thus stimulate that appetite. In addition to this, the University offers a wealth of cultural activity on campus, and opportunities to attend or take part in drama and music are many and varied. For those who are athletically inclined the University is renowned for its sporting activities.

The University aims at not only the intellectual, but the total development of all members of its community.

D. R. STRANKS,  
*Vice-Chancellor.*

# PART I: GENERAL INFORMATION

## I. INTRODUCTION TO THE UNIVERSITY

### (a) History

In 1874, thirty-eight years after the proclamation of South Australia as a Province, the University of Adelaide was established by Act of Parliament in a city of only 30,000. At that time there were only four Universities in England: Oxford (12th century), Cambridge (13th century), Durham (1832), London (1836). In Australia the University of Sydney was established in 1850 and the University of Melbourne in 1853.

The Act of Incorporation provided, amongst other things, for a grant of five acres in the City of Adelaide "on the parklands opposite Pulteney Street", as a site for the University buildings.

The academic work of the University began in March, 1876, with sixty students attending classes in Arts and Science subjects.

Since those early days the University has developed so that it now has over 9,500 students, and its buildings on North Terrace occupy a site of about 13½ hectares. In addition, the Waite Agricultural Research Institute (established 1924) occupies some 154 hectares at Glen Osmond. The University also has 18 hectares of playing fields in the parklands north of the River Torrens, with further areas of playing fields at the Waite Institute and at West Beach.

### (b) Functions of the University

Stated as simply as possible, the functions of the University are two: teaching and research.

Put in another way, the University exists:

- (i) to provide the best possible facilities for higher education and advanced study;
- (ii) to foster learning and scholarship, and thus help to promote the intellectual health of the community;
- (iii) to supply the community with trained men and women for the various professions;
- (iv) to undertake research in order to extend existing knowledge, to aid and invigorate teaching at all levels, and to provide highly trained research workers for research organisations and industry.

### (c) Management of the University

#### The Council

The governing body of the University is the Council, which under Section 9 of the University Act "shall have the entire management and superintendence over the affairs, concerns and property" of the University, subject to the Statutes and Regulations of the University.

The Council comprises 33 members including the Chancellor and Vice-Chancellor, *ex officio*; 8 members of the academic staff, 1 member of the non-academic staff, a postgraduate student and 12 persons not employed by the University, all these 22 being elected by the Convocation of Electors (comprising all graduates and postgraduate students of the University and all full-time staff); 4 members elected by the undergraduates; and 5 members of Parliament elected by the Parliament of South Australia.

The Council operates through a system of committees, and with the help of its executive and administrative officers. The two principal committees which advise it are the Education Committee and the Finance Committee.

#### Academic bodies

In the academic area, the committees which from the students' point of view are the most important are the twelve faculties (which control the degree and diploma courses). Subject to the approval of the Council on advice from the

Education Committee, the faculties are responsible for the structure, scope and content of University courses.

### **The Union**

In the extra-curricular area, the management of most of the facilities available to students on the North Terrace campus is entrusted to the Adelaide University Union whose buildings form a social and cultural centre designed to provide a common meeting ground for staff, graduates and students. Its affairs are conducted by the Union Council, which operates through its four standing committees: House, Planning and Development, Finance, and Theatre.

The Union also operates the Union Bookshop and provides catering facilities, including a licensed bar area, for all members.

### **The Sports Association**

The Association, with over forty affiliated sporting clubs, receives substantial financial support from the Union Council, but otherwise manages its own affairs. The playing fields are maintained by the University Council.

### **The Students' Association**

The Students' Association is the co-ordinating body for student activities. Its Executive is elected annually by the student body during the second term. Its functions are to foster a full and vigorous student life, to represent students in any matter that affects their interests, and to act as a liaison body between students, the Union and University authorities. The general health and vigour of student life in any year depend very much on the activity of the Students' Association and its leaders.

### **The Clubs and Societies Council**

This body co-ordinates over sixty student clubs and societies and represents them in negotiations with the Union and the University.

### **(d) The Barr Smith Library**

The Barr Smith Library is the centre of the University, both physically and academically. Its main building was completed in 1932 as the result of a generous gift from Mr. T. E. Barr Smith. It now contains 900,000 volumes; and about 19,000 periodicals are currently received.

All students attending lectures at the University are entitled to use the Library for reading and reference purposes. Students who are enrolled in a degree or diploma course in the University are entitled to borrow books from the Library.

### **(e) The Waite Agricultural Research Institute**

The University's Waite Agricultural Research Institute is situated in the foothills at Glen Osmond some six kilometres from the University site at North Terrace. Its scientific work, which is world famous, is centred on the study of the principles of crop, pasture and animal production, and the scientific disciplines associated with these aspects of agriculture.

### **(f) The Elder Conservatorium of Music**

The University's Elder Conservatorium of Music, which was established in 1898, provides tuition in a wide range of musical studies including the courses leading to the degrees of Bachelor of Music and Master of Music. Students who possess musical aptitude but who are not candidates for a degree may, with the approval of the Director, enrol for a minimum period of one year for studies in the subjects of the Practical School (e.g. Pianoforte, Organ, Singing, or any orchestral instrument). Any such student will attend also such further classes, and take part in such group musical activities (e.g. orchestral work, chamber music, choral and operatic performances) as the Director may require.

The staff and students of the Conservatorium regularly hold concerts at lunch time during term-time; and the concerts held every day during the 1976 Festival of Arts were enthusiastically received. The contribution by the Conservatorium to the musical life of Adelaide is well recognised.

Over 210 students are enrolled in the Conservatorium which aims to provide for all its students a balanced form of musical education.



### **(g) Residence**

The University does not provide residential accommodation for students. There are five residential colleges affiliated with the University. St. Mark's is for men; Aquinas, Lincoln and St. Ann's are co-educational; and Kathleen Lumley is for postgraduate students, men and women, single or married. For particulars of admission to these colleges application should be made direct to:

The Rector, Aquinas College, 19 Palmer Place, North Adelaide, S.A., 5006.

The Master, Lincoln College, 45 Brougham Place, North Adelaide, S.A., 5006.

The Master, St. Mark's College, 46 Pennington Terrace, North Adelaide, S.A., 5006.

The Principal, St. Ann's College, 187 Brougham Place, North Adelaide, S.A., 5006.

The Master, Kathleen Lumley College, 51 Fimmis Street, North Adelaide, S.A., 5006.

Students who wish to live in lodgings are usually able to secure reasonably satisfactory living accommodation. Alternatively students may seek accommodation in one of the houses owned by the University in lower North Adelaide. These houses are administered by the Board of Non-Collegiate Housing. The Union Welfare Officer will supply details of the non-collegiate housing and will assist all students in obtaining suitable accommodation.

The Secretary of the Council for the Welfare of Overseas Students in South Australia, 10th Floor, Sun Alliance House, 45 Grenfell Street, Adelaide, S.A., 5000 (Telephone: 51 3651) will, on application, help all overseas students seeking living accommodation. The Australian Development Assistance Bureau, at the same address, employs a social worker who is able to assist with any personal problems that may be encountered by overseas students.

In view of current living costs in South Australia (September, 1977), overseas students are advised to allow at least \$Aust. 2,500 a year to meet the cost of board and lodging, clothing and daily travel.

### **(h) The Mackinnon Parade Child Care Centre**

Students with children between the ages of three months and five years may wish to avail themselves of the facilities offered by the Mackinnon Parade Child Care Centre where there are special concessions for student-parents. Enquiries should be addressed to the Director, The Mackinnon Parade Child Care Centre, 148 Mackinnon Parade, North Adelaide, 5006. (Telephone 223 4333 extension 2930).

## II. ADMISSION

### (a) Restrictions

After careful consideration of the teaching facilities available, the Council has been obliged to impose restrictions on the number of new students that may be admitted to first degree courses and some postgraduate diploma and other courses.

The University, in conjunction with The Flinders University of South Australia and the eight Colleges of Advanced Education in South Australia, has established the South Australian Tertiary Admissions Centre (SATAC) to receive and process applications for admission in 1978 to courses other than higher degree courses. Selection of those to be offered admission will be based as far as practicable on academic merit within the student's preference as to institution and course.

### (b) Applications

All persons seeking admission for the first time in 1978 to first degree courses, or postgraduate diplomas other than the Advanced Dip. Ed. and the diplomas offered by the Faculty of Medicine, are **required to apply for such admission**, on the prescribed SATAC form. [For details, see page 1.]

Persons seeking admission under the Special Entry Scheme should in the first instance write to the Academic Registrar. They will then be advised as to the need to complete applications as described on page 1.

The completed form must be sent to:

SATAC,  
Red Cross House,  
228 North Terrace, Adelaide, S.A., 5000.

Closing date for receipt of all applications: **31 October, 1977.**

Application forms may be obtained from SATAC, at the University Office, or on request to the Academic Registrar.

In certain circumstances a late application, accompanied by the prescribed late fee, may be accepted. For details see *The SATAC Guide*, 1978.

Persons whose educational qualifications were obtained otherwise than at Public Examinations in South Australia must write to the Academic Registrar as soon as possible, and in any case not later than **30 September, 1977**, submitting full details of their qualifications (with copies of certificates) and asking that their position, including their eligibility to be considered, be determined. This action must be taken in addition to lodging the prescribed form with SATAC.

### (c) Special Entry Scheme

In 1978 the University of Adelaide will admit, to first degree courses, a limited number of students who have not qualified for matriculation.

The courses concerned are: agricultural science, architecture, arts (including the social sciences), economics, engineering, law, mathematical sciences, music and science. Applications will **not** be accepted for admission to dentistry or medicine.

In view of the competition from normally qualified applicants, the number of admissions under the Special Entry Scheme in 1978 has been limited to not more than 60. Accordingly only applicants thought likely to succeed in university study will be accepted.

#### *Applications and information*

Applications for admission under the Special Entry Scheme in 1978 closed on 31 July, 1977; it is likely however that the Scheme will continue for 1979 and prospective applicants should, in the first instance, *write* to the Academic Registrar.

#### (d) Eligibility

*Note:* The remainder of this chapter applies only to candidates for admission to undergraduate courses.

##### (i) Local candidates

Persons (including overseas students) who qualified for matriculation at Public Examinations in South Australia, or who expect to become so qualified after publication of the results of the 1977 Matriculation Examination, are eligible to be considered, if they submit applications—on Form L—to SATAC by **31 October, 1977**.

##### (ii) Overseas students not resident in Australia

Persons who hope to come to Australia for study purposes only, to whom special conditions apply, should read carefully the section entitled "Overseas Students" in the leaflet "General Information".

The closing date for initial enquiry for admission in 1978, including the submission of the Educational Record Form (Form M1130), is **30 September, 1977**.

Every candidate whose initial enquiry has been made before **30 September, 1977**, and who has been informed by the University that he has been placed on a short list, must complete the prescribed application form—Form M—and lodge it with SATAC by **31 October, 1977**.

Selection of those to be offered admission will be made as early as possible in January and in general the students to be admitted will be required to be in Adelaide by the first week of March.

##### (iii) Overseas students temporarily resident in another Australian State

An overseas student who is in Australia for study purposes only and whose entry qualifications were obtained at examinations other than Public Examinations in South Australia must first be declared eligible to be considered. For this purpose he should obtain from the Academic Registrar a Form of Preliminary Application (Form PF10) which must be completed and returned by **30 September, 1977** together with a statement setting out, as fully as possible, his reasons for asking that he be declared eligible.

A candidate who presents evidence that he is qualified for matriculation in another Australian University, as a result of his performance at another Australian matriculation examination, will be declared eligible to be considered if he seeks admission to a course not provided in the State in which he obtained his matriculation qualifications.

Normally the University will not regard as eligible an applicant who has not lived in South Australia for the twelve months preceding the academic year in which entry is sought; and it will not normally consider for admission to a course an applicant who has previously been precluded from continuing his studies in the same or in a similar course in another University or tertiary institution. Nevertheless, any person may submit his case to the University for consideration.

Every candidate declared eligible to be considered will then compete for selection within the course quota for overseas students, provided that he submits his application—on Form M—to SATAC by **31 October, 1977**.

##### (iv) Other candidates from outside South Australia

*Note:* As at the date of publication (August 1977), the policy stated in this section is under review.

###### a. General

A candidate for admission to a course (other than an overseas student—see (ii) and (iii) above) who is not ordinarily resident in South Australia, and whose qualifications were obtained otherwise than at Public Examinations in South Australia, must first be declared **eligible to be considered**. For this purpose he should obtain from the Academic Registrar a Form of Preliminary Application (Form PF10) which must be completed and returned by **30 September** together with a statement setting out, as fully as possible, his reasons for asking that he be declared eligible.

Applications in this category require special processing, for which adequate time is needed. Accordingly, any such application received after **30 September** will not be considered unless the University is satisfied that special circumstances, which account for the late application, exist.

Normally the University will not regard as eligible to be considered an applicant who has not lived in South Australia for the twelve months preceding the academic year in which entry is sought; and it will not normally consider for admission to a course an applicant who has previously been precluded from continuing his studies in the same or in a similar course in another university or tertiary institution. Nevertheless, any person may submit his case to the University.

Every candidate declared both eligible to be considered and qualified to matriculate (or who, having been declared so eligible, expects to qualify for matriculation before the beginning of the next academic year) will then compete for selection within the normal quota, provided that he submits his application—on Form M—to SATAC by **31 October**.

**b. Candidates from other Australian States**

Subject to (iv)a. above, a candidate will be declared eligible to be considered if his application is received on time and if he:

- i. seeks entry to a course not provided in his home State; or
- ii. has taken up permanent residence in South Australia for reasons other than admission or prospective admission to the University. (For example, the son or daughter of a parent transferred to South Australia by his employers might be in this category); or
- iii. has had his secondary education in another State (e.g. Victoria), if his parents are *bona fide* residents of South Australia; or
- iv. has his home in the Northern Territory, Broken Hill, Mildura or some other district close to the South Australian border and completed his secondary education in his home area.

**c. Prospective migrants to Australia**

The University receives many enquiries from students in America, Europe and other countries who say they wish to live permanently in South Australia. Such students are advised that the University will not normally regard them as eligible to be considered for admission until after they have lived in South Australia for a period of twelve months preceding the academic year in which entry is sought. However, where the University is satisfied that the applicant is genuinely coming to South Australia for purposes other than prospective admission to the University, the qualifying period of 12 months may be reduced. An application from a student member of a family which is migrating to South Australia for permanent residence will be considered with special sympathy.

**(e) Selection**

Selection will be based as far as practicable on academic merit, within the applicant's preference as to institution and course, and will *not* depend on whether he proposes to undertake full-time or part-time studies.

In the case of applicants who have attempted five or more subjects at the one South Australian Matriculation Examination, academic merit will normally be assessed on the aggregate of an applicant's marks (not grades) in his best five subjects; but other relevant factors, e.g. the results of any post-secondary studies, or special circumstances (see below) may be taken into account.

Applicants who have had more than one attempt at the Matriculation Examination, or who have repeated the matriculation year, are advised that their *complete* academic record will be considered. They are invited to submit a statement of any special factors they would wish to have taken into account. (Merely to say, for instance, "I repeated the Matriculation Examination in order to do better" may not be helpful.) There will be *no fixed deduction of marks* for such applicants; but a Selection Committee may, after considering all of the information available to it, make an adjustment to an applicant's marks. Any such adjustment, if made, is to ensure that there is no injustice either to the applicant or to those who have obtained the same or similar marks after spending only one year in the matriculation class.

The Selection Committees of each institution will give consideration to any special factors such as additional qualifications, genuine interruptions to formal education or handicaps to education (e.g. illness, financial problems, limited school facilities, etc.).

Claims for consideration of special factors should be substantiated by certificates or written statements from appropriate persons, e.g. school principals, and be attached to the application form.

#### **(f) Exemption from part of a course**

A person who has been (or appears likely to be) admitted to an undergraduate course and who wishes to apply for status in part of the course on account of work completed in another tertiary educational institution should write to the Academic Registrar, submitting an official certificate of his academic record accompanied by an official publication of the institution showing the scope and content of the work which he has completed, and appropriately marked for the purpose.

#### **(g) Deferment of Admission**

Deferment of admission for one year is available on request to all candidates selected for admission. In some faculties a longer period of deferment may, on request, be granted.

To obtain a deferment a candidate is required to complete the appropriate section of his "Authority to Enrol" and return it to SATAC within the prescribed period. If deferment is sought for more than one year a candidate should, in addition to returning his "Authority to Enrol", write giving details of the period of deferment sought and the grounds for seeking it.

A candidate who is uncertain of his future studies and is contemplating seeking a deferment is advised to consult the appropriate Faculty Adviser.

#### **(h) Evening Classes and Part-time Students**

Some courses (Architecture, Dentistry, Medicine) can be taken only by full-time study. Other courses (e.g. Agricultural Science, Engineering, Law, Music, Science) may under certain circumstances be taken either wholly or in part by part-time study, but only by students able to attend during the day.

The Arts and Economics courses may be taken by either full-time or part-time study. In the Faculty of Arts, some subjects may be taken by attendance either at day classes or at evening classes. In a number of subjects, evening lectures are not given; however, it is possible for a student to complete an Ordinary B.A. degree, in a wide range of subjects, by evening study only.

In the Economics course the timetables of subjects are so arranged that it is possible for a part-time student to complete his whole course by attendance at evening classes only. Most evening classes are held between 5.15 and 7.15 p.m., with some continuing till 8.15 p.m.

The Science course may be taken on a part-time basis, but not by evening studies alone; indeed only some of the first-year subjects are taken at 5.15 p.m. or later. Second- and third-year subjects are given only during the day.

The University recognises that in certain circumstances there are advantages in part-time study; and it also recognises that for some students part-time study is all that is practicable. Nevertheless, in general the University would prefer its students to be full-time rather than part-time, to be able to study under the conditions most conducive to success, and to be in a position to enter fully into the life of the University.

An intending part-time student should not enrol until he has considered carefully the demands that his part-time study will make upon him, and is confident that he will be in a position to devote the necessary time throughout the year to those demands.

Advice in the planning of courses may be obtained from the Faculty Advisers (see leaflet "Instructions for Enrolment").

### III. MATRICULATION

#### (a) General

Before entering upon a course of study at the University, a student must matriculate. To become qualified to do so he must:

- i. have satisfied the requirements of the current Matriculation Statute; *or*
- ii. have satisfied the requirements (when they were operative) of any former Matriculation Statute; *or*
- iii. be declared qualified for matriculation on account of his general educational qualifications, including any qualifications obtained outside South Australia; *or*
- iv. be declared qualified for matriculation through having been offered admission under the Special Entry Scheme.

A student who is qualified to matriculate and who has been authorised to enrol matriculates by signing his name, in the presence of an authorised officer, to the prescribed declaration in the Students' Roll. This is normally done as part of the enrolment procedure.

#### (b) Matriculation Statute: Extracts

##### GENERAL

1. To become a matriculated student of the University a candidate shall:
  - (a) have satisfied the educational requirements specified below; and
  - (b) at an appointed time, in the presence of the Academic Registrar or other duly appointed person, sign the following declaration in the Students' Roll:

'I undertake to obey the statutes and regulations of the University of Adelaide and to comply with such rules as may from time to time lawfully have been made by or with the authority of the Council of the University.'

##### THE MATRICULATION EXAMINATION

2. A Matriculation Examination shall be held towards the end of each calendar year. The examination shall be designed, in general scope and standard, for candidates who have completed five years of academic secondary education (following seven years of primary education) in South Australia.

3. (a) The subjects available at the Matriculation Examination shall be:

*Group I:* American History, Ancient History, Art, Australian History, Chinese, Classical Studies, Economics, English, French, Geography, German, Indonesian, Italian, Japanese, Latin, Malay, Medieval History, Modern European History, Modern World History, Music, Spanish, Ukrainian and such other subjects as may be approved by the Council on the recommendation of the Joint Matriculation Committee.\*

*Group II:* Biology, Chemistry, Geology, Mathematics I, Mathematics II, Mathematics IS, Physics and such other subjects as may be approved by the Council on the recommendation of the Joint Matriculation Committee.

‡(b) Candidates' results in each subject shall be classified (not necessarily for publication) in such manner as may be approved by the Council on the recommendation of the Joint Matriculation Committee.

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\* The following subjects have been so approved: Ancient Greek, Dutch, Hebrew, Latvian, Lithuanian, Modern Greek, Polish and Russian at the Higher School Certificate Examination conducted by the Victorian Universities and Schools Examinations Board, in accordance with the arrangements made by the Public Examinations Board of South Australia.

