THE UNIVERSITY OF WOLLONGONG
HANDBOOK 1975
The University of Wollongong Library has catalogued this work as follows:

UNIVERSITY OF WOLLONGONG.

1975-
Annual.

Prior to 1975 issued as UNIVERSITY OF NEW SOUTH WALES. Wollongong University College. Handbook. Title varies.

1965-1970 issued by University of New South Wales as 19- Handbook for students, Wollongong University College. Title varies slightly.


378.944-I
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Information in this Handbook is current at the time of publication, but may be amended without notice by the University Council.

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The University
PREFACE

The University of Wollongong was incorporated by an Act of the New South Wales Parliament on 30th November, 1972. Ten years earlier, in 1962, it had begun operation on its present site as Wollongong University College, a College of the University of New South Wales. Parts 1 and 2 of the Act came into effect in 1972. Part 3 will be realized when the University is established on 1st January, 1975.

The first year of the new University will see an expansion of the building activity on the campus which will include completion of Stage II of the Library, a Social Sciences Building, Stage III of the Union and an extension of the Science Building.

Courses offered at present lead to undergraduate and higher degrees in Arts, Commerce, Science, Engineering and Metallurgy. A postgraduate diploma in Education is also offered.

The University’s courses, degree regulations and admission and enrolment procedures are currently being prepared and details provided in this Handbook may change. Students are therefore advised to contact the Student Enquiries Section of the University for the most recent information. Statements to this effect may be found in the relevant sections of the Handbook.

Students enrolled prior to 1974 and undertaking degrees of the University of New South Wales should consult the University of New South Wales Calendar, 1974, or the Wollongong University College Handbook, 1974, for details of courses and regulations. Students enrolled for the first time in 1974 and opting to take degrees under the regulations of the University of New South Wales should also consult these publications.
An Act to provide for the establishment and incorporation of a University at Wollongong; to constitute a Council of the University and define its powers, authorities, duties and functions; to vest certain property in the University; to dissolve the Wollongong University College; to amend the Superannuation Act, 1916, the Local Government Act, 1919, and certain other Acts in certain respects; and for purposes connected therewith. (Assented to, 30th November, 1972.)

BE it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Legislative Council and Legislative Assembly of New South Wales in Parliament assembled, and by the authority of the same, as follows:—

PART I.
PRELIMINARY.

1. (1) This Act may be cited as the "University of Wollongong Act, 1972".

   (2) This Act is divided as follows:—
   PART I.—PRELIMINARY—ss. 1-3.
   PART II.—VICE-CHANCELLOR DESIGNATE—ss. 4-7.
   PART III.—THE UNIVERSITY OF WOLLONGONG—ss. 8-41.
   SCHEDULE.

2. (1) This section and sections 1 and 3 commence on the date of assent to this Act.

   (2) Part II shall commence upon such day as may be appointed by the Governor in respect thereof and as may be notified by proclamation published in the Gazette.

   (3) Part III shall commence upon such day as may be appointed by the Governor in respect thereof and as may be notified by proclamation published in the Gazette being a day that is later than the day appointed pursuant to subsection (2).

3. In this Act, unless the context or subject-matter otherwise indicates or requires—

   "by-laws" means by-laws made under this Act;
   "Chancellor" means Chancellor of the University;
   "College" means Wollongong University College established and maintained by The University of New South Wales under the provisions of the University of New South Wales Act, 1968;
   "College Council" means Council of the College;
"Committee" means Selection Committee constituted under Part II;
"Council" means Council of the University;
"Deputy Chancellor" means Deputy Chancellor of the University;
"University" means The University of Wollongong;
"Vice-Chancellor" means Vice-Chancellor of the University.

PART II.

VICE-CHANCELLOR DESIGNATE.

4. (1) The Minister shall constitute a committee consisting of eight members to hold office until the commencement of Part III of whom—

(a) one shall, by reason of his being the holder of, or a person who was the holder of, the office of Vice-Chancellor of any University in Australia, be appointed by the Minister as Chairman of the Committee;

(b) one shall be appointed by reason of his being the Chairman of the New South Wales Universities Board or a member of that Board nominated by that Chairman to be appointed to the Committee;

(c) two shall be appointed by the Minister; and

(d) four shall be elected members.

(2) The elected members of the Committee shall be qualified as is prescribed by this subsection and shall comprise—

(a) a person who is a professor, and a person who is not a professor, both elected by and from the professors, associate professors, senior lecturers and lecturers of the full-time staff of the College, the Librarian, the Bursar, the Registrar and the Secretary of the College; and

(b) two persons elected by and from the members of the College Council, both being persons who are ineligible for election to the Committee pursuant to paragraph (a).

(3) A casual vacancy occurs in the Committee where—

(a) in the case of the member referred to in subsection (1) (b), that member ceases to be the Chairman of the New South Wales Universities Board, or where the member referred to in subsection (1) (b) is a member of the Board nominated by that Chairman, that member ceases to be a member of the Board;
(b) in the case of an elected member, that member ceases to hold the qualification by reason of which he was eligible for election to the Committee;

(c) a member dies;

(d) a member becomes a temporary patient or a continued treatment patient, a protected person or an incapable person within the meaning of the Mental Health Act, 1958, or a person under detention under Part VII of that Act;

(e) a member resigns his membership in writing under his hand addressed to the Minister; or

(f) for any reason the Minister deems fit, a member is removed by the Minister from office as a member of the Committee.