‡ See footnote 1 on page 15.

EDUCATIONAL REQUIREMENTS FOR MATRICULATION

4. To fulfil the educational requirements for matriculation a candidate shall:
- (a) present at one Matriculation Examination not less than five subjects which shall include at least one subject from each of Group I and Group II, provided (i) that not more than two History subjects shall be counted; (ii) that Ancient History and Classical Studies shall not both be counted; and (iii) that Modern European History and Modern World History shall not both be counted; (iv) that a candidate presenting Malay shall not also present Indonesian; and (v) that a candidate presenting Mathematics IS shall not also present either Mathematics I or Mathematics II; and
  - \* (b) attain in five subjects so presented an aggregate of scaled marks not less than a figure determined from time to time by the Council, provided that if a candidate present more than five subjects the aggregate of marks shall be his highest five scaled marks in subjects which comply with the requirements of section (a) of this clause.

ASSESSMENTS

\*5. A candidate who produces evidence satisfactory to the Joint Matriculation Committee

- (a) that he was prevented by illness from attending or completing the Matriculation Examination in the subject or subjects concerned; or
- (b) that he satisfied such other grounds as may be approved by the Joint Matriculation Committee;

may have an assessment made of the results which he was likely to obtain in each subject concerned, or may be examined in any manner approved by the Joint Matriculation Committee. Such assessment or examination, if approved by the Public Examinations Board and the Joint Matriculation Committee, may be used for purposes of complying with the provisions of clause 4 of this Statute.

THE MATRICULATION BOARD

8. There shall be a Matriculation Board consisting of the Vice-Chancellor and three members appointed by the Council on the recommendation of the Education Committee. . . .

9. (a) The Board shall advise the Council on all applications under this Statute for status, for provisional matriculation, and for adult matriculation and on such other matters as the Council may refer to it.

(b) In the case of a candidate for matriculation who presents evidence satisfactory to the Matriculation Board that he is suffering severe and continuing physical or other disability the Council, on the advice of the Board, may vary the provisions of clauses 4 and 5.

THE JOINT MATRICULATION COMMITTEE

10. (a) There shall be a Joint Matriculation Committee of The University of Adelaide and The Flinders University of South Australia, consisting of eleven members.

(b) Each University Council shall appoint five members.

(c) The ten appointed members shall elect a chairman. If an appointed member be elected chairman he shall thereupon cease to be an appointed member, and the resultant vacancy shall be filled by the relevant University Council.

11. In addition to its powers under clauses 3 and 5, the Joint Matriculation Committee shall advise the Councils of the two Universities on any matters related to matriculation.

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\* See footnotes 2 and 3 on pages 15 and 16.

### STATUS

12. A candidate who submits satisfactory evidence of educational qualifications gained otherwise than at the Matriculation Examination may, on the recommendation of the Matriculation Board, be declared qualified for matriculation or be granted such status towards matriculation as shall be determined in each case.

13. A candidate who under clause 12 is granted status towards matriculation on account of educational qualifications obtained outside South Australia may be required to satisfy the Matriculation Board that his knowledge of English is sufficient for the purpose of undertaking University studies.

### ADULT MATRICULATION

16. On the recommendation of the Matriculation Board the Council may make such modifications in the provisions of this Statute as it deems fit for a person who has attained the age of twenty-one years or who for a continuous period of at least thirty-three months has ceased to undergo full-time secondary education.

### OPERATIVE DATE

17. This Statute shall come into force on 1 April, 1969, when the Matriculation Statute in force on 31 March, 1969, shall be repealed.

### SAVING CLAUSE

18. (a) Notwithstanding the provisions of clause 1(a), a candidate who before 1 April, 1969, had fulfilled the educational requirements for matriculation under any former Matriculation Statute by passing in appropriate subjects at the matriculation examination prescribed in that Statute shall remain qualified for matriculation.

(b) A candidate who, on or before 31 March, 1969, had partially fulfilled the educational requirements for matriculation under clause 9(a) of the Matriculation Statute in force on 31 March, 1969, may complete his qualifications for matriculation by attaining at any Matriculation Examination a grade of D or higher in any subject which is available at the Matriculation Examination and would have qualified him for matriculation under the former Statute.

### FOOTNOTES (which do not form part of the Statute):

#### 1. *Grades*

Results in each subject are classified in the grades A, B, C, D, E, F and G, in descending order of merit.

The method of determining the grades in each subject is that a minimum scaled mark for the award of each grade is determined from time to time by the Public Examinations Board of South Australia.

More precise details of the grading and scaling procedures may be found in the Board's Annual Examinations Report, available after June.

#### 2. *Standardising of matriculation scores*

##### *Moderated school assessment component.*

The Universities and the Public Examinations Board recognise the contribution to the overall assessment of candidates which can be made by the schools; and accordingly a school assessment component will be included in the Matriculation Examination results in 1977 and subsequently. Teachers will be asked to provide



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**MATRICULATION**

an assessment of achievement for each candidate in each subject, and this will be moderated to compensate for differences between schools. The resulting score will be combined with the examination mark to produce a total raw score, which will be used as a basis for all other procedures.

Of the total raw score, the examination mark will have a weighting of 75% and the school assessment a weighting of 25%, except in cases where there is no school assessment or where it is considered that the school assessment cannot be adequately moderated: in such cases the examination mark will constitute 100% of the total raw score.

*Scaling of matriculation marks.*

The Matriculation Examination is intended to assess the level of achievement of candidates, in the various subjects, Thus one of the main concerns is to maintain comparability of standards both between subjects in the same year, and between years in the same subject. Allowance must be made for variations in the quality of candidates from year to year, and in the apparent difficulty of examination papers. Due to subject selection and streaming factors, differences of quality between the groups of candidates taking different subjects can also arise; and compensation must be made for this.

In order to achieve the intentions of the examination the total raw score in each subject is suitably scaled. The aggregates of scaled marks so obtained are used for determining matriculation and, in appropriate cases, as a basis for admission to universities and other tertiary educational institutions.

**3. Prescribed Aggregate Mark**

Students who obtain a total of at least 225 scaled marks in five required subjects at the Matriculation Examination will have fulfilled the educational requirements for matriculation at the University.

If a candidate presents more than five subjects the aggregate of his five highest scaled marks in subjects which comply with the Statute will be used to determine whether he has qualified to matriculate.

**(c) Further Information**

Any intending student who is in doubt about his matriculation position is invited to apply in writing to the Academic Registrar or to call at his Office, for clarification of his position and (if necessary) advice as to what he needs to do to qualify for matriculation.

**(d) Preparation for University Studies**

In deciding the Matriculation subjects he will attempt or the course to which he will seek entry a student should bear in mind that while there are no formal pre-requisites for admission, the nature of some university courses is such that a student who has not studied certain subjects at matriculation level is at a considerable disadvantage.

A number of first-year university subjects and half-subjects for example are taught on the assumption that students have studied certain subjects at matriculation level.

**Mathematics**

There are three first-year courses in Mathematics. Mathematics I assumes a knowledge of Matriculation Mathematics I and II. Mathematics IM assumes a knowledge of Matriculation Mathematics IS. Mathematics IH (a half-subject for students not wishing to take further studies in Mathematics) also assumes a knowledge of Matriculation Mathematics IS.

**Physics**

The course in Physics I assumes a knowledge of Matriculation courses in Physics and Mathematics I and II or Mathematics IS.

## Chemistry

The course in Chemistry I assumes a knowledge of Chemistry, Physics, and *either* Mathematics IS or both Mathematics I and II at the Matriculation Examination. Students proceeding to second-year courses in Physical and Inorganic Chemistry will normally be required to pass also in either University Mathematics IM, which assumes a knowledge of Matriculation Mathematics IS, or in University Mathematics I which assumes a knowledge of Matriculation Mathematics I and II. Students who intend to proceed to third-year courses in Organic Chemistry are also advised to take either University Mathematics IM or University Mathematics I.

## Biology, Botany, Geology (and Zoology in second year)

It is advisable for every student taking any of these subjects to have a knowledge of Matriculation Mathematics I or Mathematics IS, Physics and Chemistry.

## Languages

The courses in English I, French I, Greek I, Japanese I, and Latin I assume a knowledge of the course in the corresponding subject for the Matriculation Examination. The course in German I assumes that candidates have studied German to fourth-year secondary school level.

No previous knowledge of the respective language is required for the courses in Chinese I, French IA, German IA, Greek IA, Japanese IA and Latin IA.

## Computing Science

The first-year half-subject Computing IH assumes a background in algebra such as may be obtained from Matriculation Mathematics IS.

## Statistics

The first-year half-subject Statistics IH assumes a knowledge of *either* Matriculation Mathematics IS *or* Matriculation Mathematics I and II.

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In general the following may be of some help to students in selecting their matriculation subjects.

## Agricultural Science, Dentistry, Medicine

These are science-based courses and students proposing to seek entry are advised to include Physics, Chemistry and *either* Mathematics I and II *or* Mathematics IS and Biology in their matriculation subjects.

## Architecture, Engineering

For both the Bachelor of Architecture and Bachelor of Engineering courses, prospective students are advised to study Physics, Chemistry, Mathematics I and Mathematics II at matriculation level.

## Arts

The Faculty of Arts has not recommended the study of particular matriculation subjects although some language and literature subjects in the first year assume that students have taken the corresponding matriculation subject.

## Economics, Law

The Faculties of Economics and Law have not recommended the study of particular matriculation subjects and a prospective student should plan his course according to his particular interests and abilities. It is advisable, but not essential, for students intending to enrol for the degree of Bachelor of Economics, to study at least one mathematics subject to matriculation level.

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**Mathematical Sciences**

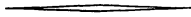
It is recommended that prospective students include Mathematics I and II in their matriculation subjects.

**Music**

As one would expect, musical aptitude is necessary for this course and prospective students must satisfy the Chairman of the Department of Music that they have sufficient ability and preparation. A special examination may be required. Many of those who will seek entry to the Music course will study matriculation Music which is not essential but is strongly recommended.

**Science**

The Faculty of Science recommends that prospective science students should have a knowledge of the matriculation subjects Physics, Chemistry, Mathematics I, Mathematics II. The combination Physics, Chemistry, Mathematics IS and Biology may also be suitable; but a student who has not taken Mathematics I and II may be restricted in the range of studies open to him in the Science course.



In planning his matriculation studies a student will normally receive assistance from his school Principal and his staff, from a variety of written information (such as this Handbook) and from other sources.

## IV. FEES, CHARGES AND COSTS

### (a) General

As from 1 January, 1974, the Australian Government abolished all tuition fees and associated charges (such as examination and graduation fees) at universities and other approved institutions of tertiary education. The decision applies to all students whether full-time, part-time or external, and includes overseas students; it does not apply to students taking Adult Education courses.

Accordingly, no student enrolled in the University is now required to pay any tuition or associated fee.

Every student is, however, required to pay the prescribed Union fees (see (b) below); and he may also, in some circumstances, incur a liability to pay certain University charges (see (c) below).

At the same time the Government has established a Tertiary Education Assistance Scheme which provides means-tested living and other allowances to all full-time non-bonded Australian students admitted to Bachelor degree courses, postgraduate diploma courses and Master's qualifying courses. (See p. 21 for further details.)

### (b) Union Fees\*

Payment of the prescribed Union fees is compulsory for every student. Save in the case of certain scholarship holders, the fee must be paid by each student. The Union fees comprise:

- (i) a **Union Entrance Fee** of \$20;
- (ii) a **Union Annual Fee** of \$102 for a full-time student, \$51 for a part-time student, \$25.50 for a part-time student enrolled for one quarter or less of a year's work.

Payment of these fees entitles students to be members of the University Union (the club to which all members of the University may belong) with the use of the Union buildings, facilities and services. It also entitles them to take full part in the activities of the Students' Association and the Sports Association.

### (c) University Charges\*

The following charges will be made by the University in appropriate cases:

Late enrolment	\$15
Late submission of entry for examination:	\$10

In addition, charges may be made to students who do not comply with University rules. Such charges are set out in the rules concerned. All rules are printed in Volume II of the Calendar of the University.

Students in the third year of the dental course are required to pay a returnable deposit of \$20 in connection with the use of hospital equipment during the clinical years of the course.

Students in the fourth and fifth years of the medical course are required to pay hospitals residence charges of \$34.50 a year. They may elect to pay the full amount of \$69 at the beginning of the fifth year.

Students who arrange to take their examinations externally are responsible for the payment of charges for supervision.

### (d) Excursions and Camps

In some subjects or courses attendance at excursions or at camps (usually during vacation) forms a compulsory part of the associated practical work. It is hoped that, in most cases, the University will be able to meet or at least contribute to the travel costs; however students are required themselves to meet whatever living costs (accommodation, meals, etc.) may be involved. A list of subjects involving excursions or camps, and estimated costs for each subject, is published in the University Calendar, Volume II (Details of Courses).

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\* The fees and charges quoted are likely to be amended for 1978.

### **(e) Books and Stationery**

The cost of books will vary according to the course, and the subjects, being studies; but in general a first-year student should allow at least \$250 for books and necessary stationery.

Lists of the prescribed books will be found in the Syllabuses, available in December. In general students are expected to have their own copies of text-books; but books set for reference only need not be bought and may be consulted in the Library.

Sometimes second-hand books are available. However, only the prescribed edition of any text-book should be bought.

A sale of second-hand books is conducted annually by the Adelaide University Book Exchange, usually in the period from the middle of February to the middle of March. Enquiries, preferably in writing, may be made at the Students' Association Office in the Union Buildings.

### **(f) Equipment**

Attention is drawn to the fact that in some courses, and in some subjects, students are required to provide themselves with certain equipment. In Medicine, for instance, each second-year student must possess a microscope of an approved pattern and a set of bones; and when entering upon the clinical section of the Medical Course a student must obtain his own set of clinical instruments. Again, in most subjects of a biological nature the associated practical work requires the use of dissecting and other instruments; in Architecture and Engineering, students require specialised equipment including drawing instruments; and so on.

Allowance for the costs of any necessary equipment must be made in any assessment of the overall costs of a University course.

## V. FINANCIAL ASSISTANCE

### (a) Australian Government Tertiary Education Assistance Scheme

The information provided below is intended as a brief guide only and is correct as at July 1977. All inquiries should be directed to the Commonwealth Department of Education, Red Cross House, 228 North Terrace, Adelaide, S.A. 5000. (Telephone 223 2416.)

#### General

The Tertiary Education Assistance Scheme is intended to assist Australian students in approved courses at universities, colleges of advanced education, technical colleges and other approved tertiary institutions. In general, assistance under the Scheme is available:

- (a) for full-time study only in approved courses;
- (b) subject to a means test;
- (c) on a non-competitive basis;
- (d) without age restriction;
- (e) subject to certain conditions of eligibility including satisfactory progress in an approved course.

A student's eligibility for assistance under the Scheme must be renewed each year.

#### Eligibility

##### (i) *On Personal Grounds*

Assistance will be available to students whose parents are ordinarily permanent residents of Australia or who are themselves permanent residents or *bona fide* migrants.

Students who are party to a training agreement or who are bonded are not eligible for assistance. Such students may become eligible for assistance by arranging to meet their obligations under their training agreement to the satisfaction of the authorities concerned.

##### (ii) *On Academic Grounds*

School leavers and students undertaking post secondary studies for the first time will be eligible to receive assistance if admitted to an approved course. Other students should consult the booklet "Information for Applicants" available from the Department of Education.

#### Benefits

##### (i) *Living Allowance*

**Ordinary Students.** Students are classed as ordinary unless they meet one of criteria for independent status (see below). Ordinary students have the means test applied to parental income. The maximum rates of living allowance payable are \$1,250 a year for students living at home and \$1,976 for students eligible to receive living allowance at the away from parent rate. The latter rate is payable where students:

- (a) must live away from home to meet compulsory residence requirements of their course;
- (b) have reached or will turn 21 years of age and will be living away from home;
- (c) are under 21 years of age and must live away from home because of circumstances which would have an adverse effect on their studies.

**Independent Students.** The maximum rate of living allowance payable is \$2,236 a year and the means test is applied to the income of the student and where appropriate the income of his/her spouse. Students may be granted independent status where they:

- (a) have reached or will turn 25 years of age in the relevant year;
- (b) are orphans or wards of State;

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FINANCIAL ASSISTANCE**

- (c) are married or have been living in a *bona fide de facto* relationship for at least two years. (One year where children are involved in the relationship.);
- (d) have been employed full-time in the work force for at least two years in the previous five years.

(ii) *Incidentals Allowance*

Students qualifying for living allowance will also be granted an incidentals allowance which will assist them in meeting fees such as Union fees. This allowance is at the rate of:

- (a) \$100 a year for students in universities;
- (b) \$70 a year for students in colleges of advanced education, teachers colleges and other similar approved institutions;
- (c) \$30 a year for students in technical colleges.

(iii) *Dependants' Allowances*

A student who qualifies for a living allowance may also receive an allowance of \$29 a week for a spouse who is wholly or substantially dependent. The allowance is a flat weekly rate and is not payable when the spouse has separate income in any week. A student who has a child wholly or substantially dependent on him/her may receive an allowance of \$7.50 a week for each dependent child.

(iv) *Fares Allowance*

Students living away from their normal places of residence in order to undertake their courses of study may be reimbursed the cost of three return trips a year between their homes and the institutions.

**The Means Test**

(i) *Ordinary Students*

The maximum rates of living allowance will be paid where the adjusted family income is equal to or less than \$8,200 a year. The adjusted family income is assessed by subtracting from the gross income of both parents business expenses and an amount of \$450 for each dependent child other than the student. When the adjusted family income exceeds \$8,200 a year the amount of living allowance will be reduced by \$2.50 for every \$10 of income. The student's personal income may also be taken into account in determining his living allowance entitlement.

- (a) Income from all other sources in excess of \$1,500 a year will affect the allowance. Living allowance will be reduced by \$1 for every \$2 by which income exceeds \$1,500.
- (b) Within the limit for \$1,500 students may receive up to \$150 from another award. Income from another award in excess of \$150 will be deducted from living allowance on a \$1 for \$1 basis.

(ii) *Independent Students*

For independent students the means test is applied to the student's income only, or where married, to his income and that of his spouse for the previous financial year. For every \$2 by which the spouse's income exceeds \$8,200 the allowance will be reduced by \$1. Independent students are subject to the same provisions regarding personal income as are ordinary students.

**Commonwealth Scholarship Holders**

Former Commonwealth University or Advanced Education Scholarship holders who do not qualify for a living allowance because of the application of the means test or because they are studying on a part-time basis may be entitled to reimbursement of Union fees. Enquiries should be directed to the Department of Education.

## **How to Apply**

### **(i) *New Students***

Application forms and information booklets will be available at enrolment centres at the time of enrolment.

### **(ii) *Continuing Students***

Students who received assistance in 1977 will be sent an application form and Information Booklet by the Commonwealth Department of Education. Other students may obtain application forms and information booklets from the Department of Education.

**NOTE:** The information given above is a brief guide only and is correct as at July 1977. It has been provided by the Commonwealth Department of Education, Red Cross House, 228 North Terrace, Adelaide. Requests for further information about the Tertiary Education Assistance Scheme should be directed to the Department, NOT to the University.

## **(b) Vacation Employment**

Many University students work during the long vacation (approximately December-February inclusive), and thereby supplement their financial resources.

Assistance in finding vacation employment is given by the Commonwealth Employment Service, 99 Currie Street, Adelaide. The Secretary of the Careers Advisory Board at the University and the Union Welfare Officer are also able to help in this respect.

## **(c) Cadetships and Studentships for University Study**

The Secretary of the Careers Advisory Board at the University has current information about a number of cadetships and other financial-assistance schemes offered to later-year undergraduates (virtually no cadetships are available to first-year students) and he will be pleased to answer enquiries.

## **(d) Soldiers' Children Education Scheme**

The children of ex-servicemen who, as a result of war service, have died or have been totally and permanently incapacitated or blinded, and the children of certain ex-servicemen who are suffering from tuberculosis, may be eligible to receive educational benefits including a living allowance. Particulars may be obtained from the Deputy Commissioner, Department of Veterans' Affairs, 186 Pulteney Street, Adelaide.

## **(e) Students' Loan Fund**

The University has a Students' Loan Fund, which may be used to assist a student in temporary financial difficulty. Students in need of assistance should contact the Union Welfare Officer in the first instance.