(4) A casual vacancy shall—

(a) in the case of an elected member, be filled by a person qualified and elected in accordance with subsection (2); and

(b) in any other case, be filled by a person qualified in accordance with subsection (1) (a), (b) or (c) to fill the vacancy concerned.

(5) Meetings of the Committee shall be convened by the Chairman of the Committee.

(6) At any meeting of the Committee—

(a) six members shall form a quorum;

(b) a decision of the majority of the members present at the meeting shall be the decision of the Committee; and

(c) the Chairman, in the event of there being an equality of votes, may give a casting vote.

(7) Any act or proceeding of the Committee is, notwithstanding that at any time when the act or proceeding was done, taken or commenced there was—

(a) a vacancy in the office of the membership of the Committee; or

(b) any defect in the appointment, or any disqualification, of a member of the Committee,

as valid as if the vacancy, defect or disqualification did not exist and the Committee were fully and properly constituted.

(8) Any election for the purpose of electing the elected members of the Committee shall be conducted by the Registrar of The University of New South Wales at such time or times and in such manner as that Registrar deems fit.
5. The Committee shall be charged with the power to select a person to be the Vice-Chancellor designate of the University and for that purpose shall—

(a) at a meeting convened as soon as practicable whenever the Minister notifies the Chairman that there is a vacancy in the office of Vice-Chancellor designate of the University, arrange to call for applications for that office to be made on or before a stated day;

(b) meet as soon as practicable after that stated day with a view to selecting a person to be the holder of that office;

(c) determine in consultation with the Council of The University of New South Wales and the College Council or, where either Council has appointed persons to be its representatives for the purpose, those persons, the terms upon which and conditions subject to which a person may, pursuant to section 6, continue or be appointed as a member of the full-time staff of the College and take office under section 20 (1) as Vice-Chancellor; and

(d) where a person is selected for appointment to that office, recommend the appointment to the Council of The University of New South Wales.

6. (1) Subject to subsection (2) the Council of The University of New South Wales shall, upon such terms and conditions as are determined pursuant to section 5 (c), appoint the person recommended by the Committee pursuant to section 5 (d) as the Vice-Chancellor designate of the University who shall be a member of the full-time staff of the College.

(2) Notwithstanding the terms and conditions determined pursuant to section 5 (c), where the person appointed under subsection (1) is, at the time of his appointment, a member of the full-time staff of The University of New South Wales, he shall not be appointed to the office of Vice-Chancellor designate of the University upon terms and conditions less favourable than those upon which he was employed immediately before that appointment.

7. (1) Where the Committee is unable to determine any matter the Chairman shall refer the matter to the Minister for resolution.

(2) Any decision of the Minister in respect of any matter referred to him under this section shall be as final and binding as if the decision were made by the Committee.
PART III.
THE UNIVERSITY OF WOLLONGONG.

8. A University, consisting of—
   (a) a Council;
   (b) Convocation;
   (c) the professors and such other classes of persons giving
       instruction within the University as may be prescribed
       by the by-laws and such superior officers within the
       University as may be so prescribed; and
   (d) the graduates and students of the University,
is hereby established at Wollongong in the State of New South
   Wales.

9. (1) The University is a body corporate under the name of
   "The University of Wollongong".
   (2) The common seal of the University shall be kept in such
       custody as the Council may direct and shall not be used except
       by resolution of the Council.

10. The functions of the University shall, within the limits of
    its resources and subject to this Act and the by-laws, include—
    (a) the provision at Wollongong or elsewhere of educa-
        tional facilities at university standard for any persons
        enrolled therein;
    (b) the dissemination and increase of knowledge and the
        promotion of scholarship; and
    (c) the conferring and awarding of degrees and diplomas.

11. The University may, for the purpose of discharging its
    functions, provide from time to time such facilities for its students
    as it deems desirable.

12. (1) There shall be a Council of the University which,
    subject to subsection (3), shall have and may exercise and dis-
    charge the powers, authorities, duties and functions conferred
    and imposed upon the Council by or under this Act.
    (2) The Council shall be the governing authority of the
        University.
    (3) The provisions of sections 17, 18 and 19 do not apply
        to and in respect of the Council constituted under section 14.

13. (1) The Council may by resolution appoint such com-
    mittees as it thinks fit to assist and advise it in the carrying out
    of its functions and the exercise of its powers under this Act.
    (2) A committee appointed under subsection (1) shall have,
        and may exercise and discharge, such powers, authorities, duties
        and functions as the Council may determine.
14. (1) The first Council shall consist of—

(a) the persons who immediately before the commencement of this Part held office as members of the College Council other than such members of that Council as, at that commencement, are members of the full-time staff of The University of New South Wales; and

(b) the person who, immediately before that commencement, held office, pursuant to section 6, as Vice-Chancellor designate of the University, unless he becomes a member of the Council pursuant to paragraph (a).