## **(f) Adelaide University Regiment**

Attention is drawn to the fact that the Adelaide University Regiment provides training in activities which may be carried on during term time concurrently with University study, and in University vacations. The pay, which in certain circumstances can exceed \$1,000 a year, is tax free. Further information may be obtained from The Adjutant, Adelaide University Regiment, Torrens Training Depot, G.P.O Box 1788, Adelaide, S.A. 5001; Telephone 223 5628.



**(g) The “Wales Uni-loans”**

The Bank of New South Wales operates a loans scheme for university students who (a) are permanent residents of Australia or New Zealand, (b) are of legal contractual age, and (c) have successfully completed at least two years of a full-time course.

Undergraduates whose applications are approved may borrow up to \$250 a year, with a maximum of \$750 for a full course. There is also provision for loans to graduates undertaking full-time study for a higher degree. Further particulars may be obtained by enquiry at any branch of the Bank of New South Wales.

**(h) Travelling Concessions**

In certain circumstances students may be eligible for fare concessions when travelling on buses or trains operating under the State Transport Authority, or by air. Particulars may be obtained from the relevant travel authority.

## VI. PRINCIPAL DATES, 1978

- 31 January Public Holiday: Celebration of Australia Day.
- 13 February Enrolments begin.  
NOTE: In some courses, enrolments will close on 18 February; in others, some days later. Particulars of the procedures for enrolment, and the dates of the enrolment periods, will be available in January.
- 6 March First term begins.  
Orientation week begins.  
NOTE: Students are required to attend such preliminary meetings of classes in the first week of term as may be announced. Details will be on notice-boards from 27 February.
- 13 March Lectures begin.
- 24-27 March Easter.
- 13 May First term lectures end.
- 29 May Examinations week begins.
- 12 June Second term begins.
- 1 July Entry for annual examinations may be lodged after this date.  
Entry as early as possible is desirable.
- 12 August Second term lectures end. Last day of entry for annual examinations.
- 21 August Examinations week begins.
- 4 September Third term begins.
- 4 November All lectures end.
- 13 November Annual examinations, in general, begin.
- 16 December Third term ends.

## VII. CAREERS

This Handbook has, as its sole aim, the provision of information about the University and its courses. Accordingly, it does not include descriptions of the careers to which University courses might lead.

However, the University realises that many intending students will wish to have information about possible careers, and about the employment opportunities likely to be open to University graduates. It suggests that such students refer to the relevant section in Chapter 1 of *The SATAC Guide*, 1978. Their attention is also drawn to the University's Counselling Service and the Careers Advisory Board.

*The University's Counselling Service* is located in the Union Buildings on the lower level of the University grounds. The Service offers an opportunity for the perusal "on campus" of material about careers and, if desired, for discussion of any uncertainty about career or course choice; and it is available to prospective students as well as to those already enrolled.

*The Careers Advisory Board* provides information on careers and assistance in finding employment. The offices are on the top floor of the Old Classics Wing near the Wills Court waterfall. Students are welcome to call in there to talk on any career matter.

The attention of prospective Arts, Economics, Law, Mathematical Sciences, or Science students is drawn to Part III of this handbook (pages 76 to 80).

## PART II: COURSES

### Introduction

(a) The following table gives particulars of the courses, leading to first degrees, available to new students in 1978.

Faculty	Degree	Length of course in years	Examples of careers to which course gives access
Agricultural Science	B.Ag.Sc.	4	Agricultural Scientist; Agricultural Adviser; Teacher
Architecture	B.Arch.	5	Architect
Arts	B.A.	3	Teacher (School or University); Librarian; Psychologist; Social Worker; Administrative Officer; Careers in Broadcasting, Journalism, Publishing
Dentistry	B.D.S.	5	Dental Practitioner; Dental Scientist
Economics	B.Ec.	3	Economist; Accountant; Careers in Business, Industry, Teaching and the Public Services
Engineering	B.E.	4	Professional Engineer (Chemical, Civil, Electrical, Mechanical)
Law	LL.B.	4	Legal Practitioner; Legal or Administrative Officer in the Public Service, Commerce or Industry
Mathematical Sciences	B.Sc.	3	Computing Scientist; Mathematician; Statistician; Teacher
Medicine	M.B., B.S.	6	Medical Practitioner
Music	B.Mus.	3	Composer; Performer; Teacher
Science	B.Sc.	3	Biochemist; Geologist; Physicist; Teacher

(b) There are a number of other courses in which teaching is provided but which are not listed in the table above. These include a number of courses not thought to be of immediate interest to new students such as the course for the Honours degree of Bachelor of Medical Science, which is available only to medical students who have passed in at least the third-year examination in the medical course, or the courses for the postgraduate diplomas in Applied Psychology, Clinical Science, Computing Science, Education, Library Studies, and Psychotherapy. Further, only limited reference is made to Master's degrees, which are offered by the University in seventeen fields, and to the various Doctorates.

(c) Further details of each course are in the Regulations, Schedules, Syllabuses and Timetables for 1978. These may be found in Volume II of the University Calendar for 1978, available in late December 1977; and they should be carefully studied by each intending student. Some students will find it useful to look up the detailed syllabuses—and perhaps some of the text-books—of subjects in the later years of any course in which they are interested, and in this way to gain a better insight into the kind of work covered in that course.

(d) Studies leading to an Honours degree are available for students in all faculties and every student capable of proceeding to Honours is encouraged to do so.

# AGRICULTURAL SCIENCE

## 1. Introduction

Broadly speaking, Agricultural Science is concerned with soils, plants and animals, and their interaction with one another. These are complex matters requiring an understanding of basic sciences such as chemistry, biology, physics and mathematics, as well as of the more specialised sciences relevant to agricultural practices and problems.

The Faculty of Agricultural Science provides courses leading to both the Ordinary degree and the Honours degree of Bachelor of Agricultural Science (B.Ag.Sc.). A student may obtain either degree, or both. In addition, suitably qualified persons may proceed, by advanced study and research in one of the many specialised aspects of Agricultural Science, to either the degree of Master of Agricultural Science, or the degree of Doctor of Philosophy.

## 2. Degree of Bachelor of Agricultural Science

### (a) General

The course for the Ordinary degree requires four years of full-time study. It can be taken on a part-time basis, although evening classes are available only in some subjects which mainly are taught in first year. An additional year is required for Honours.

The course comprises studies in the various sciences, both pure and applied, that are basic to agriculture. Candidates may select their subjects from a wide range. They may obtain a broad training by taking subjects covering almost the whole field; or, alternatively, they may begin to specialise at a relatively early stage by taking a sequence of subjects related to a particular field.

The first two years are taught in the Faculty of Science at North Terrace; in the third and fourth years students study at the University's Waite Agricultural Research Institute.

All students must satisfy the requirement for sixteen weeks of practical experience in at least three different and approved agricultural environments. A student who holds the diploma of Roseworthy Agricultural College is, however, exempted from this requirement.

### (b) Ordinary Degree

The subjects available in each of the four years are set out below. It will be seen that certain subjects in each year are compulsory. A student may be permitted to include an appropriate first-year subject or its equivalent from those offered by the Faculty of Arts, or the subject Engineering I, in lieu of one Group A subject. A student may also present Astronomy IH and another half-subject available in either the Faculty of Arts or the Faculty of Science in lieu of one Group A subject.

The subjects available in the first year are the same as those available in the first year of the Science course; and details of them may be found on pages 73-75. See also pages 16-18.

A brief description of the half-subjects Macroeconomics IH and Microeconomics IH may be found under the Faculty of Economics (page 51).

*Group A* subjects (First-year):

Biology I, Chemistry I, Geology I, Mathematics I or IM, Physics I.

Half-subjects: Botany IH, Computing IH, Environmental Geology IH, Genetics and Human Variation IH, Macroeconomics IH, Mathematics IH, Microeconomics IH, Physics IH(M), Statistics IH.

Of these subjects a candidate must present Chemistry I, Biology I, Statistics IH and one and a half other subjects.

*Group B* subjects (Second-year):

Agriculture II, Applied Mathematics IIA, Applied Mathematics IIB, Botany II, Chemistry II, Genetics II, Geology II, Macroeconomics IIH, Microeconomics IHH, Pure Mathematics II, Zoology II.

Candidates must present Agriculture II and *either* two other subjects from this group *or* one other subject from this group and one subject (or two half-subjects) from Group A not previously taken.

*Group C* subjects (Third-year):

Agriculture III, Biometry I, Agricultural Microbiology, Agricultural Biochemistry I, Animal Physiology and Production I, Crop Physiology, Economics of Natural Resource Use\*, Entomology and Plant Pathology, Farm Management\*, Farm Prices and Policy\*, Mathematical Statistics II, Soil Science I.

Candidates must present Agriculture III and Agricultural Microbiology, and *either* Biometry I and three other subjects from this group, *or* Mathematical Statistics II and two other subjects from this group.

*Group D* subjects (Fourth-year):

Agricultural Biochemistry II, Agriculture IV, Agronomy, Animal Physiology and Production II, Economics III (Ag.Sc.), Entomology II, Genetics III, Horticultural Science, Mathematical Statistics III, Plant Breeding, Plant Pathology II, Soil Science II.

Candidates must present Agriculture IV and *either* two other subjects from this group, *or* one other subject from this group and two subjects from Group C not previously taken.

Agriculture IV is part of an integrated series with Agriculture II and III in Groups B and C, and is designed to give the student an understanding of the structure of world and Australian agriculture.

**(c) Honours Degree**

The Honours degree requires one year of full-time work beyond the Ordinary degree, making five years in all. The work comprises advanced study, together with a research project. A candidate for Honours must first:

- (i) have qualified for the Ordinary degree of B.Ag.Sc.; and
- (ii) have completed all the Ordinary degree courses in the subject in which he wishes to take Honours, together with such other pre-requisite subjects (if any) as may be prescribed in the Honours syllabus; and
- (iii) obtain the approval of the Chairman of the Department concerned.

The disciplines in which the Honours degree may be obtained are as follows:

Agricultural Biochemistry	Genetics
Agronomy	Horticultural Physiology
Animal Physiology and Production	Plant Pathology
Biometry	Plant Physiology
Entomology	Soil Science

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\* Farm Management will be offered in even years. Farm Prices and Policy, and Economics of Natural Resource Use, will be offered in odd years.

An Honours degree is the normal pre-requisite for students who wish subsequently to proceed to a Master's or Ph.D. degree and to responsible positions in tertiary education and research institutions. The Faculty of Agricultural Science recommends that every student capable of proceeding to Honours should aim to do so.

### 3. Subjects in the Agricultural Science Course

The choice of subjects during the whole four-year course depends largely upon the field in which a student may wish to specialise. The optional fourth-year or Group D subjects represent the major sciences underlying Agriculture and each follows on a similar subject in Group C, but takes the study to much greater depth. The present structure of the course allows a student to specialise by taking two of the Group D optional subjects, or to gain a broader coverage by taking one of the Group D optional subjects and two of the Group C optional subjects not previously taken.

An outline of the field covered in some of the Group C and each of the Group D optional subjects is set out below.

#### Agricultural Biochemistry

Agricultural Biochemistry deals with the fundamental chemistry and interactions of living matter which control growth, function and differentiation. Major topics include: the structure of viruses and their effect on the metabolic pathways of living cells; the detailed chemical and kinetic study of the metabolic pathways and control mechanisms involved in storage, production and utilisation of energy in living cells and in the synthesis of cellular constituents; the role of the nucleic acids in biochemical genetics and in cell growth, division and differentiation.

#### Agronomy

Agronomy is the study of the growth of crops and pastures in the field. The course deals with the origin and botany of crop plants, their growth and nutrition, the relationship of plants to the soil and climate, and to management practices in crop and pasture production.

#### Animal Physiology and Production

Animal Physiology and Production deals with the anatomy, histology, chemical composition and physiological organisation of the main types of animals involved in agriculture. Considerable attention is given to growth, reproduction, lactation and cellular functions. Animal Production is studied in terms of the role of pasture quality in animal nutrition and growth.

#### Biometry and Mathematical Statistics

Biometry and Mathematical Statistics are concerned with the mathematical and statistical aspects of Agricultural Science, including the use of computers. **Mathematical Statistics** provides the basic mathematical and practical training for those wishing to specialise either as biometricians or in the mathematical aspects of other fields of Agricultural Science. **Biometry** provides a background in statistical methods for agricultural experimentation.

### **Economics III (Agricultural Science)**

Economics III (Agricultural Science) comprises Economics IIIA and one half-subject from the following list:

Agricultural Economics IIIH, Econometrics IIIH, Economics of Labour IIIH, Managerial Economics IIIH, Public Finance IIIH.

### **Entomology**

Entomology is the study of insects and the course relates to insects in agriculture. An introductory course deals with some physiological processes in insects, and with insects as pests and as useful animals. The advanced course covers in greater depth insect physiology, the kinds of insects and changes in their numbers.

### **Economics of Natural Resource Use**

Economics of Natural Resource Use deals with methods of project evaluation, special problems associated with public projects and the application of benefit-cost analysis to public agricultural projects in Australia. It is also concerned with resource conservation and the economics of common property resources, externalities and the theory of public goods as applied to environmental problems, and an analysis of the effect on efficiency of resource use of various methods of combating environmental problems.

### **Farm Prices and Policy**

Farm Prices and Policy deals with an analysis of the determinants of prices for agricultural products, and various methods of forecasting agricultural prices. It also deals with the objectives of agricultural policy, and an analysis of agricultural policy measures in Australia and some overseas countries.

### **Farm Management**

Farm Management deals with the nature of farm businesses, theories of farm management, farmers' goals and an analysis of farm investment. It deals also with farm management techniques—including cash flow, partial and parametric budgeting, gross margins analysis, development budgets and net present value, and the decision theoretic approach to farm management problems. Farm management games are used to give students the opportunity to gain experience in the use of these techniques.

### **Genetics**

Genetics deals with the study of inheritance in all types of living organisms. Attention is given to the application of the principles of genetics to physiology and biochemistry, plant and animal breeding and population theory.

### **Horticultural Science**

Horticultural Science deals with all aspects of the physiology of vegetative and reproductive growth of fruit and vegetable crops. Methods used and problems encountered in commercial aspects of these crops are also studied.

### **Plant Breeding**

Plant Breeding deals with the production of better varieties of crop plants and pasture plants. Many of the great advances in agriculture have been due to the development of superior varieties by plant breeders and the course deals with the breeding methods used to achieve increased yield and better quality in agricultural products.



COURSES  
AGRICULTURAL SCIENCE

**Plant Pathology**

Plant Pathology deals with the causes, effects and control of disease in plants. The micro-organisms (bacteria, fungi, viruses and nematodes) which cause plant disease are studied in some detail, as are the principles underlying infection processes, disease spread and control.

**Soil Science**

Soil Science is concerned with the factors which determine the ability of soil to support plant growth, and the reasons for the differences between soils and the factors governing the distribution of different soil types.

# ARCHITECTURE

## 1. Introduction

The Faculty of Architecture and Planning provides courses at both undergraduate and postgraduate levels.

The undergraduate course leads either to the Ordinary or the Honours degree of Bachelor of Architecture (B.Arch.). The aim of this course is predominantly to prepare graduates for the practice of Architecture, a discipline which embraces a wide variety of fields of study.

The practising Architect is a professional consultant in all matters connected with the art and technique of building. Primarily he is concerned with the planning and design of structures of all kinds, and the supervision of their construction. It has been truly said that in his work art, science and technology meet.

The B.Arch. course is recognised by both the Royal Australian Institute of Architects and the Royal Institute of British Architects; and subject to his completing certain practical requirements the new architectural graduate is eligible to apply for Associate Membership of either or both of these bodies.

In addition to the B.Arch. course the Faculty also offers postgraduate courses leading to the degrees of Master of Architecture and Doctor of Philosophy. A postgraduate course leading to the degree of Master of Urban and Regional Planning is offered by the Board of Studies in Urban and Regional Planning.

## 2. Degree of Bachelor of Architecture

### (a) Ordinary Degree

A candidate for the degree is required to complete a course of full-time study extending over five years. In addition, before being admitted to his degree he must show that he has undertaken a period of practical experience, as agreed by the Faculty.

Throughout each of the five years of the course the subjects of study include Building Construction, Structures, Building Science, and Architectural Design and Planning; and the practical application of theoretical work in all these subjects is undertaken concurrently in the Studio. In the first year, additional subjects are History of Architecture (continued also in the second year), Architectural and Free Drawing, and an elective such as Art History and Appreciation.

In each of the second, third, fourth and fifth years the work in the basic subjects becomes more advanced and specialised; and subjects such as Professional Practice, and Urban and Regional Planning and Urban Design, are added. The work of the fifth (or final) year includes an Architectural Thesis, which involves the study and design of a large architectural project and takes up the major part of the student's time.

### (b) Honours Degree

Candidates are required to complete all the work prescribed for the Ordinary degree, and pass the examinations at a higher standard than is required for the Ordinary degree. During the fourth and fifth years of study they undertake additional work in some specialised aspect of Architecture, concurrently with the normal work required in those years.

### 3. Subjects of the First Year

*Note:* These subjects are introductory ones only. For a more realistic picture of the scope and content of the work of the Architecture course, reference should be made to the syllabuses of the subjects of the later years. (See Volume II of the University Calendar.)

#### Building Construction I

This course deals with the general principles and functional requirements of buildings generally; the building team; the building contractor. Foundations. External and internal walls. Ground floor construction and fireplaces. Roofs. Joinery—doors and windows. Masonry.

#### Architectural Structures I

This subject consists of a revision of the mathematics needed for an understanding of structural behaviour, together with lectures on statics and elementary structures.

#### Building Science I

Introduction: man, environment and shelter. The nature and properties of common building materials; occurrence and manufacturing problems; physical phenomena; moisture and porosity; moisture movement. Principles of control of natural environment; sun control, daylighting standards and assessments; natural ventilation.

#### History of Architecture

The architecture of Egypt, Mesopotamia, the Aegean, Greece and Rome; and of the Early Christian, Byzantine, Romanesque, and Gothic periods.

#### Architectural Design and Planning I

The role and function of the architect in society, historically and today; the elements of architectural design; the theory and use of colour.

#### Architectural and Free Drawing

Standard drawing office practice. Orthographic projection; isometric and axonometric projection. The theory and practice of architectural perspective, division and measurement in perspective, angular and parallel perspective and interior perspective. Reflections in perspective. Sciagraphy. Systems of rendering in various media and drawing presentation; lettering and lay-out; creative design; colour. Free drawing.

#### Studio Work I

The practical application of theoretical work in architectural and free drawing, architectural design, building construction, building science, and the history of architecture.

This subject forms an important part of the course and candidates are required to spend non-programmed times in specially equipped studios.

#### Elective

One of a range of subjects designed to widen the student's outlook and interests, and to relate his professional work to the society in which it will be performed. Art History and Appreciation will be given in 1978.

#### **4. Other Information**

##### **(a) Expenses**

New students will be required to buy drawing equipment costing approximately \$150, but are advised not to do so until they have consulted members of the staff of the Department of Architecture and Planning. Students should allow for an expenditure of approximately \$200 a year on text-books and \$40 a year for paper and other consumable materials. During the fourth year of the course a field trip is arranged and students are required to meet living costs of approximately \$150.

##### **(b) Student Memberships**

The Architectural Students' Society arranges meetings, conventions and socials throughout the year. It is strongly recommended that all students join the Society, and that they join also the Royal Australian Institute of Architects as student members.

# ARTS

## 1. Introduction

At the undergraduate level the Faculty of Arts provides courses leading to both the Ordinary degree and the Honours degree of Bachelor of Arts (B.A.). At the postgraduate level are courses leading to the degree of Master of Arts (M.A.), the Diploma in Applied Psychology (Dip.App. Psych.), the Diploma in Library Studies (Dip.Lib.Stud.), the Diploma in Education (Dip.Ed.), the Advanced Diploma in Education (Adv.Dip.Ed.), and the degree of Master of Education (M.Ed.). In addition, suitably qualified persons may proceed by full-time (or in certain circumstances half-time) work to the degree of Doctor of Philosophy (Ph.D.).

The degree of Doctor of Letters (D.Litt.) may be awarded to a graduate of the University who through his publications has made an original, substantial and scholarly contribution to some branch of letters.

## 2. Degree of Bachelor of Arts

### (a) General

The course for the Ordinary degree of B.A. extends over three years of full-time study or the equivalent, while the course for the Honours degree requires four years.

The Arts course involves the study of subjects chosen from a wide range of disciplines often loosely referred to as the Languages, the Humanities and the Social Sciences. A brief description of the subjects for the Ordinary degree is given in Section 4 on pages 37-47.

### (b) Ordinary Degree

The Ordinary degree requires passes in nine subjects, of which four will normally be taken in the first year, three in the second and two in the third.

Students have considerable freedom in choosing their subjects. However, the schedules are designed to ensure both breadth and depth of study.

In general an approved degree course shall include:

- (i) not more than four specified first-year subjects;
- (ii) at least two third-year subjects;
- (iii) not more than four Science subjects (a Science subject is not compulsory);

### (c) Honours Degree

An Honours degree may be obtained in one of the following subjects:

Anthropology	History
Classical Studies	Latin
Classics	Mathematical Sciences
Economics	Music
English Language and Literature	Philosophy
French Language and Literature	Politics
Geography	Psychology
German Language and Literature	

or in a combination of subjects approved by the Faculty and including such parts of two subjects as shall when combined be deemed by the Faculty to be equivalent to a single subject.

The University recommends that every student capable of taking Honours should do so. However, before enrolling for Honours a student must obtain the approval of the Head/Chairman of the department concerned.

The requirements of the Honours degree in each subject are set out in the syllabus. A candidate for Honours must first:

- (i) obtain the approval of the Head/Chairman of the Department concerned; and
- (ii) have qualified for the Ordinary degree of B.A.; and
- (iii) have completed such pre-requisite subjects (if any) as may be prescribed for the Honours degree in the syllabus.

### 3. Combined Courses

#### (a) Arts-Law

Students may apply for admission to both the Arts course and the Law course, and, if successful, may enrol concurrently in the courses for the degrees of B.A. and LL.B. Such students should, before enrolment, consult the Faculty Advisers for both courses. (See also paragraph 4 on page 58.)

#### (b) Arts-Music

Students may apply for admission to both the Arts course and the Music course and, if successful, may enrol concurrently in the courses for the degrees of B.A. and B.Mus. The combined course takes five years. Intending students should, before enrolment, consult the Faculty Advisers for both courses.

### 4. Subjects and Half-Subjects in the Arts Course

#### Anthropology

##### *Anthropology I.*

Basic issues in Anthropology; cultural and social behaviour in Western and non-Western settings.

##### *Anthropology IIA.*

Economic and political anthropology.

##### *Anthropology IIB.*

Religion, ritual and communication; the anthropology of symbolic action.

##### *Anthropology IIIA.*

Anthropology of tribal societies; ethnographic material studied will be mainly from Australia and Oceania.

##### *Anthropology IIIB.*

Ideologies and inequality.

##### *Anthropology IIIC.*

Social organisation and culture (This subject will not be offered in 1978).

##### *Anthropology IIID.*

Cities and Towns: the sociological character of the urban phenomenon mainly in modern non-Western settings but also in modern Western settings.

Only two third-year Anthropology subjects may be counted towards the B.A. degree.

#### Asian Studies

##### *Chinese I, II and III.*

A course in modern Chinese language (Mandarin). No previous knowledge of Chinese is required for Chinese I. Chinese III was taught in 1977 and will be offered in 1978 subject to availability of staff.

**COURSES**  
**ARTS**

*Japanese I, IA, II and III.*

Courses in modern Japanese language. No previous knowledge of Japanese is required for Japanese IA. Japanese I is for students who have reached a satisfactory standard at matriculation level. Japanese III was taught in 1977 and will be offered in 1978 subject to availability of staff.

*Asian Development II.*

An interdisciplinary subject offering a survey of the history, politics and economics of the three major regions of Asia; East, South and South-East Asia.

**Classics**

*Greek I, IA, II, IIA, IIS, III and IIIS.*

*Latin I, IA, II, IIA, IIS, III and IIIS.*

Courses in Greek or Latin language and literature.

For students who have no previous knowledge of Greek or Latin the Department provides degree level courses entitled Greek IA, and Latin IA, which are preparatory courses for Greek and Latin respectively.

*Classical Studies I, II and III.*

The study of the literature and social and cultural background of the classical world of Greece and Rome. No knowledge of Greek or Latin is required since classical literature is studied in translation.

Classical Studies I is an introduction to the classical world and is concerned with the literature of classical Greece and its social and cultural background. Options available for Classical Studies II and III include Greek and Roman Historiography, Greek and Roman Art and Archaeology, Roman Poetry, Greek and Roman Literature, Comparative Literature and Ancient Philosophy.

*Classical Art and Archaeology II.*

A comprehensive survey of ancient art and an account of the history of archaeological discovery.

*Ancient History II and III.*

These subjects deal with the political, social and cultural development of Greece (600-400 B.C.) and Rome (133 B.C.-180 A.D.).

**Computing Science**

Candidates for the degree of Bachelor of Arts may include studies in computing science in their courses. A first-year half-subject Computing IH is offered and two third-year subjects are available. A description of computing science studies and a brief syllabus for Computing IH may be found on pages 62-63.

**Drama**

*Drama I*

History and development of theatre arts, and theory and practice of drama.

**Economics**

Arts students may take the following subjects and half-subjects in Economics: first-year subjects—Macroeconomics IH, Microeconomics IH, Economic History IH, Economic Institutions and Policy IH, Mathematical Economics IH, Mathematics for Economists IH, Elements of Accounting I; second-year subjects—Macroeconomics IIH, Microeconomics IIH, Mathematical Economics IIH, Economic History IIAH, Economic History IIBH, Economic Statistics II, Economic Statistics IIA; third-year subjects— Economics (Arts) III, Economic Development Studies III.

The subject Social Economics I is designed for students who intend to take only a one-year course in Economics, and all such students are recommended to take it instead of the two half-subjects Macroeconomics IH and Microeconomics IH.

### *Social Economics I*

The economic basis of social welfare, with special reference to the following topics: demand and supply; competition and monopoly; distribution of income and wealth; international trade; national accounting; money and banking; theory of employment; government policy in depression and inflation; an introduction to the process of development in developing countries.

A brief description of other first-year subjects and half-subjects may be found under the Faculty of Economics on pages 51 and 52.

### **Economics III (Arts)**

Economics III (Arts) comprises Economics IIIA (which includes studies in microeconomics, macroeconomics and international economics) plus one half-subject from the following list—Agricultural Economics IIH, Econometrics IIH, Economic History IIH, Economic Theory, Economics of Labour IIH, Managerial Economics IIH, Public Finance IIH.

### *Economic Development Studies III*

Economic Development Studies III is available for Arts students and comprises Economic Development III and one of the half-subjects Economic History IIH or Public Finance IIH or Agricultural Economics IIH, provided that a part-subject may not be counted towards both Economics III (Arts) and Economic Development Studies III.

## **English Language and Literature**

### *English I*

- (a) The history of the English language and fundamental terms and procedures of literary criticism.
- (b) A critical study of some of the main types of English Literature at various periods, with a detailed knowledge of a number of prescribed books of poetry, drama, fiction.

### *English II*

A study of poetry from the Romantic Period to the beginning of Modernism; the novel from Defoe to Hardy; and of modern drama.

### *English III*

A study of English Literature from 1350 to 1780.

### *Old and Middle English II*

Anglo-Saxon culture and institutions; introduction to Old and Early Middle English language and literature.

### *Old and Middle English III*

Medieval English culture and institutions; study of Old and Middle English language and texts.

### *American Literature II*

A second-year subject for which English I is a pre-requisite. Authors and works; prose, poetry and drama.

### *Australian Literary Studies II*

A second-year subject for which English I is a pre-requisite. Authors and works; cultural analysis embracing writings of a historical, descriptive and discursive nature; special topics.



**COURSES  
ARTS**

*English IIIB*

A third-year subject designed to follow on from American Literature II and/or Australian Literary Studies II.

*Linguistics II*

An introduction to grammar and descriptive linguistics and to social and historical linguistics.

*Linguistics III*

A more detailed study of grammar, including problems in transformational grammar, "Generative Phonology" and "Generative Semantics". A knowledge of a language other than modern English is a pre-requisite.

**French Language and Literature**

*French IA*

A subject for students with little or no knowledge of French. In addition to lectures on language there will be lectures on life, culture, literature and thought of modern France.

*French I*

A general course, designed both as an introduction for those students who intend to go further in the study of France, its language and its literature, and as a short but comprehensive survey for those students whose French studies will be confined to one year.

Lectures are given on the French civilisation, treating in outline the geography of France and its history, institutions and literature. French literary texts are set for reading, and for translation into English. The pronunciation of French is studied in a course of Phonetics and by means of regular exercises in a language laboratory. The French Club exists to present monthly programmes in French, organised by a student committee.

*French II, IIA and III*

Each of these subjects comprises free composition in French and translation from English into French; translation of unseen and prescribed French texts into English; oral work, including *explication de textes*; and the study of a period of French literature.

*French IIB*

An additional subject which does not alone qualify a student for admission to French III. The subject comprises an elementary introduction to old French language and literature and includes a survey of sixteenth century French literature.

*French IIIB*

An additional third-year level subject open to students who have taken French IIB and to prospective honours students. The content includes the history of the language, unseen translation of Old and Middle French, the study of medieval and renaissance literature and of nineteenth and twentieth century poetry and drama.

**Geography**

*First Year:*

*Physical Geography IH (half-subject)*

The atmosphere and oceans; water, energy and mineral cycles; geomorphological processes; biogeography; the need for integrated approaches to conservation and land-use management.

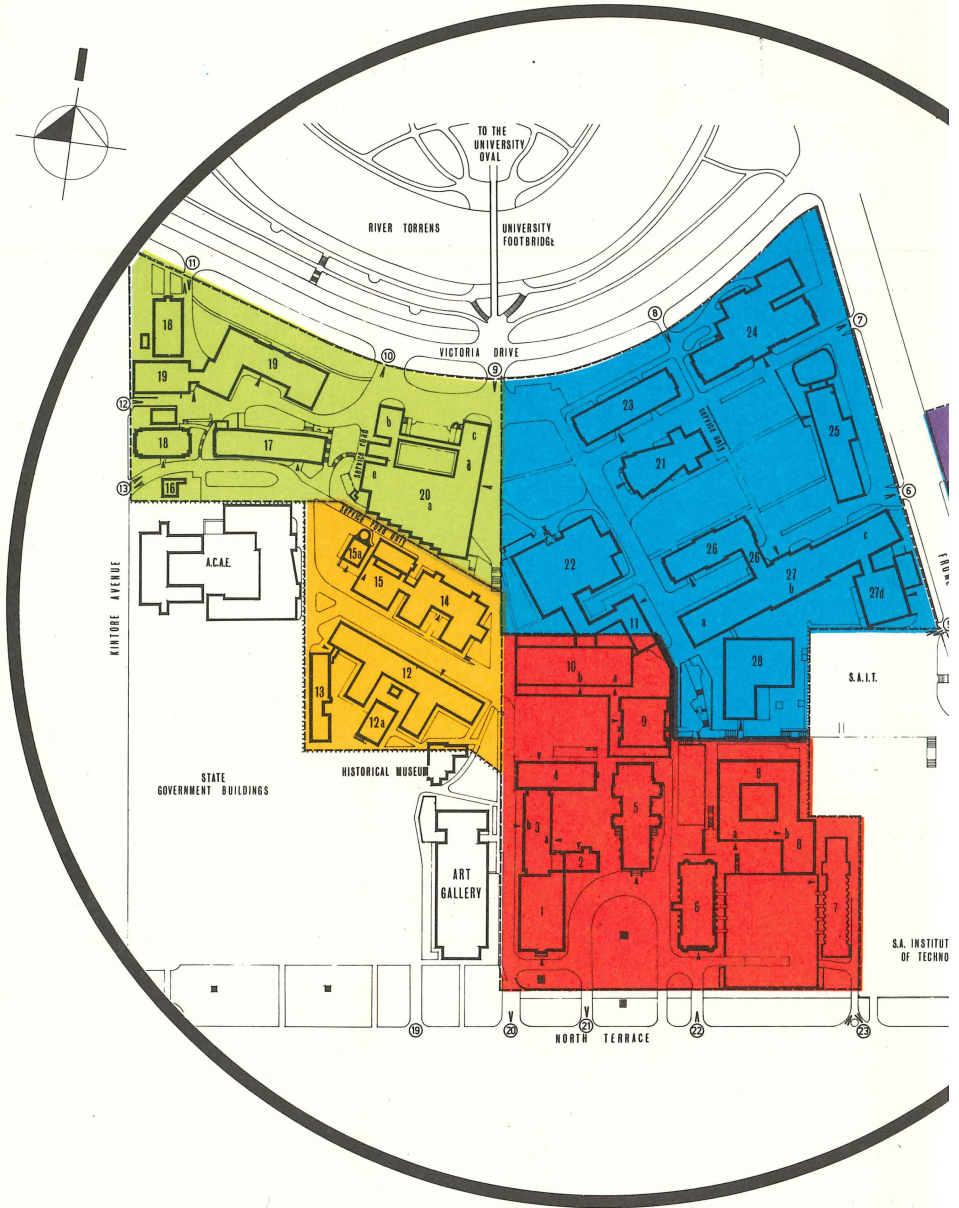
*Human Geography IH (half-subject)*

The human aspects of the man-environment systems and the repercussions of their interaction under the pressure of the two dominant demographic processes of population growth and concentration.

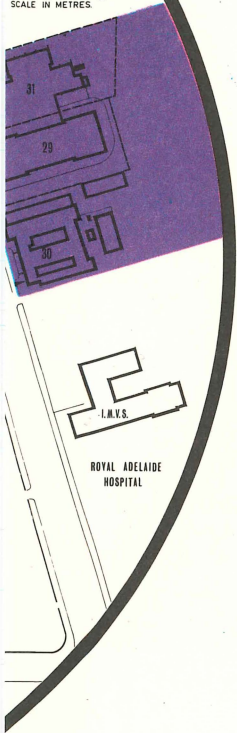
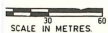
*Economic Geography I*

Man as an economic creature interacting with his physical environment.





**THE UNIVERSITY OF ADELAIDE**



<b>Mitchell Building</b>	- - - - 1
Administration.	
Office of Academic Registrar.	
Bursar.	
<b>Old Classics Wing</b>	- - - - 2
Administration.	
Architectural Services Department.	
Parking Office.	
<b>Kenneth Wills Building</b>	- - - - 3
a. Administration.	
Office of Vice-Chancellor.	
Registrar.	
Academic Registrar.	
b. Adult Education.	
b. Post Office.	
<b>Hughes Building</b>	- - - - 4
Advisory Centre for University Education.	
Anthropology.	
Bank of Adelaide.	
Multiflith Centre.	
Music.	
Psychology.	
W.E.A.	
<b>Elder Conservatorium</b>	- - - - 5
<b>Bonython Hall</b>	- - - - 6
<b>Ligertwood Building</b>	- - - - 7
Classics.	
Law.	
Philosophy.	
<b>Napier Building</b>	- - - - 8
a. Commerce.	
a. Economics.	
b. Education.	
b. English.	
b. French.	
b. Geography.	
b. German.	
b. History.	
b. Politics.	
<b>University Club</b>	- - - - 9
<b>Library Complex</b>	- - - - 10
a. Architecture.	
a. Computing Centre.	
a. Computing Science.	
a. Health Service.	
a. Radio VLSUV.	
b. Research Library.	

<b>Physics Building</b>	- - - - 12
Physics.	
a. Workshops.	
<b>Elephant Wing</b>	- - - - 13
Physics.	
Mathematical Physics.	
Mawson Institute.	
Environmental Studies.	
<b>Darling Building</b>	- - - - 14
Biochemistry.	
<b>Bragg Laboratories</b>	- - - - 15
Physics.	
<b>Observatory</b>	- - - - 15a

<b>Services Supt.'s Residence</b>	- 16
<b>Organic Chemistry</b>	- - - - 17
<b>C.S.I.R.O.</b>	- - - - 18
<b>Johnson Laboratories</b>	- - 19
Physical and Inorganic Chemistry.	
<b>University Union</b>	- - - - 20
a. Refectory and Amenities.	
b. Lady Symon Building.	
c. George Murray Building.	
d. Union Bookshop.	
e. Little Theatre.	

<b>Horace Lamb Building</b>	- - 11
Architecture.	
Mathematics.	
Library.	
Asian Studies.	
<b>Union Hall</b>	- - - - 21
<b>Barr Smith Library</b>	- - - - 22
<b>Benham Laboratories</b>	- - 23
Botany.	
<b>Mawson Laboratories</b>	- - 24
Economic Geology.	
Geology.	
<b>R. A. Fisher Laboratories</b>	- 25
Biology.	
Genetics.	
Zoology.	
<b>Mathematics Building</b>	- - 26
Mathematics.	
Statistics.	
<b>Engineering Building</b>	- - - - 27
a. Civil	
b. Electrical	
c. Chemical	
d. Engineering Depts.	
<b>Mech. Engineering Building</b>	- 28

<b>Medical School</b>	- - - - 29
Anatomy.	
Microbiology.	
Pathology.	
Physiology.	
<b>Medical Sciences</b>	- - - - 31
Anatomy.	
Pathology.	
Physiology & Pharmacology	
Electron-Microscopy.	
<b>Dental School</b>	- - - - 30
Dental Health.	
Oral Biology.	
Oral Pathology and Oral Surgery.	
Restorative Dentistry.	

THE FOLLOWING ARE AT NORTH ADELAIDE	
<b>Mark Mitchell Centre</b>	Mackinnon Parade
Physical Education Administration.	
Gymnasium.	
Squash Courts.	
<b>Child Care Centre</b>	Mackinnon Parade
<b>Aquinas College</b>	Palmer Place
<b>Lincoln College</b>	Brougham Place
<b>Kathleen Lumley College</b>	Finnis Street



*Second Year:*

There are six fields of study, each representing a half-subject: Biogeography and Soils IIH; Climatology IIH; Economic Geography IIH; Geomorphology IIH; Social Geography IIH; Ecology and Taxonomy IIH (available only to Arts students).

*Third Year:*

Geography IIIA consists of six units and Geography IIIB any other six units not presented for Geography IIIA. The following double units will be offered in 1978 as staff and enrolments allow: Biogeography; Cartography; Climatology; Cultural Geography; Economic Geography; Geomorphology; South and South-East Asia; Urban Geography.

The following single units will be offered in 1978: Geographic Thought; Techniques in Human Geography; Techniques in Physical Geography; Remote Sensing Techniques.

Geography IIIB is a half-subject comprising one double and one single unit from the above list.

**German Language and Literature**

The Department offers two first-year subjects: German I, for students who have studied German to at least fourth-year secondary school level; and German IA, for students with little or no knowledge of German.

All students must pass an oral test at the end of each year. Practice in conversation, pronunciation, intonation, etc., is also given in regular tutorial classes; and students are encouraged to attend the meetings (conducted in German) of the German Club and of the Goethe Society.

*German I, IA, II, IIA, IIB, III and IIIB*

Each of these subjects comprises studies of German life, culture, and literature; and translation, prose composition and essay writing.

**History**

There are seven subjects offered in History but no more than five may be counted towards the B.A. degree.

*History IA*

Renaissance, Reformation and Revolution in Europe 1350-1650.

*History IB*

Old Societies and New States: The Revolutionary Transformation of Asia, Africa and the Pacific, 1700 to the present.

*History IC*

Australian history.

*History IIA and IIB*

One of twelve options as follows:

Comparative history of the family in Western Europe, America and Australia.

Modern and contemporary history of China and Japan.

France 1850-1918,

Societies in Crisis: The Social History of the English and American Revolutions 1600-1776.

Russia in Crisis and Revolution: From Peter the Great to the Second World War.

War and Peace: Britain, Germany and the Great War 1890-1930.

Bismarck to Hitler.

Medieval Europe.

Australia: Outpost of Empire in the Antipodes.

Indian History.

Urban History: London and Paris c.1700-1900.

Social and Political Ideas since the Seventeenth Century.

COURSES  
ARTS

*History IIIA and IIIB*

Same twelve options as second year but at greater depth. An option taken in the second year is not available in the third year.

**Mathematics**

Mathematics may be studied as a major subject for either the B.Sc. or the B.A. degree. Those wishing to specialise in mathematics should bear in mind the possibility of proceeding to the degree of Bachelor of Science in Mathematical Sciences.

After the first year, a student may proceed in one or more than one of the following branches: Pure Mathematics, Applied Mathematics, Mathematical Statistics, Computing Science.