(2) The members of the first Council shall, subject to this Act, hold office until the Council duly constituted under section 15 assumes office.

(3) Where a casual vacancy occurs in the office of any member of the first Council the Governor may appoint a person to the vacant office and the person so appointed shall hold office for the residue of his predecessor's term of office.

(4) The first meeting of the first Council shall be convened by the Vice-Chancellor who shall preside until a Chairman is elected pursuant to subsection (6).

(5) At any meeting of the first Council one-half (or where one-half is not a whole number the whole number next higher than one-half) of the total number of members for the time being of that Council, shall form a quorum.

(6) The members of the first Council shall, at their first meeting, elect from among their number a Chairman and Vice-Chairman.

(7) Subject to subsection (4), at every meeting of the first Council the Chairman or, if he is not present, the Vice-Chairman shall preside, but if both the Chairman and Vice-Chairman are not present, the members present shall elect a person from among their number to preside as Chairman.

(8) The first Council shall take all steps necessary to ensure so far as possible that a Council is duly constituted under section 15 so as to take office within six months after the commencement of this Part or within such extended time as the Governor may, by proclamation published in the Gazette at any time during that period of six months, specify.

15. (1) The Council, other than the first Council—

(a) shall be constituted in accordance with this section; and

(b) shall assume office upon such day as the Governor may appoint in that behalf and notify by proclamation published in the Gazette.
(2) The Council shall consist of—

(a) parliamentary members;
(b) official members;
(c) nominated members; and
(d) elected student and non-student members.

(3) The parliamentary members of the Council shall be—

(a) a member of the Legislative Council elected by that Council—

(i) as soon as practicable after the commencement of this Part and thereafter as soon as practicable after the commencement of the term of service of the members of that Council elected as required by section 17F (5) of the Constitution Act, 1902; or

(ii) where there is a casual vacancy in the office of a parliamentary member of the Council held pursuant to subparagraph (i), as soon as practicable after that office becomes vacant; and

(b) a member of the Legislative Assembly elected by that Assembly—

(i) as soon as practicable after the commencement of this Part and thereafter as soon as practicable after each general election of members of the Legislative Assembly; or

(ii) where there is a casual vacancy in an office of a parliamentary member of the Council held pursuant to subparagraph (i), as soon as practicable after that office becomes vacant.

(4) The official members of the Council shall be—

(a) the person for the time being holding the office of Chancellor, where he is not otherwise a member of the Council; and

(b) the person for the time being holding the office of Vice-Chancellor.

(5) The nominated members shall comprise four persons appointed by the Governor on the nomination of the Minister.

(6) The elected student members of the Council shall comprise two persons who are qualified and elected in each case as may be prescribed by the by-laws by and from persons who are enrolled as candidates proceeding to a degree or diploma in the University (other than persons so enrolled who are members of the full-time staff of the University).
The elected non-student members of the Council shall be qualified and elected in each case or for each class as may be prescribed by this subsection and the by-laws and shall comprise—

(a) three persons, none of whom shall be a member of the full-time staff of the University, so elected by such of the members of Convocation as are included in a list prepared for the purposes of this subsection in accordance with the by-laws;

(b) four persons, of whom one shall not be, and each of the others shall be, a professor within the University, so elected by and from the professors and such other persons, being persons giving instruction within the University and superior officers within the University, as may be prescribed by the by-laws;

(c) one person, being a member of the staff of the University ineligible for election pursuant to paragraph (b), so elected by and from such members of the staff of the University as may be prescribed by the by-laws; and

(d) three persons so elected by the members of the Council for the time being referred to in subsections (3), (4), (5), (6) and paragraphs (a), (b) and (c).

Where a person (not being a person who is a member of the Council) is appointed at any time by the Council to act in the place of the Vice-Chancellor, that person shall, while so acting, be deemed to be an official member of the Council.

Subject to this Act, a member of the Council shall hold office—

(a) in the case of a parliamentary member, until a member of the House of Parliament that elected him is elected by that House to replace him;

(b) in the case of an official member, while he holds the office by virtue of which he is such a member;

(c) in the case of a nominated member, for such term not exceeding three years as may be prescribed by the by-laws; and

(d) in the case of an elected member, for such term not exceeding three years as may be prescribed by the by-laws.

A retiring member of the Council shall not, by reason of that membership, be disqualified from again becoming a member of the Council.
(11) A casual vacancy shall—

(a) in the case of a nominated member, be filled by such person as the Governor may appoint; and

(b) in the case of an elected member, be filled by a person qualified in accordance with subsection (6) or (7) to be elected to the vacancy concerned in such manner as may be prescribed by the by-laws,

and any member filling a casual vacancy under this subsection shall hold office for the residue of his predecessor's term of office.

(12) A by-law for the purposes of subsection (6) or (7) may be made with respect to—

(a) all persons of a specified class; or

(b) all persons of a specified class other than persons of a specified class or classes.

(13) A by-law for the purposes of subsection (9) (c) and (d) may—

(a) prescribe a term of office by reference to determined, or determinable, days of commencement and termination;

(b) prescribe different terms of office in respect of the nominated members or the different classes of elected members; and

(c) provide for the retirement in rotation of the nominated members or the different classes of elected members.

16. A member of the Council shall be deemed to have vacated his office if he—

(a) dies;

(b) in the case of a nominated or elected member, transfers his place of permanent residence to a place that is not within the State or the Australian Capital Territory;

(c) declines to act;

(d) resigns his office by writing under his hand addressed—

(i) in the case of the parliamentary member who is a member of the Legislative Council, to the President of the Legislative Council;

(ii) in the case of the parliamentary member who is a member of the Legislative Assembly, to the Speaker of the Legislative Assembly;

(iii) in the case of a nominated member, to the Minister; or
(iv) in the case of an elected member, to the Vice-Chancellor;

(e) is a nominated or elected member who becomes bankrupt, applies to take the benefit of any law for the relief of bankrupt or insolvent debtors, compounds with his creditors or makes any assignment of his estate for their benefit;

(f) is a nominated or elected member who becomes a temporary patient or a continued treatment patient, a protected person or an incapable person within the meaning of the Mental Health Act, 1958, or a person under detention under Part VII of that Act;

(g) is a nominated member or elected member and absents himself from four consecutive meetings of the Council without leave of the Council;

(h) ceases, in the case of the parliamentary member elected by the Legislative Council, to be a member of the Legislative Council;

(i) ceases, in the case of the parliamentary member elected by the Legislative Assembly—
   (i) to be a member of that Assembly otherwise than by reason of its dissolution or its expiration by effluxion of time; or
   (ii) to be a member of that Assembly by reason of its dissolution or its expiration by effluxion of time and is not re-elected as a member of that Assembly at the next general election of members of that Assembly; or

(i) being an elected member referred to in section 15 (7) (b) or (c), ceases to be an employee of the University.

17. (1) The Council shall, at its first meeting and whenever a vacancy in the office of Chancellor occurs, elect a person (whether a member of the Council or not) to be Chancellor of the University.

   (2) The Chancellor shall hold office for such period not exceeding three years and on such terms and conditions as may be prescribed by the by-laws.

18. (1) The Council shall, at its first meeting and whenever a vacancy in the office of Deputy Chancellor occurs, elect one of its members to be Deputy Chancellor of the University.

   (2) The Deputy Chancellor shall, unless he sooner ceases to be a member of the Council, hold office for one year from the date of his election and on such conditions as may be prescribed by the by-laws.
(3) In the absence of the Chancellor or during a vacancy in the office of Chancellor or during the inability of the Chancellor to act, the Deputy Chancellor shall have and may exercise and discharge all the powers, authorities, duties and functions of the Chancellor.

19. (1) The Chancellor shall preside at all meetings of the Council and all committees constituted by the Council at which he is present.

(2) At any meeting of the Council or of a committee constituted by the Council at which the Chancellor is not present, the Deputy Chancellor shall preside, and in the absence of both the Chancellor and the Deputy Chancellor, a member elected by the members present from among their number, shall preside.

20. (1) The first Vice-Chancellor of the University shall be the person who, immediately before the commencement of this Part, was the member of the full-time staff of the College holding office as Vice-Chancellor designate pursuant to section 6 (1) and he shall, subject to this section, continue in office under the terms and conditions determined under section 5 (c) in relation to his tenure of the office of Vice-Chancellor.

(2) Whenever a vacancy occurs in the office of Vice-Chancellor, the Council shall appoint a person, whether a member of the Council or not, to be Vice-Chancellor.

(3) The Vice-Chancellor (other than the first Vice-Chancellor) shall hold office for such period and on such terms and conditions as the Council determines.

(4) The Vice-Chancellor shall be the chief executive officer of the University and shall have and may exercise and discharge such powers, authorities, duties and functions as may be prescribed by the by-laws and, subject to the by-laws, as the Council determines.

21. At any meeting of the Council one-half (or where one-half is not a whole number the whole number next higher than one-half) of the total number of members for the time being of the Council, shall form a quorum.

22. Nothing contained in this Act shall prevent any person from being immediately, or at any time, re-appointed or re-elected to any office or place under this Act if he is eligible and otherwise qualified, for the time being, to hold that office or place.

23. (1) No act or proceeding of the Council or any committee of the Council, or of the Vice-Chancellor or any other person acting pursuant to any direction of the Council, shall be inval-
dated or prejudiced by reason only of the fact that at the time
when such act or proceeding was done, taken or commenced
there was a vacancy or a number of vacancies in the office or
offices of any member or members of the Council.

(2) All acts and proceedings of the Council or any
committee of the Council, or of the Vice-Chancellor or any other
person acting pursuant to any direction of the Council, shall,
notwithstanding the subsequent discovery of any defect in the
appointment or election of any member of the Council or that any
such member was disqualified from acting as or incapable of
being a member of the Council, be as valid as if that member
had been duly appointed or elected and was qualified to act as or
capable of being a member and had acted as a member of the
Council and as if the Council had been properly and fully
constituted.