A description of the nature of university studies in mathematics and brief syllabuses for first-year mathematics subjects may be found on pages 61-63.

**Music**

*Music I*

For students who have some basic musical knowledge.

Music theory; music in Western Society; introduction to ethnomusicology.

*Music IA*

A terminal course for students with little or no previous knowledge of music. It is similar to Music I but not as advanced in the study of music theory.

*Music II*

Music theory; history of music in 18th and 19th centuries; practical work in electronic music, ethnomusicology, music in education or individual instruction in voice or instrument.

*Music III*

Lectures and two projects.

*Music IIIS*

For prospective honours students only. Preliminary Honours work in ethnomusicology, musicology, music in education and one project.

**Philosophy**

This subject has been described as "an endeavour to think clearly about confusing questions".

*First Year:*

Students may take Philosophy IH(A) *and/or* either of Philosophy IH(B) *or* Logic IH.

*Logic IH*

An introduction to logic—the nature of reasoning; valid and invalid arguments; techniques for analysing arguments.

*Philosophy IH(A)*

Ethics; knowledge and mind; concepts of freedom.

*Philosophy IH(B)*

The nature of reasoning; problems and paradoxes; reason and commitment.

*Second Year:*

*Philosophy II*

General philosophy, leading on from first-year philosophy.

*Logic II*

*Third Year:*

*Philosophy IIIA and IIIB*

Further general philosophy, metaphysics and epistemology.

*Logic III*

*Philosophy IIIB*

A half-subject available only to students taking the half-subject Social Biology IIIB.

## Physics

### *Physics, Man and Society IH*

This half-subject is intended primarily for students of the humanities and social sciences. The course is non-mathematical in character and is designed to provide an understanding of some of the principal currents of thought in physics and of the scientific background to some of the philosophical, political and social issues that confront society.

### *Physics I*

A description of the nature of university studies in Physics and a brief syllabus for Physics I may be found on pages 72 and 75.

Only *one* of Physics I and Physics, Man and Society IH may be counted towards the degree of B.A.

## Politics

### *Politics IA and IB: One of six options as follows:*

- Introduction to politics and political economy.
- History of political thought.
- Liberal democracy in Australia.
- Political development in Australia.
- Political sociology.
- Third world political economy.

### *Politics IIA and IIB: One of ten options as follows:*

- Chinese politics.
- History of political thought.
- Liberal democracy in Australia.
- Marxism-Leninism.
- Political development in Australia.
- Political sociology.
- Public policy in Australia.
- Sociology of power.
- International politics.
- Third world political economy.

*Politics IIIA and IIIB: One of six similar options. An option taken in the second year is not available in the third year.*

*Political Sociology IIIC: A half-subject available only to students taking the half-subject Social Biology IIIC.*

## Psychology

Psychology may be studied as a major subject for either the B.A. or the B.Sc. degree.

A description of the nature of psychology, and brief syllabuses, may be found on pages 72 and 75.

## Social Biology

### *Social Biology IIIC*

The course will examine problems such as social stratification, migration, education and racial differences in the light of scientific argument about genetic diversity and the determination of behavioural patterns. Although only available as a third-year half-subject, students are advised to plan ahead; thus they should consider including in their first-year the two half-subjects Genetics and Human Variation IH and Statistics IH and should also take at least one of Anthropology I, Psychology I or the equivalent of a first-year subject in Geography.

## Statistics

Statistics may be studied as a major subject for either the B.Sc. or the B.A. degree, the subjects Mathematical Statistics II and III following Mathematics I. A first-year half-subject, Statistics IH is also available.

A description of studies in Statistics and a brief syllabus for Statistics IH may be found on pages 62 and 63.



# DENTISTRY

## 1. Introduction

The course for the degree of Bachelor of Dental Surgery (B.D.S.) extends over five years of full-time study after matriculation. The degree is recognised for registration by all Australian Dental Registration Boards and by the General Dental Council of the United Kingdom. There is no formal agreement, however, with countries outside the British Commonwealth for recognition and registration.

A Bachelor of Dental Surgery may apply to become a candidate for the degree of Master of Dental Surgery. Normally a candidate should have completed the Honours degree of Bachelor of Science in Dentistry at a satisfactory standard, but others may be accepted provisionally subject to passing a qualifying examination. Persons who hold an Honours or Master's degree, or who have passed a qualifying examination, may apply to be registered as candidates for the degree of Doctor of Philosophy. In addition the degree of Doctor of Dental Science is offered by the University, being awarded for an original and substantial contribution to knowledge in some branch of Dental Science.

## 2. Degree of Bachelor of Dental Surgery

### (a) General

The course is designed to provide a sound education, together with the necessary background and skills for the clinical practice of dentistry.

In broad principles, the course is similar to that undertaken in medicine. It prepares the graduate to enter a profession which is one of the health sciences and which has as its main aims the prevention of dental disease and the correction of dental deformities. Studies in the physical, biological and behavioural sciences are followed by training in general and dental aspects of disease leading finally to clinical instruction in prevention, diagnosis and treatment. Although the majority of graduates will enter private practice the foundation is also laid for specialist practice or for entry to academic life, which includes research into dental and associated problems.

### (b) Course for the degree

The course for the degree of B.D.S. extends over five years of full-time study.

The subjects of the first year are intended to provide a basis for subsequent work in the biomedical and clinical sciences. They include Biology I, a standard first-year science subject; Chemistry IM which is similar to the standard science subject but includes certain material and emphasises certain aspects of particular relevance to medical science; Behavioural Science which comprises a selection of topics from psychology and related disciplines; and two half-subjects Physics IH(M) and Genetics IH(M). A series of lectures entitled "An Introduction to Dentistry" is given during terms 1 and 2.

In the second year, candidates undertake studies in the biomedical sciences—Anatomy, Histology, Biochemistry and Physiology—with special reference to the requirements of a dental course; and at the same time they begin attendance at demonstrations and practical work, at the School of Dental Science, in Oral Anatomy and in Dental Materials.

At the beginning of the third year, candidates attend an integrated course of pre-clinical instruction which emphasises the relation of the basic sciences to clinical work. The subjects of instruction during the year are: Human Physiology, General Pathology, Microbiology, Oral Pathology, Pharmacology, Conservative Dentistry, Prosthetic Dentistry. Candidates also attend at the Dental Department of the Royal Adelaide Hospital for clinical instruction.

During the fourth and fifth years, medical aspects are continued with instruction and general hospital tutorials in General Medicine and Surgery. Dental instruction continues in Materia Medica, Oral Pathology, Oral Surgery and Anaesthesia, Applied Physiology, Periodontics, Orthodontics, Principles of Dental Practice, Children's Dentistry, and Conservative and Prosthetic Dentistry.

Lectures are also given in Advanced Oral Biology, Dental Radiology, and Oral Diagnosis.

Clinical work occupies much of the student's time in the fourth and fifth years.

### 3. First-Year Subjects—Brief Description

#### Chemistry IM

The subject is designed to meet the specific needs of students enrolled in the Faculties of Medicine and Dentistry. It differs from Chemistry I in that there is a larger component of Organic Chemistry and principles are illustrated with biological and medical examples. A brief description of Chemistry I is given under Faculty of Science on page 73.

#### Biology I

A brief description of this subject is given under Faculty of Science on page 73.

#### Behavioural Science

This subject deals with a scientific approach to the understanding of human behaviour in health and disease. Biological, psychological, sociological, anthropological and developmental aspects will be considered.

#### Genetics IH(M)

This half-subject is designed to introduce the principles of human genetics as a means of understanding individual variation which is part of the background of the practice of medicine and dentistry.

#### Physics IH(M)

This half-subject includes those parts of the subject Physics I which are relevant to the medical and dental courses. Principles will, where possible, be illustrated with biological and medical examples.

### 4. Honours Degree of Bachelor of Science in Dentistry

A graduate or an undergraduate who has completed appropriate pre-requisites and who is regarded as a suitable candidate for advanced work may be admitted to the course for the Honours degree of Bachelor of Science in Dentistry. The course extends over one academic year devoted to a programme of study in one of the following areas:

Anatomy	Oral Biology
Biochemistry	Oral Pathology
Dental Health	Oral Surgery
Genetics	Pathology
Histology	Pharmacology
Materials Science	Physiology
Microbiology	Restorative Dentistry

Any able student and particularly a person who may wish to enter a research career or attempt postgraduate study should carefully consider the possibility of undertaking an Honours course.

### 5. Cost of the Dental Course

In addition to living costs and any fees payable (see page 19) a student must allow for the cost of text-books (which at 1977 prices is about \$1,200 for the five-year course), and equipment costs.

Students in the third year of the dental course are required to pay a returnable deposit of \$20 in connection with the use of hospital equipment during the clinical years of the course.

# ECONOMICS

## 1. Introduction

At the undergraduate level the Faculty of Economics provides courses leading to both the Ordinary degree and the Honours degree of Bachelor of Economics (B.Ec.).

At the postgraduate level suitably qualified persons may work towards the degrees of Master of Economics (M.Ec.), Master of Business Management (M.B.M.), or Doctor of Philosophy (Ph.D.).

## 2. Degree of Bachelor of Economics

### (a) General

The course for the Ordinary degree of B.Ec. extends over three years of full-time study, or the equivalent period of part-time study, while the course for the Honours degree requires four years. It is possible for students to complete the Ordinary degree by part-time study. The fourth year of Honours work is normally taken full-time but in special circumstances may be taken part-time. Every student capable of taking Honours is encouraged to do so.

For the first two years of full-time study, no distinction is made between an Ordinary and an Honours student.

It is advisable, though not essential, for at least one mathematics subject to have been studied to matriculation level.

### (b) Ordinary Degree

A candidate for the Ordinary degree must pass in seven subjects and six half-subjects or the equivalent as follows:

#### *First Year of full-time study*

Microeconomics IH

Macroeconomics IH

Mathematical Economics IH *or* Mathematics for Economists IH and another half-subject from schedule I (*or* two other half-subjects *or* one full subject approved by the Dean).

Elements of Accounting I

Another subject *or* two half-subjects at first-year level *or* above from the range of Arts and Economics options.

#### *Second Year of full-time study*

Microeconomics IIH

Macroeconomics IIH

Economic Statistics II *or* IIA

Management Accounting II *or* two half-subjects from Economic History IIH(A), Economic History IIH(B), and Mathematical Economics IIH (*or*, in special cases approved by the Dean, another subject).

#### *Third Year of full-time study*

Economics IIIA

Economic Development III *or* two third-year Economics *or* Commerce half-subjects other than Marketing IIIH and Management Information Systems IIIH (*or*, in special cases approved by the Dean, another subject).

Two third-year half-subjects *or* another subject above a first-year level from the range of Arts *or* Economics options. (For a candidate admitted to preliminary honours work this subject shall be Economic Theory and another third-year half-subject not taken above).

### Combinations of Subjects

Students will notice that there are a number of choices in the course structure outlined above. Faculty Advisers give assistance to students in planning their individual course patterns. The range of Economics and Arts subjects and half-

subjects available allow considerable flexibility, and course patterns may emphasise one or more of the following fields:

Quantitative methods.

Accountancy and Commerce.

Economic History, Economic Development, Economic Geography and other social sciences.

Behavioural Science.

Economic policy and theory.

These directions of emphasis are suggestions only and are in no way binding upon the student. Many students will not want to concentrate their studies in one direction only and others may change their minds during the course of their studies.

### **Quantitative methods**

A field including Mathematical Economics IH, Mathematical Economics IIIH, Economic Statistics IIA, Econometrics IIIH, Mathematical Economics IIIH, and either one or both of Introduction to Operations Research IIIH, and Information Systems and Data Processing IIIH.

### **Accountancy and Commerce**

Relevant subjects are: Elements of Accounting I, Management Accounting II, Accounting Theory IIIH, Commercial Law II, Information Systems and Data Processing IIIH, Managerial Economics IIIH, Management Information Systems IIIH, Marketing IIIH, Business Finance IIIH and Income Tax IH.

Students who wish to obtain professional accountancy qualifications should consult an Assistant to the Dean at the beginning of their second and third years.

### **Economic History and Development**

The course pattern will include some or all of the following: Economic History IH, Economic Geography I, Economic History IIIH(A), Economic History IIIH(B), Economic Development III and Economic History IIIH.

### **Economic Theory and Policy**

Besides the core subjects shown on page 50, other relevant half-subjects offered include Economic Institutions and Policy IH, Agricultural Economics IIIH, Economics of Labour IIIH and Public Finance IIIH.

## **3. First-Year Subjects—Brief Description**

Economics is a large subject, but it may be briefly described as being concerned with the growth and distribution of the national income, and with ways of using physical resources to achieve maximum results. Among the problems studied are the causes of poverty, methods of maintaining full employment and of avoiding inflation, the balance of payments, taxation, the monetary system, and the organisation of industry. Alfred Marshall, a famous English economist, once described economics as "a study of mankind in the ordinary business of life".

### **Microeconomics IH**

The scope of economics. Introduction to the theory of prices and value.

### **Macroeconomics IH**

National income: its production, distribution and disposal. The structure of the modern economy. Introduction to the theory of outlay and employment.

### **Elements of Accounting I**

This is both a one-year terminal course for students who do not expect to continue with accounting studies, and the basic accounting course for all students taking further accounting subjects. It comprises an outline of accounting methods, with emphasis on the conceptual and theoretical basis of accounting.

### **Mathematics for Economists IH**

(This course is designed for students who have not taken Mathematics at Matriculation level.)

Introductory calculus, analysis and matrix algebra.

### **Mathematical Economics IH**

(A knowledge of Matriculation Mathematics IS is assumed.)

Calculus of several variables, integral calculus, matrix algebra, difference equations, linear programming and game theory.

## **4. Degree of Bachelor of Arts**

Microeconomics IH and IIH and Macroeconomics IH and IIH and a combination of appropriate third-year half-subjects may be presented as a sequence for the Ordinary degree of B.A. Elements of Accounting I, Mathematical Economics IH, Mathematics for Economists IH, Economic History IH, Economic Statistics II, Economic Statistics IIA, Economic History IIH(A) and Economic History IIH(B) are also available for B.A. students. Social Economics I is a one-year terminal course, available to B.A. students only, covering the basis of social welfare. Thus it is possible, in the Arts course, to combine the study of Economics with a wide range of subjects in the general areas of the languages, the humanities and the other social sciences.

## **5. Degree of Bachelor of Agricultural Science**

Microeconomics IH and IIH and Macroeconomics IH and IIH and a combination of appropriate third-year half-subjects may be presented as a sequence for the Ordinary degree of Bachelor of Agricultural Science.

## **6. Degree of Bachelor of Science in the Faculty of Mathematical Sciences**

For this degree a student may take up to four subjects outside the Faculty of Mathematical Sciences. Thus a major sequence in economics or in accountancy or commerce may be taken in conjunction with work in mathematics, computing or statistics. Combinations of subjects from the Faculty of Economics in this degree might include Macroeconomics IH and IIH, Microeconomics IH and IIH, and Economics III (Ma.Sc.); Elements of Accounting I could also be included. Alternatively a student who takes Elements of Accounting I, Macroeconomics IH and Microeconomics IH in first year can take Management Accounting II in second year and three commerce or accounting half-subjects in third year.

## **7. Combined Courses—Economics-Law**

Attention is drawn to the fact that students may now apply for admission concurrently to both the Law course and the Economics course, and, if successful, to undertake a combined course in Economics and Law. Such students should, before enrolment, consult the Faculty Advisers for both courses. (See also paragraph 4 on page 58.)

# ENGINEERING

## 1. Introduction

Engineering is a profession based on the physical sciences and mathematics, and developed through a wide range of applied or engineering sciences to achieve specified objectives.

The art of synthesis or design to satisfy the scientific, technical, economic and human factors involved in meeting a specification is the factor differentiating engineering from science. At the research level, however, it is sometimes difficult to distinguish between the work of the engineer and the scientist.

The aim of engineering is to control and use natural forces and materials to meet the physical needs of mankind. Engineering is a dynamic art whose boundaries are continually being extended due to new basic discoveries and to new inventions and techniques. The establishment of criteria—what is required to serve human needs, and the study of complex implications—are of great importance.

Areas for creative development include materials, structures, equipment, machines, processes, power, communications, transport, public works, and so on.

The professional engineer is concerned with ideas and their realisation, from research to application. He pioneers new developments, and leads the way in technical innovation and organisation. He may direct large numbers of technical and other ancillary staff in governmental and industrial enterprises, and may plan the efficient utilisation of vast resources and systems.

Engineering degree courses seek to provide a sound basic education in appropriate scientific and mathematical disciplines; in a broad spectrum of applied or engineering sciences and in a narrower selection of these in depth; in the art and practice of design; and in the principles of economics, organisation and management. The emphasis is on logical analysis of engineering problems and creative design synthesis. In the later stages of courses student seminars and projects provide experience in the discussion and assessment of complex situations, in the defining of problem-areas for experimental and analytical study, and in the presentation of reports and theses.

## 2. Courses Offered in Engineering

The Faculty of Engineering provides courses leading to the degree of Bachelor of Engineering (B.E.) in the following four basic branches of engineering: Chemical, Civil, Electrical and Mechanical.

At the postgraduate level suitably qualified persons may proceed to the degree of Master of Engineering Science, to the degree of Master of Applied Science or to the degree of Doctor of Philosophy, in any one of the major branches of engineering. Such postgraduate studies are increasingly necessary for those seeking to become specialists in their profession.

### Chemical Engineering

Chemical Engineering is concerned with the development and application of manufacturing processes in which chemical or certain physical changes of materials are involved. These processes may usually be resolved to a co-ordinated series of unit physical operations and chemical processes (e.g. distillation, evaporation, heat transfer, filtration, crushing, grinding etc.).

The design and operation of such a chemical process is complex and requires a thorough understanding of control theory, thermodynamics, and reaction kinetics, as well as of physical operations.

Corrosion is a major problem for the chemical engineer and its minimisation requires that he be well acquainted with the properties of traditional materials such as metals and their alloys, wood, cement and ceramics, and glass, in addition to modern materials such as plastics and the more recently developed metals, such as titanium.

Industries typical of those employing chemical engineers include petroleum and petrochemicals, pharmaceuticals, dye-stuffs, explosives, fertilisers, cement, sugar, glass, food and beverages, wood products, coal by-products, inorganic chemicals, mineral processing, and many more. A field in which chemical engineers are

becoming ever more active is that of energy technology, including treatment of fossil fuels to reduce pollution, conversion of such fuels from solid to liquid or gaseous form, nuclear technology, and the utilisation of "income fuels", particularly those derived directly from solar energy.

### Civil Engineering

Civil Engineering covers a wide range of activities which may, for convenience, be classified as follows:

- (a) *Structural Engineering.* The design of load-bearing structures of various kinds, e.g. large public or industrial buildings, bridges, jetties, dams, etc.
- (b) *Hydraulic Engineering.* The control of the flow of water and other liquids, e.g. in irrigation, water conservation, hydro-electric power production, the movement of water in pipes and channels, etc.
- (c) *Geotechnical Engineering.* The investigation of the engineering properties of soils and rocks, groundwater flow, stability analyses of slopes, foundations and tunnels.
- (d) *Transport Engineering.* The design and construction of roads, railways, docks and harbours.

### Electrical Engineering (including Electronic Engineering)

The Electrical Engineer is concerned with the applications of electricity in all its forms. These usually entail the transmission either of information in the form of electric signals, or of large amounts of electrical energy. He may be involved in the design or operation of electronic systems for communication networks or radio and television; the design and application of digital computing and instrumentation systems; the use and control of electrical energy in industrial processes; the design, construction or operation of power stations and their associated substations and distribution networks; and in situations ranging from research and development to management and commercial engineering.

The Electrical Engineering department provides courses relevant to all these activities and in particular those required for the practice of electronic power control, computer and communication engineering. Many of the studies are of fundamental aspects which enable some of our graduates to contribute in further fields such as medicine, oceanology and acoustics.

### Mechanical Engineering

The Mechanical Engineer is concerned with the engineering sciences of the Mechanics of Fluids, Thermodynamics, Mechanism, Systems and Materials, and with their application over a wide range of activities. These include power generation by energy conversion from such sources as hydraulic, solar, chemical and nuclear fuels; power utilisation through an ever-increasing variety of machines and processes in home, office, farm, factory, mine, construction; and all forms of transport by sea, land, air and space. He may specialise in one of many areas such as industrial, acoustic, environmental, marine, aeronautical, agricultural or power engineering, and in any of these he may operate in research and development, design, production, commercial, organisation or management.