24. The provisions of the Public Service Act, 1902, do not
apply to and in respect of the appointment of any member of the
Council, and a member shall not, as such a member, be subject
to the provisions of that Act.

25. (1) Subject to this Act and the by-laws, the Council—
(a) may provide such courses as it deems fit and in con-
ferring and awarding degrees and diplomas issue such
certificates in the nature of degrees, diplomas or other-
wise as it thinks fit;
(b) may appoint and terminate the appointment of academic
and other staff of the University;
(c) shall have the control and management of the affairs
and concerns of the University and may act in all matters
concerning the University in such manner as appears
to it best calculated to promote the objects and interests
of the University;
(d) may acquire by gift, bequest or devise any property for
the purposes of this Act and may agree to carry out the
conditions of any such gift, bequest or devise;
(e) may borrow money for the purpose of carrying out and
performing any of its powers, authorities, duties and
functions, for the renewal of loans or the discharge or
partial discharge of any indebtedness to the Treasurer
or to any bank within such limits, to such extent and upon
such conditions as to security or otherwise as the
Governor upon the recommendation of the Treasurer
may approve;
(f) may invest any funds belonging to or vested in the
University in any manner for the time being authorised
for the investment of trust funds or in any manner
approved by the Governor, generally or in any particular case or class of cases, upon the recommendation of the Treasurer; and

(g) shall have the control and management of all real and personal property at any time vested in or acquired by the University, and may, subject to subsection (2), dispose of real or personal property in the name and on behalf of the University.

(2) Except as provided in subsection (3) the Council shall not, except with the approval of the Governor, alienate, mortgage, charge or demise any lands of the University.

(3) The Council may, without the approval of the Governor, lease any lands of the University where—

(a) the term of the lease does not exceed twenty-one years; and

(b) subject to subsection (4) (b), there is reserved for the whole of the term, the highest rent that can reasonably be obtained without fine.

(4) In the case of a lease of any lands of the University or any renewal thereof to a residential college affiliated with the University, the lease shall—

(a) be for a term not exceeding ninety-nine years; and

(b) be at a nominal rent; and

(c) contain such other conditions as the University deems fit including a condition that the lease shall not be assigned.

(5) The rule of law against remoteness of vesting does not apply to and in respect of any condition of a gift, bequest or devise to which the University has agreed.

26. (1) The Council may, in relation to any matter or class of matters, or in relation to any activity or function of the University, by resolution, delegate all or any of its powers, authorities, duties and functions under this Act (except this power of delegation) to any member or to any committee of its members, or to any officer or officers of the University.

(2) Every delegation under this section shall be revocable by resolution of the Council, and no delegation shall prevent the exercise of any power, authority, duty or function by the Council.

27. (1) The Council may make by-laws, not inconsistent with this Act, with respect to all matters pertaining to the University.

(2) Without prejudice to the generality of subsection (1) the Council may make by-laws for or with respect to—

(a) the management, good government, and discipline of the University;
(b) the method of election of members of the Council (other than the parliamentary members who are to be elected);

(c) the manner and time of convening, holding and adjourning the meetings of the Council and the manner of voting at such meetings, including postal voting or voting by proxy; the powers and duties of the Chairman thereof; the conduct and record of the business; the appointment of committees of the Council, and the quorum, powers and duties of such committees;

(d) the number, stipend, manner of appointment and dismissal of deans, professors, lecturers, examiners and other officers and employees of the University;

(e) the entrance standards for students;

(f) the fees and charges to be paid including fees and charges for entrance, tuition, lectures, residence and conferring of degrees and diplomas, and the exemption from, or deferment of, payment of fees and charges;

(g) the course of lectures or studies for, the examinations for, and the granting of, degrees, diplomas, certificates and honours and the attendance of candidates therefor;

(h) the examinations for, and the granting of, fellowships, scholarships, exhibitions, bursaries and prizes;

(i) the admission of students of other universities and institutions of higher education to any status within the University or the granting to graduates of such universities or institutions, or other persons, of a degree or diploma without examination;

(j) the establishment of residential colleges and halls of residence within the University and their conduct or the affiliation of residential colleges;

(k) the affiliation with the University of any educational or research establishment;

(l) the provision of a scheme of superannuation for the professors of the University; and

(m) the form and use of academic costume.

(3) Every by-law made by the Council shall be sealed with the common seal of the University and shall be submitted for the approval of the Governor.

28. (1) The by-laws may provide for empowering any authority (including the Council) or officer of the University to make regulations, rules or orders (not inconsistent with this Act or with any by-law) for regulating, or providing for the regulation of, any specified matter (being a matter with respect to which by-laws may be made) or for carrying out or giving effect to the by-laws.

(2) Any regulation, rule or order referred to in subsection (1)—
(a) shall have the same force and effect as a by-law;
(b) may, from time to time as the occasion requires, be amended or repealed by any authority (including the Council) or officer of the University empowered by subsection (1) to make such a regulation, rule or order; and
(c) shall be deemed not to be within the meaning of the term "regulation" as defined in section 41 of the Interpretation Act, 1897.

29. (1) Convocation shall consist of—
(a) all members and past members of the Council;
(b) all graduates of the University;
(c) all members of the full-time academic staff of the University and such other members or classes of members of the staff of the University as the by-laws may prescribe;
(d) such graduates of other universities, or other persons, as are, in accordance with the by-laws, admitted as members of Convocation; and
(e) without prejudice to the generality of paragraph (d), graduates of The University of New South Wales who spent at least three years as properly enrolled students of the College.

(2) The first meeting of Convocation shall be convened by the Vice-Chancellor.

(3) Meetings of Convocation shall be convened and the business at such meetings shall, subject to the by-laws, be as determined by Convocation.

(4) A quorum at any meeting of Convocation shall be such number of members as may be prescribed by the by-laws.

(5) Convocation shall have and may exercise and discharge such powers, authorities, duties and functions as may be prescribed by the by-laws.

(6) The Council may establish a Standing Committee and such other committees of Convocation as it considers necessary.

30. (1) There shall be paid to the University in respect of the year commencing upon the first day of January of the year of commencement of this Part and in respect of each succeeding year, such sum as the Treasurer may, upon taking into consideration the University's estimated expenditure requirements and income from all sources which is capable of being applied towards meeting such expenditure requirements, determine.

(2) To enable the Treasurer to exercise and perform the powers and functions conferred upon him by subsection (1) the University shall, in respect of the year commencing upon the first
day of January that next preceded the commencement of this Part, as soon as practicable after that commencement, and in respect of each succeeding year either before or as soon as practicable after its commencement, submit to the Treasurer estimates of the expenditure and income of the University for that year and such other information as the Treasurer may deem necessary.

(3) Any moneys payable by the Treasurer under this section shall be paid out of moneys provided by Parliament.

31. The Treasurer may for the temporary accommodation of the University advance such moneys to the Council as the Governor may approve upon such terms and conditions as to repayment and interest as may be agreed upon.

32. The Council shall cause to be kept proper books of account in relation to the funds of the University and shall, as soon as practicable after the thirty-first day of December in each year, prepare and transmit to the Minister for presentation to Parliament a statement of accounts in a form approved by the Auditor-General exhibiting a true and correct view of the financial position and transactions of the University for the year.

33. (1) The accounts of the University shall be audited by the Auditor-General who shall, in respect thereof, have all the powers conferred on the Auditor-General by any law for the time being in force relating to the audit of public accounts.

(2) The provisions of the Audit Act, 1902, apply to and in respect of the members of the Council and to the officers and employees of the University in the same manner as they apply to accounting officers of public departments.

34. (1) As soon as practicable after the first day of January in each year, the Council shall prepare and furnish to the Minister a report upon the proceedings of the University during the period of twelve months immediately preceding that day including a summary of the work, researches and investigations carried out by the University during that period.

(2) A copy of each report under subsection (1) shall be laid before both Houses of Parliament as soon as practicable after it has been received by the Minister.

35. A person shall not, by reason of his religious or political views or beliefs, be denied admission as a student of the University or be ineligible to hold office therein or to graduate thereat or to enjoy any benefit, advantage or privilege thereof.
36. The Governor of New South Wales shall be the Visitor of the University with full authority and jurisdiction to do all such things and entertain such causes as may pertain to or be exercised by visitors as often as he thinks fit.

37. (1) The Council shall allow such persons as are—

(a) students of teachers' colleges established under the Public Instruction Act of 1880, teachers in schools established under that Act or members of the Public Service of New South Wales approved by the Minister;

(b) qualified in such manner as may be prescribed by the by-laws to be enrolled as students of the University;

(c) selected by the University for admission to the University; and

(d) not otherwise excluded from the University,

to attend University lectures for the purpose of proceeding to a first degree and to receive tuition for the period required for admission to that degree without payment of lecture, class or tuition fees.

(2) Nothing in subsection (1) shall exempt any person referred to in that subsection from the payment of such fees, other than lecture, class or tuition fees, as may be approved by the Council.

38. (1) The College is hereby dissolved.

(2) All real and personal property which immediately before the commencement of this Part was held by or was vested in The University of New South Wales or any other body in trust for, or on behalf of, the College shall, by virtue of this Act, be divested from The University of New South Wales or such other body and shall vest in the University to be applied by the University, subject to any trusts or conditions on which it was held immediately before that commencement, for the objects and purposes for which the University is established.

39. (1) This section applies to and in respect of real and personal property, including real and personal property vested in the University pursuant to section 38 (2), which immediately before the commencement of this Part was held by or was vested in The University of New South Wales and used by that University for the purposes of the College.

(2) The Minister shall cause to be constituted a Joint Committee consisting of five members of whom—

(a) one shall be the Auditor-General, or such person as he may nominate, who shall be Chairman and who shall convene, and preside at, all meetings of that Committee;
(b) two shall be such persons as are selected by the Council of The University of New South Wales to be representatives of that University; and

(c) two shall be such persons as are selected by the Council to be representatives of the University.