The branches of engineering overlap to some extent; and the various kinds of Engineer often work closely with each other (and with Applied Scientists also in research and development work). For instance, the Civil Engineer constructing a large reservoir will use pumping machinery designed by the Mechanical Engineer, containing materials resulting from the work of the Chemical Engineer, and controlled by electronic devices designed by the Electronic Engineer. Likewise any sophisticated transport vehicle for land, sea, air or space involves contributions from all major branches of engineering for its design, construction, operation and control.

## 3. Degree of Bachelor of Engineering

### (a) Ordinary Degree

Each course for the Ordinary degree of Bachelor of Engineering requires the equivalent of four years of full-time study. The courses are not designed for part-time students.

All subjects require attendance at lectures. Engineering and Science subjects also require practical work, which may involve workshop or laboratory sessions in excess of three hours a week for each subject. Tutorials and field work in some subjects are also prescribed.

During the vacations of the first three years of the B.E. course a student must obtain a total of sixteen weeks' practical experience in work appropriate to the course he is following. Chemical Engineering students must spend at least eight weeks of the sixteen in an approved chemical factory or research establishment on plant operation, industrial research or development, and Electrical Engineering students must complete a two week vacation course in workshop practice arranged by the Faculty.

As part of the sixteen weeks' practical experience Mechanical Engineering students must complete the course of Workshop Practice arranged by the Faculty; this will normally be taken in the second year of the course. This course will have an equivalent duration of one week for the purpose of assessing Practical Experience.

#### (b) Honours Degree

The Honours degree is available in each of the four courses, Chemical, Civil, Electrical and Mechanical Engineering. All work for this degree is taken concurrently with the professional subjects of the final year of the Ordinary degree course, and includes additional lectures and examinations at an advanced level beyond the Ordinary degree requirements. The Honours classification is assessed on the student's overall performance. The Faculty encourages able students to undertake the Honours course.

#### (c) Combining the B.E. and B.Sc. Courses

For students contemplating work in certain fields of Engineering research there are advantages in completing a Bachelor of Science degree in addition to the Bachelor of Engineering degree.

In Electrical Engineering the usual pattern is for students to complete the first three years of the B.E. course and then interrupt their course to spend a year to qualify for the B.Sc. degree. It is also possible for Chemical Engineering students to complete the requirements for the B.Sc. and B.E. degrees within a period of five years of full-time study. Students intending to complete both degrees should consult the Assistant to the Dean of the Faculty of Engineering.

## 4. First-Year Subjects—Brief Description

The first-year course in each of the four branches of Engineering comprises the subjects Mathematics I, Physics I, and Engineering I. Chemical and Electrical Engineering students must also take Chemistry I; Civil Engineering students must take either Geology IH(E) and one of the following subjects: Microeconomics IH, Macroeconomics IH, Human Geography IH, Physical Geography IH, Environmental Biology IH, Philosophy IH(A), Logic IH or Geology I; and Mechanical Engineering students must take either Chemistry I or Economics I (Engineering) or Psychology I.

### Engineering I

The course involves three lectures, one tutorial and three hours' practical work a week. It is divided into four parts: Statics, Dynamics, Engineering Drawing and Design, and General Engineering. The course is designed to provide a broad introduction to Engineering studies. (It is under review at the time of printing.)

### Geology IH(E)

This half-subject is intended for students who do not propose to continue with geology. It is concerned with the study of geological materials, structures and processes which are relevant to the making of engineering decisions.

### Other First-year Subjects

A brief description of the other subjects is given with the notes for the Faculty which teaches them. See also "Preparation for University Studies" on pages 16 and 17.



# LAW

## 1. Introduction

The Faculty of Law provides an undergraduate course for the Ordinary degree of Bachelor of Laws (LL.B.). Students may also qualify for the Honours degree of Bachelor of Laws.

Suitably qualified students may proceed to the degrees of Master of Laws (LL.M.) or Doctor of Philosophy (Ph.D.) by presenting a thesis on a subject approved by the Faculty. The degree of Doctor of Laws may be awarded for an original and substantial contribution of distinguished merit to legal knowledge or understanding.

For undergraduates, the Law School seeks to provide a broadly based, liberal education. It also aims to provide courses of vocational value for those students who wish to become legal practitioners. While a large proportion of graduates enter into the practice of the law, a number of graduates enter government service (both Commonwealth and State), and others join commercial enterprises or take up other similar occupations. A law degree is regarded as an acceptable qualification for many positions not directly related to the law. However, as is explained in Part III of this handbook, future employment opportunities are uncertain and applicants for admission should be informed of the possible difficulty they may face in securing employment upon graduation.

## 2. Degree of Bachelor of Laws

### (a) General

The course for the Ordinary degree of Bachelor of Laws extends over four years of full-time study. The Honours degree of Bachelor of Laws is also normally completed in the same period. It is possible to take both degrees by part-time study. Important classes in all subjects, and more particularly lectures, are normally only given during the day, however, and no special provision can be made for students unable to attend. Regular attendance at tutorials and seminars is an important part of the legal training. For the first three years of full-time study there is no distinction between the basic courses of study for Ordinary and Honours students, but a student must have achieved a high level of performance in those years to be qualified to enter the Honours course. These studies will also affect the level of Honours he may ultimately be awarded.

### (b) The Normal Course Structure

*First Year:* Four subjects are taken by a full-time student. These are:

- Elements of Law
- Constitutional Law I
- Criminal Law
- The Law of Torts

*Second Year:* Full-time students undertake three subjects. These are:

- The Law of Contract
- The Law of Property
- Constitutional Law II

*Third Year:* A normal third year consists of:

- Trusts and Succession
- Commercial Transactions
- A Seminar Course
- Two optional subjects

*Fourth Year:* In this year students take:

- The Law of Evidence
- Three optional subjects
- A Seminar Course, or a further optional subject, or an Honours dissertation

*Optional Subjects (Third or Fourth Year):*

Administrative Law  
Associations  
Comparative Law  
Conflict of Laws  
Criminology  
Family Law  
Industrial Law  
International Law  
Jurisprudence  
Legal History  
Roman Law

*Optional Subjects (Fourth Year Only):*

Institutional Business Transactions  
International Trade Law  
Taxation Law  
The Law of Procedure

The seminar courses offered in any particular year are determined annually by the Faculty. These may cover a variety of subjects such as Aborigines and the Law, Restrictive Trade Practices, Civil Liberties and the Law of the Sea.

A student who wishes to qualify for practice in South Australia must, in the fourth year or a later year, take the subject The Law of Procedure and also complete a course in Legal Ethics and Accounts.

**(c) Nature of the Course**

Tuition in the Law School in most subjects consists basically of lectures, tutorials and in some instances discussion group classes. An integral part of course work is the preparation of essays, and other written work requiring a great deal of reading in the Law Library. This, in addition to mid-year tests and end of year examinations is taken into account in determining the final standing of students in each subject. Moot court cases (mock trials) are also held.

In the case of the seminar courses special written assignments provide the basis for assessment.

### **3. First-Year Law Subjects—Brief Description**

#### **Elements of Law**

An introduction to the study of law. The course is divided into two main parts. The first involves an introduction to the system of courts, case-reading, law-making (including the rules of precedent), and statutory interpretation. The second consists of fairly detailed study of two or three selected topics which are of concern to the law in various ways, with a comparison between the different forms of legal regulation.

#### **Constitutional Law I**

The principal institutions of government in the United Kingdom and Australia, with particular reference to South Australia; the major sources of governmental authority in Australia; the main principles of British constitutional law as they apply in Australia; an introduction to federalism.

#### **Criminal Law**

An examination of the substantive principles of criminal law. In this course studies cover such crimes as murder, manslaughter, larceny, the criminal liability of corporations and attempts to commit crimes.

## COURSES

### LAW

#### Torts

This subject is concerned basically with circumstances where private citizens seek damages through court actions as a result of what are termed civil "wrongs". In this course such topics as the law of negligence (a legal basis for court actions for damages resulting from car accidents, for example), nuisance and trespass are examined.

#### 4. Concurrent Law—Arts or Law—Economics Studies

Special provision is made for combined courses in Law-Arts and Law-Economics.

Candidates may enrol concurrently for the degrees of LL.B. and B.A., or LL.B. and B.Ec., if they apply for and are admitted to both the Faculty of Law and either the Faculty of Arts or the Faculty of Economics. Alternatively, candidates for the degree of LL.B. wishing to proceed to the degrees of LL.B. and B.A. or LL.B. and B.Ec. concurrently may apply at the end of their first or second year in the Faculty of Law for admission to the B.A. or the B.Ec. course in the following year, since after a student has completed one year of study in one Faculty he may apply (on Form T, to be submitted to the South Australian Tertiary Admissions Centre) to enter another and, if admitted, may subsequently undertake courses in both. The method of such application is described in Part I of this handbook. Students should discuss proposals for concurrent study with the Assistant to the Dean. Law students admitted to the Faculty of Arts or to the Faculty of Economics may count towards the degree of B.A. or B.Ec., Constitutional Law II, The Law of Property and one of Comparative Law, International Law, Jurisprudence, Legal History and Roman Law. This means that combined courses take six years.

#### 5. Admission to Practise Law

Students who have qualified for the degree of LL.B. and satisfactorily completed a course of lectures in Legal Ethics and Accounts must complete a period of articles of clerkship with a legal practitioner, or undertake a graduate course in legal practice at the South Australian Institute of Technology, in order to qualify for admission to the Supreme Court of South Australia to practise law. The period of articles is one year, for those who have taken certain LL.B. subjects specified by the Supreme Court. The graduate course in legal practice extends over one year, articles not being required of those who have taken certain LL.B. subjects specified by the Supreme Court. For further information, the Supreme Courts' Admission Rules may be consulted.

Students intending, after qualifying for the degree of LL.B., to seek admission to practise law in jurisdictions other than South Australia, are strongly advised to seek guidance as soon as possible from the appropriate authorities in those places as to the requirements for admission there.

# MATHEMATICAL SCIENCES

## 1. Introduction

The Faculty of Mathematical Sciences and the degree of Bachelor of Science in the Faculty of Mathematical Sciences were established by the University at the beginning of 1973. The Faculty includes the University's mathematical science departments, namely Applied Mathematics, Computing Science, Mathematical Physics, Pure Mathematics and Statistics.

New students may apply for enrolment in the Faculty of Mathematical Sciences. They will be selected within the Arts, Economics and Science quotas. Mathematics I will be one of their subjects.

Later-year students may transfer from some other faculties to the Faculty of Mathematical Sciences (and vice versa) but Mathematics I, or in exceptional cases, Mathematics IM will be required.

Students (in all faculties other than Engineering) who intend to enrol in Mathematics I are advised to consult an Assistant to the Dean of the Faculty of Mathematical Sciences during the enrolment period. Students contemplating studying second- and third-year Mathematical Science subjects in later years should seriously consider enrolling in the half-subjects Computing IH and Statistics IH together with Mathematics I.

The Faculty provides courses leading to both the Ordinary degree and the Honours degree of Bachelor of Science (B.Sc.). The Ordinary degree course is designed to give a broad grounding in first year, leaving open many options, followed by increasing specialisation in the later years. The Honours degree course is a one-year full-time or two-year part-time course following the Ordinary degree.

At the postgraduate level, students may proceed by advanced study and research to either the degree of Master of Science (M.Sc.) or the degree of Doctor of Philosophy (Ph.D.). The degree of Doctor of Science (D.Sc.) may be awarded to a candidate who furnishes to the University satisfactory evidence that he has made an original contribution of distinguished merit adding to the knowledge or understanding of any subject with which the Faculty of Mathematical Sciences is directly concerned.

The Faculty administers the postgraduate Diploma in Computing Science (Dip.Comp.Sc.). To qualify for this Diploma a candidate must satisfactorily complete a course of full-time study extending over at least one year, or of part-time study extending over at least two years.

## 2. Degree of Bachelor of Science in the Faculty of Mathematical Sciences

### (a) General

The course for the Ordinary degree of Bachelor of Science requires three years of full-time study or the equivalent. It can be taken on a part-time basis, but not by evening studies alone.

Mathematical Science subjects involve attendance at lectures and tutorials, regular class exercise work, use of the University library, and, in many subjects, use of the University's computer.

### (b) Ordinary Degree

The subjects available for the B.Sc. degree are:

#### *First-year subjects and half-subjects:*

##### *Mathematical Sciences*

Subject: Mathematics I.

Half-subjects: Computing IH and Statistics IH.

##### *Arts*

The first-year subjects and half-subjects described on pages 36-47 of this booklet.

**COURSES**  
**MATHEMATICAL SCIENCES**

*Economics*

Subject: Elements of Accounting I.  
Half-subjects: Macroeconomics IH, Microeconomics IH.

*Engineering*

Engineering I.

*Science*

Subjects and half-subjects listed on pages 68-69 of this booklet.  
Mathematics IM may be counted only with permission of the Faculty.

*Second-year subjects and half-subjects:*

*Mathematical Sciences*

Applied Mathematics IIA and IIB, Computing Science II and IIC,  
Mathematical Statistics II and Pure Mathematics II.

*Arts*

The second-year subjects and half-subjects described on pages 36-47 of this booklet.

*Economics*

Subjects: Economic History II, Management Accounting II.  
Half-subjects: Microeconomics IIIH, Macroeconomics IIIH, Income Tax IIIH.

*Science*

The second-year subjects listed on pages 68-69 of this booklet.

*Third-year subjects and half-subjects:*

*Mathematical Sciences*

Applied Mathematics III and IIIA, Computing Science III and IIIA,  
Mathematical Physics III, Mathematical Statistics III, Pure Mathematics III and IIIA.

*Arts*

The third-year subjects and half-subjects described on pages 36-47 of this booklet.

*Economics*

Two subjects, Economics III (Ma.Sc.) and Commerce III (Ma.Sc.) are available. These subjects consist of combinations of the following options grouped to satisfy certain requirements:

Economics III (Ma.Sc.)

Economic Development III, Economic History IIIH, Economics IIIA, Public Finance III, Economics of Labour IIIH, Agricultural Economics IIIH, History of Economic Thought IIIH, Management Economics IIIH, Econometrics IIIH, Mathematical Economics IIIH and Economic Theory.

Commerce III (Ma.Sc.)

Accounting Theory IIIH, Business Finance IIIH, Marketing IIIH, Management Information Systems IIIH, Commercial Law II and Industrial Sociology III.

*Science*

The third-year subjects listed on pages 68-69 of this booklet. Certain subjects are also available in which parts of third-year Science courses are combined with parts of third-year courses given by the departments of the Faculty of Mathematical Sciences.

The basic requirements for the Ordinary degree are:

- (a) 9 subjects with at least 2 third-year subjects,
- (b) at least half of the subjects taken must be Mathematical Sciences subjects.

First-year students enrolling in the Faculty must take Mathematics I and are advised to take Computing IH and Statistics IH as well.

In order to be able to satisfy the pre-requisites for admission to many second-year and third-year subjects students are advised to plan their whole courses for the degree at the beginning of their University studies; and by consulting the syllabuses for later-year subjects make sure that they take, in the preceding year, the subjects necessary for their more advanced studies.

### (c) Honours Degree

A candidate for Honours must first:

- (a) have qualified for the Ordinary degree of B.Sc., and
- (b) have completed the third-year course in the subject in which he wishes to take Honours, together with such other pre-requisite subjects (if any) as may be prescribed in the Honours syllabus, and
- (c) obtain the approval of the Head/Chairman of the Department concerned.

In general, the Honours degree requires one year of full-time work beyond the Ordinary degree but the Faculty may permit a student to spread the work over two years, but no more.

The subjects in which the Honours degree may be obtained are as follows:

- Applied Mathematics
- Computing Science
- Mathematical Physics
- Pure Mathematics
- Statistics

Students wishing to take Honours in a subject taught by a Department outside the Faculty should, in the third year of their course, consult the Chairman of the relevant Department and apply to the Faculty for permission.

An Honours degree is the normal pre-requisite for students who wish subsequently to proceed to a Master's or Ph.D. degree and to responsible positions in tertiary education and research institutions. Some Honours courses have been designed to meet the needs of students taking an Honours degree as a preparation for a teaching career in a secondary school or a College of Advanced Education.

The Faculty of Mathematical Sciences recommends that every student capable of proceeding to Honours should aim to do so. At an early stage in his course he should consult the Head/Chairman of the Department in which he proposes to work, and he should study carefully the syllabus of his proposed Honours course to ensure that he will have the correct pre-requisites for it.

## 3. Subjects Taught by the Faculty of Mathematical Sciences

### Applied Mathematics

Applied Mathematics is primarily concerned with the application of mathematical methods to real-world problems, problems of the physical sciences, problems of the social sciences. The problems are formulated as mathematical models, and a compromise is usually necessary to make the models sufficiently simple so that they can be solved, yet sufficiently complicated to describe the problems realistically. Often the model formulations give impetus to the development of new mathematical methods and new mathematics of general importance. Typical of the wide range of problems studied by applied mathematicians are: tide pheno-

mena, storm surges, motion of ships in shallow water, effects of waves on ships, elasticity of plates, operation of the human heart, action of muscles, epidemics, zero population growth, queues, public transport, dial-a-bus, telephone networks, open-pit mining, marketing, forecasting, University quotas.

### Computing Science

Computing Science is concerned with computers and computation. Courses in all years involve practical computing but in the later years there is increasing emphasis on the theory of computation.

The practice of computing requires, as a basic skill, the ability to analyse a problem, to derive an algorithm which solves it, and to express this algorithm as a programme in a specific programming language. Once this skill has been learned one may go on to study algorithms used in particular applications such as programme compilation, numerical analysis, simulation or business data processing. PASCAL is the main language used for practical programming in most undergraduate courses; other languages such as FORTRAN, COBOL and SNOBOL are taught where appropriate.

The theory of computation is concerned with a variety of topics which assist in the understanding, design and use of computing systems, for example the syntax and semantics of programming languages, data structures, computer architecture and operating systems.

### Mathematical Physics

Mathematical Physics is concerned with the fundamental principles of the physical sciences, their mathematical formulation, and their applications. Historically the subject has developed from Newton's laws of motion, Faraday's and Maxwell's theories of electricity and magnetism, thermodynamics and the kinetic theory of matter, Einstein's theory of relativity, and the quantum theory of atomic and nuclear phenomena. Today the most important developments are occurring in high energy particle physics and nuclear physics, cosmology, the statistical mechanics of matter, and plasma dynamics. Subjects in mathematical physics are available at third-year and Honours levels.

### Pure Mathematics

Pure Mathematics is concerned with the pursuit of mathematical knowledge for its own sake. Research mathematicians attempt to extend the frontiers of this knowledge, especially in the newer branches of mathematics, by generalising existing concepts, developing new ones, and establishing new theories which are fruitful for further research. The undergraduate courses give a broad coverage of topics in calculus, analysis, algebra, geometry, topology, etc. which provide a firm foundation for the student wishing to teach mathematics in schools or for the student wishing to proceed with further studies, in any of the mathematical sciences.

### Statistics

Statistics is the science of the analysis and interpretation of data, whether from experiments, sample surveys or naturally occurring. Courses combine theory and practice. Statistical theory develops the reasoning which guides the methods by which data is analysed. It is both logical and mathematical. Statistical practice involves use of computers and testing of methods on data.

For Mathematical Statistics II, Mathematics I is pre-requisite and Statistics IH is strongly recommended. Mathematics I assumes a knowledge of Matriculation Mathematics I and II.

#### **4. First-Year Mathematical Sciences Subjects—Brief Description**

##### **Mathematics I**

The course assumes a knowledge of Matriculation Mathematics I and II, and consists of four lectures and one two-hour tutorial session a week. The syllabus covers topics in pure and applied mathematics including sequences and series, functions of one and two variables, elementary differential equations, vectors, modern linear algebra, with some applications.

##### **Computing IH**

The course in this half-subject assumes a background in algebra, such as may be obtained from the Matriculation Mathematics IS course, and consists of two lectures and one tutorial per week throughout the year. The subject is designed to convey an understanding of the elements of Computing Science as well as to teach computer programming. The syllabus covers algorithmic processes and languages, computer organisation and machine language coding, data structures and their manipulation.

##### **Statistics IH**

The course in this half-subject provides a study of the basic aspects of Statistics and of the important elementary statistical methods. It comprises two lectures and one tutorial a week throughout the year. The syllabus includes probability distributions, significance tests and linear regression etc.