(3) The function of the Joint Committee is to determine as soon as practicable—

(a) what property to which this section applies (other than property vested pursuant to section 38) is to be transferred to the University;

(b) what debts and liabilities in respect of property to which this section applies are to be transferred to the University;

(c) the manner in which payments on account of leave or upon the retirement or death of a member of the staff of The University of New South Wales who is transferred to the University pursuant to this Act are to be met and the extent to which those payments should be apportioned between The University of New South Wales and the University;

(d) what books, documents, records and papers are to be handed over to the University; and

(e) such other matters relating to the matters referred to in paragraphs (a), (b), (c) and (d) as that committee deems necessary or expedient.

(4) Where a difference of opinion arises between the members of the Joint Committee representing The University of New South Wales and the University in respect of a determination of any of the matters referred to in subsection (3) the matter shall be determined in such manner as the Auditor-General or the person nominated by him to represent him on that Committee directs.

(5) Any determination made by the Joint Committee pursuant to subsection (3) shall have effect according to its tenor.

(6) The Chairman of the Joint Committee shall forward or cause to be forwarded to the Minister, The University of New South Wales and the University written notice of any determination it may make with respect to the matters referred to in subsection (3) and each University shall keep a record of that notice.

(7) Upon the receipt of a notice of any determination made by the Joint Committee, The University of New South Wales shall, as soon as practicable, thereafter give effect to the determination.
40. (1) In this section a reference to an “officer of the College” is a reference to a person who, immediately before the commencement of this Part, held any salaried office or employment at the College otherwise than as—

(a) a part-time lecturer, tutor or demonstrator;

(b) a temporary senior lecturer, lecturer, senior tutor, tutor, senior demonstrator or demonstrator; or

(c) a staff member employed on a fixed term contract.

(2) Every officer of the College shall become, at the commencement of this Part, an officer and an employee of the University on such terms and conditions (including terms and conditions as to remuneration and duration of appointment), not less favourable than those upon which he was employed at the College immediately before that commencement, as the Council determines.

(3) The Council may, in determining terms and conditions in respect of the title, duties or status attaching to offices or employment at the University, determine in relation to an officer of the College terms and conditions less favourable than those on which the officer of the College was employed immediately before the commencement of this Part.

(4) An officer of the College shall not have any right to damages or compensation in respect of the termination, in consequence of the commencement of this Part, of his tenure of any office or employment at the College but he shall be entitled to enforce or enjoy any right or privilege to which he was, by virtue of section 2 of the University of New South Wales Act, 1968, entitled immediately before that commencement as if the right or privilege had been conferred by this Act.

41. An Act specified in the first column of the Schedule is amended to the extent specified opposite that Act in the second column of the Schedule.
<table>
<thead>
<tr>
<th>Year and No. of Act.</th>
<th>Short title.</th>
<th>Extent of amendment.</th>
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| 1916, No. 28.       | Superannuation Act, 1916. | Insert in the definition of “Employee” in section 3 (1) after the words “University of New South Wales,” the words “or, subject to subsection (5), a professor of The University of Wollongong.”. Insert next after section 3 (4) the following new subsection:—
|                     |             | (5) (a) Subject to this subsection the exclusion from the definition of “Employee” of a professor of The University of Wollongong shall not extend to a person whose rights as a contributor are continued by section 40 of the University of Wollongong Act, 1972. (b) A professor of The University of Wollongong shall cease to be a contributor if, after the commencement of Part III of the University of Wollongong Act, 1972, he becomes, or continues to be, party to any scheme or arrangement to which that University is also a party and under which he is or may become entitled to any pension or annuity or retiring allowance upon retirement from his professorship. (c) The provisions of subsection (3) shall apply, mutatis mutandis, to professors of The University of Wollongong other than those who are employees by virtue of paragraph (a). Insert at the end of Schedule III the following words:— The University of Wollongong. |
| 1919, No. 41.       | Local Government Act, 1919. | Insert next after section 132 (1) (fiv) the following new paragraph:—
|                     |             | (fiv) land which is vested in The University of Wollongong or in a college thereof and is used or occupied by the University or college, as the case may be, solely for the purposes thereof; and |
| 1924, No. 50.       | Metropolitan Water, Sewerage, and Drainage Act, 1924. | Insert next after section 88 (1) (f2) the following new paragraph:—
|                     |             | (f3) land which is vested in The University of Wollongong or in a college thereof and is used or occupied by the University or college, as the case may be, solely for the purposes thereof. |
CALENDAR OF DATES

Session 1 ........................ March 3 to May 11
  May Recess: May 12 to May 18
  May 19 to June 15
  Midyear Recess: June 16 to July 20

Session 2 ........................ July 21 to August 24
  August Recess: August 25 to August 31
  September 1 to November 2
  Study Recess: November 3 to November 9

January
  Monday 27 ...................... Australia Day—Public Holiday

February
  Thursday 6 ...................... Enrolment of new students
  Friday 7 ......................... Enrolment of new students
  Monday 10 ....................... Enrolment of new students
  Thursday 20 ..................... Enrolment of new students
  Monday 24 ....................... Enrolment of re-enrolling students
  Tuesday 25 ..................... Enrolment of re-enrolling students
  Wednesday 26 ................... Enrolment of re-enrolling students