# MEDICINE

## 1. Introduction

The Faculty of Medicine provides courses leading to the degrees of Bachelor of Medicine and Bachelor of Surgery (M.B., B.S.), and to the Honours degree of Bachelor of Medical Science (B.Med.Sc.). At the postgraduate level students may proceed by advanced study and research to the degrees of Doctor of Philosophy (Ph.D.), Doctor of Medicine (M.D.) and Master of Clinical Science (M.Clin.Sc.). A postgraduate Diploma in Psychotherapy was introduced in 1977; the postgraduate Diploma in Clinical Science is at present under review and it is not yet certain whether it will be offered in 1978.

## 2. Degrees of Bachelor of Medicine and Bachelor of Surgery

The course extends over six years of full-time study. The subjects of the first year are intended to provide a basis for subsequent work in the biomedical and clinical sciences. They include Biology I, a standard first-year science subject; Chemistry IM which is similar to the standard science subject but includes certain material and emphasises certain aspects of particular relevance to medical science; Behavioural Science which comprises a selection of topics from psychology and related disciplines; and two half-subjects Physics IH(M) and Genetics IH(M).

During the second and third years the work covers Human Biology (Anatomy, Biochemistry and Human Physiology), Biology of Disease (General Pathology and Microbiology), and Medicine in the Community.

The clinical section of the course begins in the third term of third year, and during that term and the fourth year the work covers Applied Physiology and Pharmacology, Medicine in the Community and systemic topic instruction in Medicine, Surgery, Psychiatry, Microbiology, Pathology, Human Physiology, Pharmacology, Clinical Biochemistry, Applied Anatomy, Community Medicine and Public Health. The Fourth-Year Examination is held in November of the fourth year.

During the fifth year the work covers Obstetrics and Gynaecology, Paediatrics, Medicine, Surgery, and Psychiatry. The student resides in a hospital for about 6 weeks during the year.

During the sixth and final year the student is attached to hospital clinics for further instruction in Medicine, Surgery, Psychiatry, Obstetrics and Gynaecology, Paediatrics and Community Medicine. The Final (Sixth-Year) Examination is held in November.

## 3. First-Year Subjects—Brief Description

### Chemistry IM

This subject is designed to meet the specific needs of students enrolled in the Faculties of Medicine and Dentistry. It differs from Chemistry I in that there is a larger component of Organic Chemistry and principles are illustrated with biological and medical examples. A brief description of Chemistry I is given under Faculty of Science on page 73.

### Biology I

A brief description of this subject is given under Faculty of Science on page 73.

### Behavioural Science

This course deals with a scientific approach to the understanding of human behaviour in health and disease. Biological, psychological, sociological, anthropological and developmental aspects will be considered.

### Genetics IH(M)

This half-subject is designed to introduce the principles of human genetics as a means of understanding individual variation which is part of the background of the practice of medicine and dentistry.

### **Physics IH(M)**

This half-subject includes those parts of the subject Physics I which are relevant to the medical and dental courses. Principles will, where possible, be illustrated with biological and medical examples.

## **4. Honours Degree of Bachelor of Medical Science**

An undergraduate who has passed the appropriate examinations in the medical course may, with the approval of the Head/Chairman of the Department concerned, interrupt his course for one year to proceed to the Honours degree of Bachelor of Medical Science, by taking advanced work in one of the following fields: Anatomy and Histology, Behavioural Science, Biochemistry, Community Medicine, Genetics, Medicine, Microbiology, Obstetrics and Gynaecology, Paediatrics, Pathology, Pharmacology, Physiology, Psychiatry, Surgery.

## **5. Registration of Medical Practitioners**

Before being admitted to full registration as a medical practitioner in South Australia a medical graduate must, after graduation, serve at least twelve months as a Resident Medical Officer in an approved hospital. The degrees awarded by the University and the period of service as a Resident Medical Officer are recognised for the purpose of registration by all Australian Medical Registration Boards and by the General Medical Council in Great Britain. There is no formal agreement with countries outside the British Commonwealth for recognition and registration.

## **6. Cost of the Medical Course**

In addition to living costs and any charges payable a student must allow for the cost of text-books and instruments, which at the prices prevailing in September 1977 is about \$3,600 for the whole course. This cost would be reduced considerably if second-hand books and equipment were bought.

For each of the 6 weeks that a student resides in an obstetrics teaching hospital in the fifth year, he pays a residence charge of \$11.50 a week; a total of \$69. This is payable, at enrolment for fifth year, to the University, which transmits it to the hospitals concerned.

# MUSIC

## 1. Introduction

The Faculty of Music provides courses leading to both the Ordinary degree and the Honours degree of Bachelor of Music (B.Mus.). At the postgraduate level the degrees of Master of Music (M.Mus.), and of Doctor of Philosophy (Ph.D.) are offered.

The degree of Doctor of Music (D.Mus.) may be awarded to a candidate who furnishes to the University satisfactory evidence that he has made an original and substantial contribution of distinguished merit to some branch of music.

## 2. Degree of Bachelor of Music

### (a) General

For students taking the music course a natural aptitude for music is desirable. Evidence of practical and theoretical skills will be taken into consideration. Matriculation music is regarded as a good preparation for the course and the A.M.E.B. examinations are also recommended. Practical examinations at 7th grade and theory at 5th grade are regarded as reasonable standards. Candidates for admission to the course would normally be interviewed or auditioned.

The course for the Ordinary degree of Bachelor of Music extends over three years of full-time study, while the Honours degree requires a further year of specialist study.

### (b) Aims

The syllabus is designed to provide the student with overall competence in general areas and to allow for specialisation in particular fields (composition, performance, historical musicology, ethnomusicology, music in education).

### (c) Course Supervision

On enrolment, the Chairman of the Department assigns each student a course supervisor from the academic lecturing staff, whose function is to aid the student in the selection of his course. The normal course work and lectures will be supplemented by tutorials.

### (d) The Course

There are four subjects offered in each year. In first year historical and related studies are covered by lectures and tutorials on the History of Western Music together with an Introduction to Ethnomusicology. In second and third years these studies are undertaken in the form of projects. Practical Studies in Performance or Composition are pursued through each year of the course. The subject Elective Studies enables the student to implement his work in the specialised field of his choice.

### (e) Practical Work

Individual and/or group tuition is provided for all students in instrumental/vocal studies appropriate to their course, and/or in composition. It is possible for 50% of the student's course work to be taken in the field of Performance. All students take part in the general practical programme of the Department of Music (e.g. choir, orchestra, chamber music).

### (f) Centre for Aboriginal Studies

The Centre offers projects in tribal Aboriginal Music and other fields of Ethnomusicology. Aboriginal singing can be taken as a Practical Study and studies are offered relating to music in cross-cultural situations. An Introduction to Ethnomusicology forms part of the first-year degree course.

**(g) Drama**

The first year Drama course may be taken as an alternative to Elective Studies I.

**(h) Honours Degree**

Every encouragement is given to suitably talented students to proceed to the Honours degree which is available in Performance, Composition, Musicology (Ethnomusicology, Historical Musicology, or Systematic Musicology) and Music in Education. Candidates taking Musicology will be required to have a reading knowledge of a language or languages necessary for the course of study involved.

After qualifying for the Ordinary degree, an honours student takes a further full year of specialist study, participates in the honours seminar course and takes one further Project at honours level.

### **3. Degree of Bachelor of Arts**

Music I, II and III may be presented as a major subject for the Ordinary degree of B.A. (see page 46); that is to say, the Arts course provides an opportunity for Music to be combined with other subjects. A suitably qualified candidate may proceed to the Honours degree of B.A. in Music.

### **4. Concurrent Music-Arts**

Special provision is made for a combined course leading to the degrees of Bachelor of Music and Bachelor of Arts. A candidate who has been admitted to the two courses should consult the Faculty Advisers in both Music and Arts when planning the details of his course, and the subjects for which he should enrol each year.

# SCIENCE

## 1. Introduction

The Faculty of Science provides courses leading to both the Ordinary degree and the Honours degree of Bachelor of Science (B.Sc.).

The aim of the Ordinary degree course is to produce graduates with a sound knowledge and understanding of the particular branches of science chosen, rather than a professional training in one narrow branch. Accordingly, the course is designed to give a broad scientific grounding in the first year, followed by increasing specialisation in the later years.

At the postgraduate level, students may proceed by advanced study and research to either the degree of Master of Science (M.Sc.) or the degree of Doctor of Philosophy (Ph.D.).

The degree of Doctor of Science (D.Sc.) may be awarded to a candidate who furnishes to the University satisfactory evidence that he has made an original contribution of distinguished merit adding to the knowledge or understanding of any subject with which the Faculty of Science is directly concerned.

## 2. Degree of Bachelor of Science in the Faculty of Science

### (a) General

The course for the Ordinary degree of Bachelor of Science requires three years of full-time study or the equivalent. It can be taken on a part-time basis, but not by evening studies alone; indeed only some of the first-year subjects can be taken after 5.00 p.m. Second- and third-year subjects are given only during the day.

All Science subjects involve attendance at lectures and tutorials and, with the exception of Mathematics, involve laboratory work as well. This work may vary from 3 hours a week for some first-year subjects to as much as 12 hours a week in some third-year subjects. Some subjects, such as Botany and Geology, also involve field work.

Every intending Science student should have a thorough knowledge, at least to matriculation standard, of Physics, Chemistry and Mathematics.

### (b) Ordinary Degree

The subjects available for the B.Sc. degree are:

#### *Group A* subjects (First-year):

Biology I, Chemistry I, Geology I, Mathematics I and IM, Physics I, Psychology I.

#### *Group A* half-subjects (First-year):

Astronomy IH, Botany IH\*, Computing IH, Environmental Biology IH, Environmental Geology IH, Genetics and Human Variation IH, Mathematics IH, Statistics IH.

#### *Group B* subjects (Second-year):

Biochemistry II, Botany II, Chemical Engineering II, Chemistry II, Genetics II, Geology II, Organic Chemistry II, Physical and Inorganic Chemistry II, Physics II, Physiology II, Psychology II, Zoology II.

The second-year Mathematical Sciences subjects listed on page 60 of this booklet are also available for the degree.

#### *Group C* subjects (Third-year):

Third year subjects are available in the fields of Biochemistry, Botany, Economic Geology, Genetics, Geochemistry, Geology, Geophysics, Histology and Cell Biology, Microbiology, Organic Chemistry, Physical and Inorganic Chemistry, Physics, Physiology, Psychology and Zoology. All subjects are unitised and it is possible to combine units from two departments, in some cases, to form subjects. The third year subjects in Applied and Pure Mathematics, Mathematical Physics, Computing Science and Statistics, which are given by the Faculty of Mathematical Sciences, are also available.

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\* Botany IH may be taken only by students who are enrolled in, or who have previously passed, Biology I.

Group D subject (Third-year):  
Physical and Inorganic Chemistry IIIA.

Group E subjects (Third-year):  
Palaeontology IIIE, Social Biology III.

In general terms, to qualify for the Ordinary degree a candidate must present four subjects from Group A or their equivalent; either three subjects from Group B, or two subjects from Group B and a fifth subject from Group A or its equivalent; and two subjects from Group C, or one subject from Group D. (But he cannot present overlapping subjects such as Mathematics I and Mathematics II.) A candidate may also take Engineering I or not more than the equivalent of a first-year subject given within the Faculty of Arts instead of one Group A subject.

In order to be able to satisfy the pre-requisites for admission to many second-year and third-year subjects students are advised to plan their whole courses for the degree at the beginning of their University studies; and by consulting the syllabuses for later-year subjects make sure that they take, in the preceding year, the subjects necessary for their more advanced studies.

The Faculty of Science has introduced a number of half-subjects into the first year of the course, so that students are able, if they wish, to broaden their knowledge of the various disciplines taught within the Faculty. The breadth of knowledge available needs to be balanced with the necessity for a thorough grounding in the basic sciences. The Faculty, therefore, strongly recommends that students should include in their first-year subjects, a mathematical subject; either Physics or Chemistry; and either a biological subject or Geology. Students are also advised to give careful consideration as to whether they wish to enrol in more than two unrelated half-subjects.

The third year of the course has been designed to allow students *either* to take subjects from two separate departments *or* to study subjects covering areas of knowledge in which the conventional divisions of Science overlap.

### (c) Honours Degree

The Honours degree requires one year of full-time work beyond the Ordinary degree, making four years in all. The work comprises advanced study and, in most departments, a research project. A candidate for Honours must first:

- (i) have qualified for the Ordinary degree of B.Sc.; and
- (ii) have completed all the Ordinary degree courses in the subject in which he wishes to take Honours, together with such other pre-requisite subjects (if any) as may be prescribed in the Honours syllabus; and
- (iii) obtain the approval of the Head/Chairman of the Department concerned.

The subjects in which the Honours degree may be obtained are as follows:

Anatomy and Histology	Organic Chemistry
Biochemistry	Pharmacology
Botany	Physical and Inorganic Chemistry
Genetics	Physics
Geology	Physiology
Geophysics	Psychology
*Mathematical Physics	Zoology
Microbiology	

Students wishing to undertake the Honours degree of Bachelor of Science in other departments (e.g. Animal Physiology, Entomology) should consult the Head/Chairman of the Department concerned during the third year of their course.

An Honours degree is the normal pre-requisite for students who wish subsequently to proceed to a Master's or Ph.D. degree and to responsible positions in tertiary education and research institutions.

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\* May also be taken in the Faculty of Mathematical Sciences.

The Faculty of Science recommends that every student capable of proceeding to Honours should aim to do so. At an early stage in his course he should consult the Head/Chairman of the Department in which he proposes to work; and he should study carefully the syllabus of his proposed Honours course to ensure that he will have the correct pre-requisites for it.

### 3. Subjects in the Science Course

The following is intended to give a brief indication of the nature of the various science disciplines which may be studied for the degree particularly those with which students may not be familiar from their school studies.

#### Biochemistry

Biochemistry, literally the chemistry of life, deals with all living processes in terms of behaviour of molecules; and indeed an important section of it is referred to as Molecular Biology. It covers the chemical reactions of the cell by which energy is obtained with the synthesis of the components of the living cell and the manner in which such reactions are controlled. The subject is also intimately concerned with the molecular processes in cell reproduction and information transfer—DNA structure and replication, chemistry of gene action, protein synthesis, virus infection and reproduction and the like. Biochemistry includes phenomena of life in chemical terms and thus areas such as antibiotic and drug action, the nature of genetic disease, the structure and mode of action of enzymes, evolution of protein molecules etc., are all within its scope.

The study of Biochemistry requires an adequate preparation in Chemistry and is therefore not available until the second year of the course. Since the subject bridges between Biology and Chemistry there is a place in it both for those mainly interested in Biology and for those mainly interested in the more chemical aspects.

#### Botany

Botany, or the biology of plants, embraces a wide range of studies from cell biology, biochemistry and genetics to the physiology, taxonomy and ecology of the great diversity of plant life both in the ocean and on the land. One full first-year subject, Biology I, and a half-subject Botany IH, which is intended to be taken concurrently with Biology I, are available, from which students can proceed to the second-year course in Botany (Chemistry I is also required). Biology I and Botany IH together cover a basic introduction to plant biology, with the half-subject developing to greater depth the general biology and plant studies in Biology I. A further half-subject Environmental Biology IH is also available but it is aimed at non-biologists and is not acceptable as an introduction to second year. The second-year course deals with the biology of the higher plant, including studies on plant physiology, plant ecology, taxonomy and evolution. In third year, a variety of courses is offered, including rangeland ecology, marine plant biology, biochemistry, mycology, plant nutrition, plant water relations, comparative morphology, evolutionary processes and plant taxonomy and ecology of fresh-water lakes. Qualified students can proceed to further studies in any of the above second- or third-year fields.

#### Chemistry

*Physical and Inorganic Chemistry*, like Organic Chemistry, interprets the properties of matter mainly from a molecular viewpoint. There are two main aims, present in varying degrees, of most investigations in Physical and Inorganic Chemistry; (a) the deduction and testing of laws and principles describing the properties of chemical materials; and (b) the preparation of new compounds and the determination of their structure and reactions. Compounds of all the metals and non-metals are investigated; there are strong links with organic chemistry especially in studies of carbon compounds. Physico-chemical principles and experimental techniques have important applications in the biological sciences and geology as well as in technology.

*Organic Chemistry*, like Physical and Inorganic Chemistry, is a major branch of molecular science. It is concerned with all aspects of the molecular structure, physical properties, and chemical reactions of compounds containing carbon, a large and diverse family which includes pharmaceuticals, drugs, dyes, plastics, fibres, fuels and indeed most of the familiar materials of everyday life. Reactions of organic compounds provide the very basis of life itself, and a knowledge of organic chemistry is indispensable to the detailed study of molecular biology. Investigations in organic chemistry range from the theoretical and physico-chemical study of bonding in simple systems to the synthesis and investigation of the reactions of proteins and similar molecules of great complexity. The principles and techniques of organic chemistry have important applications in the biological, geological and medical sciences.

### **Computing Science**

A brief description of this subject is given under "Mathematical Sciences" on page 62.

### **Genetics**

Genetics is the study of inheritance and variation in all forms of life from viruses to man. It is concerned with the nature of the genetic material, its replication, transmission, organisation and functioning and its role in development and evolution. An introductory course is devoted to the genetics of Man while the courses in second and third year deal with the subject in its many aspects.

### **Geology**

Geology literally is the science of the earth. It combines its own special methods with the application of other sciences in the study of the physical and chemical constitution of the earth, the processes which are constantly modifying these characters, and the history of the earth through geological time (approximately 4,500 million years). The phenomena of volcanism and earthquake activity are among the most fundamental and spectacular of geological processes.

*Geophysics* supplements basic Geology in bringing physics to bear on the study of the structure, physical properties and deformation of crystals, minerals, rocks and the earth as a whole.

*Geochemistry* applies chemical methods to the study of the constitution of minerals and rocks and to the processes which have produced them.

*Palaeontology* is concerned with the study of the structure and function of living organisms of the past and with their evolution.

### **Histology and Cell Biology**

Histology and Cell Biology is offered in second year as part of the second-year Physiology course and in third year as a subject for the degree. The third-year course consists of 6 units which represent an integrated course dealing with the relationships between microscopic structure and function in mammalian cells. The following units are offered: General Cytology, Neurocytology, Electron Microscopy, Histochemistry and Cytochemistry, Neuroendocrinology, and Reproductive Physiology. The units, however, can be taken in combination with other units in the Physical and Biological Sciences. In all of the units, recent advances in the morphological and physiological sciences are stressed and such topics of histology and cell biology as differentiation, growth, repair, transplantation, and ageing are included.

### **Human Physiology and Pharmacology**

These subjects are taught at the second- and third-year level and as Honours courses in the fourth year at University. Physiology is concerned with the function of living organisms and how their function is controlled. In Human Physiology it is concerned, for example, with how muscles are controlled, how heart rate is regulated, and how and why these might change during, say,



exercise, and so on. The subject covers all body functions and their control and regulation. Pharmacology is concerned with the action of drugs on these functions, and thus the two subjects interrelate. Physiology leads on to an understanding of how the body functions as an integrated whole, and Pharmacology is concerned with how these functions can be controlled and manipulated. The toxic effects of substances in the environment are of interest to physiologists and pharmacologists.

These subjects, concerned as they are with the control of body functions, are therefore of interest to people involved in human sciences, physical education, nutrition and medicine. They are also of interest to ecologists concerned with the harmful effects of alteration in the environment.

### **Mathematical Physics**

A brief description of this subject is given under "Mathematical Sciences" on page 62.

### **Microbiology**

Microbiology is the study of micro-organisms and generally deals with bacteria and viruses. The course deals with the chemical structure and physiology of these organisms, the manner in which they synthesise the various components of their structure and the way in which genetic material may be transferred from one organism to another.

Many bacteria and viruses are parasites of various species of animals and cause diseases. Particular emphasis in the course is placed on the manner in which animals are able to resist these infective agents. This involves a study of antibodies, their structure, how they are produced, the cells involved in their production and the mechanisms which enable the phagocytic cells of the animal to recognise the presence of these parasites and remove them.

Finally the course deals with the evolution of this recognition process and the development of the process in foetal and newborn animals. Studies in microbiology begin at the third-year level.

### **Mathematics**

Brief descriptions of mathematical subjects will be found under "Mathematical Sciences" on pages 61-63.

### **Physics**

Physics is the most fundamental of the sciences and deals with the nature of matter and energy and their interactions. The Physics courses aim to provide a foundation of fundamental experimental and theoretical principles on which to build a broad understanding of the physical world; and courses are provided covering such basic areas of physics as mechanics, relativity, quantum mechanics, statistical physics, optics, electromagnetism, electronics, and atomic, nuclear and solid state physics. At third-year and honours level a very broad range of additional optional topics is offered including courses in environmental physics, atmospheric physics, astrophysics and biophysics.

### **Psychology**

Psychology is the systematic study of human and animal behaviour, and of human experience. Academic psychology is founded on experiments, and on the statistical analysis of observations of behaviour. Some aspects of behaviour studied include learning, perception, physiological processes, personality, social interactions, thinking and language. Other topics studied include statistical methods, emotion, motivation, information processing, developmental psychology and abnormal behaviour. Explanations are sought in terms of patterns of responses, physiological mechanisms, theories of a mathematical nature, analogies based on physical systems, and so on. Psychology is clearly related to many other branches of science, but has its own special interests and methods.

**Social Biology**

The course will examine problems such as social stratification, migration, education and racial difference in the light of scientific argument about genetic diversity and the determination of behavioural patterns.

It is available as a part-subject in third-year and can be combined with other third-year courses in Genetics, Physiology and Zoology with the approval of the Chairman of the appropriate department. Alternatively, the course can be combined with approved second-year Arts subjects in Anthropology, Geography, History, Philosophy, Politics and Psychology to form the Group E subject Social Biology III. Students are advised to plan ahead, as the pre-requisites for the course are Genetics and Human Variation IH and a knowledge of Statistics (preferably Statistics IH).

**Statistics**

A brief description of this subject is given under "Mathematical Sciences" on page 62.

**Zoology**

Biology I is the only course that is offered at first year by the Zoology Department (in collaboration with the Botany Department). At second year, courses in Zoology deal with diversity and function throughout the animal kingdom and introduce the subjects of ecology, physiology, biostatistics, ethology. Some of these latter, and other courses, are offered at a more advanced level in third year. Units to be offered in 1978 at third year are limnology, ecology, evolution, environmental physiology, comparative biochemistry, and systematics and biogeography. Overall, the aims of the courses in Zoology offered are firstly to provide sufficient background knowledge to those students not willing to pursue the subject in depth, but desirous of having an awareness of the nature and content of modern zoology; and secondly to provide the basic zoological knowledge for those students wishing to major in Zoology and continue as professional zoologists or teachers.

**4. First-Year Science Subjects—Brief Description****Astronomy IH**

This is a half-subject comprising three lectures and one tutorial per fortnight, and four three-hour laboratory or observational sessions per term. Evening observations occur mainly in the first term. The course includes discussion of: optical and radio astronomical instruments; the Solar System, Sun, planets, comets, asteroids, meteors, space probes; stars, stellar distances, the Milky Way, types of stars, stellar evolution; galaxies; radioastronomy; space astronomy; cosmology.

**Botany**

The half-subject Botany IH consists of one lecture and two hours practical work a week and one tutorial a fortnight throughout the year, and is intended to be taken *concurrently with Biology I*. Environmental Biology IH has a work load equivalent to Botany IH, but may not be taken by students enrolled in Biology I.

*Botany IH*: Plant cell structure and function, evolutionary relationships of plants, ecology, structure, physiology and reproduction of plants.

*Environmental Biology IH*: Environmental problems are discussed in relation to the ecological principles which form a basis for their understanding and control.

**Biology I**

A course of two lectures, one tutorial, and one period of practical work a week. It includes: an introduction to the structure, physiology and functional evolution of plants and animals; elementary biochemistry, cell physiology and genetics; the mechanisms of evolution, and the principles of ecology.

**Chemistry I**

The course consists of three lectures, three hours practical work and one tutorial each week.

The course is given in three sections corresponding to the three terms:

*Structure and Bonding*, including molecular and crystal structure, methods of structure determination, bonding models, "covalent" solid structure and metals.

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*Energetics*, including an introduction to thermodynamics, energetic considerations in the synthesis and stability of compounds, intermolecular forces, gases, liquids and solutions, rates of reactions.

*Reactions and Synthesis*, including the kinetics of chemical reactions, the synthesis of compounds with reference to both organic and inorganic systems.

### Computing IH

A brief description of this half-subject is given under "Mathematical Sciences" on page 63.

### Genetics and Human Variation IH

This, a half-subject, is intended to provide an introduction to the principles of human genetics as a means of understanding the diversity and the underlying unity of mankind. It consists of one lecture a week and a three-hour practical class a fortnight throughout the year.

### Geological Sciences

One first-year subject and one half-subject are available. Geology I provides a balanced introduction to the geological sciences through lectures and practical work and is the normal pre-requisite for entry to Geology II. It also serves students in the Faculties of Engineering and Agricultural Science. Environmental Geology IH is a lecture course, available to students who have a general interest in the science or its relevance to problems of the environment and earth resources, but who are unable to take the full subject.

Geology I: The basic lecture course (two lectures per week) is given in three sections:

*Global Geology and Geophysics*, including global gravity, seismicity, radioactivity, magnetism, global tectonics, sea floor spreading, continental drift, petrology and plate tectonics.

*Geological History and Evolution of the Landscape*, including weathering and erosion, sedimentary rocks, the fossil record, principles of stratigraphy, rock structures, landscape evolution.

*Earth Resources and Conservation*, including mineral and energy resources, aspects of engineering geology and hydrogeology.

A supplementary lecture course (one lecture per week) provides the additional background in mineralogy, petrology, palaeontology and geophysics required for the course of practical work. The latter includes the study of crystals, minerals, rocks and fossils; interpretation of elementary geological maps; geophysical exercises. The practical course thus illustrates and develops the lecture course with reference to Australian examples.

Environmental Geology IH: The course consists of two lectures and one tutorial per week throughout the year. The lecture course is identical to the basic lecture course for Geology I (see above). The tutorials, however, will be specially designed for the half-subject and will include some practical activities.

### Mathematics

There are three first-year Mathematics subjects. Mathematics I, which pre-supposes a knowledge of Matriculation Mathematics I and II, and is intended for students whose main interests are in Mathematics or its application to Physical Science or Engineering; Mathematics IM, which pre-supposes a knowledge of Matriculation Mathematics IS, and which permits the student to proceed to certain later-year work in Mathematics; and Mathematics IH, a half-subject, which assumes a knowledge of Matriculation Mathematics IS, and is intended for students who do not wish to proceed to further courses in Mathematics.

Mathematics I and IM both comprise four lectures and one two-hour tutorial session a week. Mathematics IH comprises two lectures a week and a one-hour tutorial session a week.

A brief description of the subject *Mathematics I* is given under "Mathematical Sciences" on page 63; the syllabuses of the other subject and half-subject are as follows:

*Mathematics IM*: Differential and integral calculus of functions of one or two real variables; differential equations; linear equations, matrices and determinants; group theory; fields and number systems.

*Mathematics IH*: Differential and integral calculus, differential equations, vectors, linear equations, matrices and determinants.

### **Physics I**

The course comprises three lectures, one tutorial and three hours of practical work a week.

The course is given in the following parts:

*Mechanics and the structure of matter*, including classical mechanics, atomic physics, structure and properties of microscopic systems, the solar system, macroscopic properties of matter.

*Electromagnetism*, including oscillations and resonance, electrostatics, electric fields, current electricity, electromagnetic effects.

*Waves, radiation and relativity*, including wave motion, wave mechanics, dispersion, relativity, mechanics of high energy collision.

### **Psychology I**

An introductory survey of the main topics in modern experimental psychology. The topics include aspects of learning, perception, physiological psychology, personality, social psychology, thinking, language, perception, conditioning and innate behaviour. A laboratory course is given as part of Psychology I, and this includes practical experience of laboratory work, experimental design, statistics as applied to psychological data, demonstrations and films.

### **Statistics III**

A brief description of this half-subject is given under "Mathematical Sciences" on page 63.

# PART III:

## EMPLOYMENT OPPORTUNITIES

### ARTS

In general, the aim of an Arts course is not professional or vocational, and accordingly such a course may best be thought of as providing a good general education rather than as a preparation in the narrow sense for one particular career. For employment purposes it usually needs to be supplemented by more specific training or experience, to meet the needs of the occupation eventually entered.

For some occupations the subjects studied in an Arts course may be particularly relevant: e.g. a graduate with an Honours degree in psychology, or one with an Ordinary degree which included third-year courses in psychology, may be fitted on graduation for appointment as a psychologist in an appropriate field such as vocational guidance, or clinical or industrial psychology. In general, however, the subjects taken by an Arts graduate may be thought of mainly as being one of the most important of the media by which he becomes an educated person.

An Arts graduate will, of course, have the special knowledge derived from his study of his subjects; but more than this, his Arts degree will in effect be a certificate that he has been subject to a rigorous intellectual training; that he has had the opportunity of learning how to think logically, and how to apply orderly and soundly-based methods in whatever he does. If he has benefited from his studies he will be flexible and adaptable, able to see the part in relation to the whole, and able to cope with new situations from first principles.

With these qualities, the Arts graduate should be in a good position to proceed to further studies, or to undertake any task of a general administrative nature.

At present there are indications that in the near future it may not be easy for a generalist Arts graduate to secure suitable employment. In this respect the graduate with a degree of good academic quality, or with a good Honours degree, will obviously be better placed than one whose academic record was relatively poor.

The following are some of the careers open to Arts graduates. In considering them an intending student would be wise to keep as flexible an attitude as possible, because of the difficulty of forecasting employment opportunities in any area three or four years after a course has been embarked upon.

*Social Work.* After adding to Arts studies a course of study and training for a Diploma in Social Studies or for a postgraduate degree such as Bachelor of Social Administration at the Flinders University.

*Teaching.* At primary school, secondary school, or university level. For teaching at university level a good Honours degree, followed by advanced study, is usually required; and competition is very keen.

Since the beginning of 1976 anyone wishing to teach at primary or secondary level in South Australia must first obtain registration with the South Australian Teachers Registration Board. To be qualified to seek such registration Arts graduates should supplement their Arts studies either with professional training through a College of Advanced Education or by a course of university study leading to the Diploma in Education and subsequently, perhaps, to the degree of Master of Education.

*Librarianship.* By obtaining experience in a library and undertaking professional studies such as a postgraduate course at either the University or the S.A. Institute of Technology.

*The Church.* Most denominations encourage candidates for the ministry to obtain an Arts degree.

*Administration.* Normally, openings for Arts graduates exist in the Australian Public Service in all States including A.C.T., and in State Public Services. Some industries and business firms are interested in recruiting Arts graduates who have

done courses of good standard and who have acceptable personal qualities. The usual pattern here is for the graduate to be given a period of comprehensive training lasting perhaps two years after which, if he has proved suitable, he will be given executive responsibility.

*Miscellaneous Careers.* From time to time vacancies occur for Arts graduates in fields such as publishing, journalism, drama, advertising and public relations; but these vacancies are highly competitive, and often demand particular talent in certain specialised areas.

## ECONOMICS

The demand by employers for Economics graduates over the years has been strong. The sources of this demand are very widespread: in the private sector, where accounting subjects are preferred, they include public accountants, banking, financial and insurance institutions, mass media, motor, chemical, and oil companies, textile, food and drink manufacturers, wholesalers and retailers; in the public sector, where a knowledge of economic theory and development is often looked for, they include the Bureau of Statistics, the Bureau of Agricultural Economics, the Reserve Bank, several Commonwealth Government departments (Treasury, Overseas Trade, etc.), and the State Public Service.

In the Government areas, graduates are most likely to be engaged in economic research. In industry and commerce the work is chiefly in accounting, marketing and administration.

Some opportunities exist in teaching, where the situation for Economics graduates is similar to that for Arts graduates. (See above.)

The Honours degree requires an extra year, but it gives the student a much better understanding of economics and a wider view generally, and may improve his starting salary and his prospects of promotion.

It is possible to take economics as a major subject within an Arts degree, in combination with such other subjects as history, psychology, politics, or mathematics. This provides a desirable general education, but lack of familiarity with accounting and statistics may prove a handicap in tackling practical problems involving the use of economic data.

It is possible to take a major sequence in economics or in accounting or commerce subjects towards a Science degree in the Faculty of Mathematical Sciences. A combination of these subjects with applied mathematics, mathematical statistics and/or computing science would provide a valuable qualification increasingly sought for a wide range of careers.

## LAW

The question of employment opportunities for law graduates is a matter of concern. Although future employment opportunities appear to be uncertain, the following information may help to set the position in perspective.

Most law graduates in South Australia are admitted as legal practitioners, but in recent years the number of admissions has had less effect on the overall number of private practitioners than one might expect. In 1976, for example, 65 persons were admitted to practice but the number of private practitioners increased from 505 to 527.

The ratio of private practitioners to the population of South Australia has been put at 1:2,361. By contrast, the ratio for N.S.W. is 1:900 and the ratio sometimes quoted for the whole of Australia is 1:1,250.

Recently, and particularly in 1976, graduates have found more difficulty in obtaining employment in the legal profession. A survey carried out by the Law Society in June 1976 showed that the number of admitted solicitors who were unemployed was six (however some had only just returned to South Australia from overseas). During 1976 there were also indications that it was not necessarily unusual for some graduates to take longer to find employment after admission than has previously been the case.

It is difficult to predict what the future demand for legal practitioners in South Australia will be. Two uncertain factors are firstly, the number of retirements or changes in occupation, and, secondly, the amount of work requiring legal expertise. As regards the first, it should be realised that the trend in recent years may not continue. As regards the second, opinions differ as to the likely impact of developments in consumer and environmental protection, compensation for injury, taxation and many other fields.

Account should be taken of opportunities beyond the profession itself. Although most graduates enter private practice, a significant minority traditionally have chosen to pursue careers in commerce, government departments, legal aid services, law reform agencies, universities and colleges of advanced education. Again, however, it is difficult to predict the extent to which openings for law graduates will continue to be found in these areas.

The policy of the Faculty of Law stands against reducing the quota of admissions to the Law course: intending students should have the maximum opportunity to take whatever courses they choose, irrespective of the employment situation at any particular time. At the same time, however, the view of the Faculty and the University of Adelaide is that no-one should be under any illusions about career prospects at the end of any particular university course.

More particular information is available from the Dean and the Law Society of South Australia. It should also be noted that employment opportunities are under review by the Faculty of Law, the Law Society, and the Careers Advisory Board of the University.

## MATHEMATICAL SCIENCES

A student with mathematical talents often wonders—with his or her parents and friends—what employment opportunities there may be for one who specialises in mathematical sciences at the University.

Opportunities for Mathematical Science graduates occur over a wide range of occupations, but throughout his or her course a student would be wise to keep as flexible an attitude as possible concerning eventual employment. This is necessary because of the difficulty of forecasting the need for graduates in any particular discipline three or four years after a particular course has been embarked upon.

As more and more fields of endeavour are being quantified, computerised, and analysed with statistical and mathematical models so, in normal times, is the demand for the mathematical scientist gradually increasing. The importance of the applications of the mathematical sciences in the physical and biological sciences is well established, and now the role of the mathematical scientist is also being recognised as increasingly valuable in interdisciplinary areas in the social sciences, in economics, linguistics, psychology and other arts disciplines.

An area where there is a growing need for Mathematical Science graduates is in computer programming and data processing. Here it should be made clear that a student who intends to enter a commercial computing area would be wise to supplement his studies in computing with the commerce subjects which may be undertaken in the Economics Faculty. As an alternative to majoring in computing science in his bachelor's degree, a suitably qualified graduate in mathematics might take a postgraduate Diploma in Computing Science.

Government establishments, such as C.S.I.R.O., W.R.E., the Department of Transport, the Bureau of Statistics, and Planning Departments, employ mathematical scientists and are particularly interested in those with at least a good background of computing and statistics. Most openings are for work with scientists, engineers, economists, etc. in group projects and in these the mathematical expert is recognised as the key person. Although the appointments often require an Honours or even higher degree, the graduate is more likely to use his general mathematical knowledge rather than the more advanced specialised courses he has studied. Industry and private firms employ some mathematical scientists with qualifications ranging from an Ordinary degree to a Ph.D. The openings are more for those with a background of mathematical applications, computing and statistics.

There are also opportunities for Mathematical Science graduates in Government departments such as the Bureau of Statistics, and in private industry and educational institutions. For students willing to undertake part-time studies after graduation there is a limited number of careers in actuarial work with insurance companies; but frequently these involve the need to move interstate to head offices of the various companies concerned. It should also be kept in mind that graduates in Mathematical Sciences can compete strongly for more general positions in insurance companies, banks, retail organisations or general administrative areas.

Many Mathematical Science graduates, particularly those with an Honours degree, have found openings as secondary school teachers. However, since the beginning of 1976 anyone wishing to teach at primary or secondary level in South Australia must first obtain registration with the South Australian Teachers Registration Board. To be qualified to seek such registration, graduates must supplement their Mathematical Science studies either by professional training through a College of Advanced Education or by a course of University study leading to the Diploma in Education and subsequently, perhaps, to the degree of Master of Education.

A student's interest and abilities in mathematical science subjects often mature markedly at the University, and it is unusual and unnecessary for a student to plan the details of his course or decide his subsequent career until he has completed one or two years of his Ordinary degree work. Mathematical talent is a rare commodity in the community; those who possess it and develop it to the full are unlikely, in normal times, to be denied satisfying employment opportunities.

Any student (girl or boy), parent or teacher wanting additional information about careers in the mathematical sciences is invited to get in touch at the University with the Head/Chairman of one of the five departments in the Faculty.



## SCIENCE

Although the aim of courses in Science is to provide a sound knowledge of the particular branches of Science chosen, rather than a professional training in one narrow branch of Science, the extent to which this object is achieved varies considerably and is dependent on the subjects studied in the final, third year. Thus whilst it is not easy to predict the branch of Science that a person majoring in physics, chemistry or mathematics may enter, those majoring in geology, biochemistry or physiology generally seek a position in which their speciality will be directly and immediately used. However because of changing employment trends and the difficulty of forecasting the needs of the labour market three or four years after a course has been embarked upon, a student would be wise to keep as flexible an attitude as possible towards his or her eventual employment.

In general, employment opportunities for Science graduates occur in industry, government establishments, hospital laboratories, and teaching. They could involve laboratory or mathematical work, e.g., for chemists, physicists, biochemists, microbiologists, etc.; field work, e.g., for geologists and biologists, etc.; technical service and technical sales in industrial firms, and administration. In general, industrial firms employ Science graduates first in laboratories; they may later move, as opportunity arises, to technical service or administration positions.

For a career in scientific research in universities, government establishments, and industry, a higher degree is essential. A Master's degree is the minimum qualification generally required, but the Ph.D. degree is generally preferred. Such work generally involves membership of a research group, and promotion is possible to group leader and higher positions. In government research laboratories the Ph.D. degree is generally an essential qualification for promotion to the higher grades. In industry it is becoming more common to recruit executive staff from the research staff.

The careers open to Science graduates include the following:

*Government.* In the S.A. Public Service and in the Australian Public Service some opportunities exist in hospital laboratories, chemical testing laboratories, meteorological work, weapons research, atomic energy, environmental sciences, energy resources, museums and agricultural and fishery departments, as well as in certain other areas. Vacancies depend a good deal on the national economic situation, which makes it difficult to forecast needs. Competition for the presently limited research vacancies in organisations such as the C.S.I.R.O. is extremely keen, and normally calls for Ph.D. qualifications and specialised experience.

*Industry and Private Firms.* For specialists, work in general laboratories in South Australia is limited; but openings may be found in wineries, breweries, food processing factories and some of the larger industrial manufacturers.

*Teaching.* Since the beginning of 1976 anyone wishing to teach at primary or secondary level in South Australia must first obtain registration with the South Australian Teachers Registration Board. To be qualified to seek such registration, Science graduates—who preferably should have an Honours degree—should supplement their studies either by professional training through a College of Advanced Education or by a course of university study leading to the Diploma in Education and subsequently, perhaps, to the degree of Master of Education.

For the generalist graduate, without particular specialisation, opportunities might for example be in Australian Government departments such as Overseas Trade, or in a State department such as Trade and Industry. In private firms, from time to time there are opportunities in marketing and technical representation. It is likely that an increasing number of vacancies will occur in smaller firms where managerial ability would be required.

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