March
  Monday 3 ......................... Session 1 lectures commence
  Friday 28 ....................... Easter Holidays commence

April
  Friday 25 ....................... Anzac Day—Public Holiday

May
  Friday 2 ......................... Graduation Ceremony
  Monday 12 ...................... May recess commences
  Sunday 18 ...................... May recess ends

June
  Monday 16 ...................... Queen's Birthday—Public Holiday
  Monday 16 ...................... Mid-year recess begins

July
  Sunday 20 ...................... Mid-year recess ends
  Monday 21 ...................... Session 2 lectures commence

August
  Monday 25 ...................... August recess begins
  Sunday 31 ...................... August recess ends

October
  Monday 6 ....................... Eight Hour Day—Public Holiday

November
  Sunday 2 ....................... Session 2 ends
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DEPARTMENT OF SOCIOLOGY

DEPARTMENTAL CHAIRMAN
S. C. Hill, BSc Syd., PhD Melb.

PROFESSOR OF SOCIOLOGY
S. C. Hill, BSc Syd., PhD Melb.

LIBRARY

UNIVERSITY LIBRARIAN
J. C. Hazell, BA Syd., ALAA

SENIOR LIBRARIANS
Rosemarie Dowe, BA N.E., DipLib N.S.W., ALAA
Roslyn Hunt, BA DipEd Syd., DipLib N.S.W., ALAA
J. Lorenc, BSc N.S.W., ALAA
VICE-CHANCELLOR'S UNIT

VICE-CHANCELLOR
L. M. Birt, (Emeritus Professor, Australian National University), B AgrSc BSc PhD Melb., DPhil Oxon.

SECRETARY TO THE VICE-CHANCELLOR
Mrs. Yvonne N. Watkin

GRADUATE ASSISTANT
Sandra G. Canniff, BASc Guelph

COUNSELLING SERVICE

COUNSELLOR
J. P. McLennan, BA Syd.

GRADUATE ASSISTANT
Brenda J. Wirth, BA A.N.U., DipSec.Studies C.C.A.E.

GENERAL STUDIES

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

INFORMATION OFFICE

INFORMATION OFFICER
A. J. Barker, BA BSocWk DipJour Qld.

BURSAR'S DIVISION

BURSAR
B. J. Meek, BA DipEd Syd.

COMPUTER MANAGER
G. A. Hamer, MA Cantab.

STAFF OFFICER
D. J. Bowlay, BA N.E., MAPsS

FINANCE OFFICER
H. V. Brandon, AASA

ADMINISTRATIVE OFFICERS
L. W. Noffke
C. S. Paterson
ESTATE MANAGER'S DIVISION

ESTATE MANAGER
J. F. Bell, FIEAust, FRINA, FAIM

ARCHITECT
J. A. Manton, BArch Melb., ARAIA

ENGINEER
R. M. Kinnell, ASTC, MIEAust

ADMINISTRATIVE OFFICER
K. D. Kimber, BEc Syd., AASA

REGISTRAR'S DIVISION

REGISTRAR
R. F. Stewart, BCom DipEd Melb.

ASSISTANT REGISTRARS
CENTRAL SERVICES
B. C. Moldrich, BA Ceyl.

STUDENT SERVICES
K. E. Turnbull, BA N.E.

CENTRAL SERVICES
Secretariat & Publications

ADMINISTRATIVE OFFICER
T. R. Moore, ThB

FACULTY SECRETARIES
Engineering: H. H. Alla, BCom N.S.W.
Humanities: Lynn M. Edwards, BA DipEd N.S.W.
Mathematics: T. A. Cuthbertson, BA Syd.
Science: P. G. Wood, BSc DipEd Syd.
Social Science: Karenne M. Irvine, BA N.S.W.

DATA PROCESSING

SYSTEMS ANALYST
J. W. Langridge, DipTech(Pub.Ad.) N.S.W.I.T.

PROGRAMMER
Vacant
STUDENT SERVICES

ADMINISTRATIVE OFFICERS
P. J. Clarke, DipTech(Com) N.S.W.I.T.
G. J. Roodenrys, BA N.S.W.
Mrs Dorothy Schneid, BCom N.S.W.

ADMINISTRATIVE ASSISTANT
M. A. Pronk, BCom N.S.W.

GRADUATE ASSISTANT
Mrs Patricia E. Mirabito, BA DipEd Syd.

UNION

SECRETARY/ MANAGER
I. L. Dunn, LLB Lond., psa, pfc.
MEMBERS OF WOLLONGONG UNIVERSITY COLLEGE COUNCIL*

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

Deputy Chairman: Mr. Edgar Beale, Solicitor.

Mr. W. B. Burgess, General Manager, Australian Iron and Steel Pty. Ltd.

Mr. J. K. Doherty, Marketing Manager, Kembla Coal and Coke Pty. Ltd.

Mr. B. J. Doyle, Director, Artificial Stock Breeding Service, Berry.

Mr. T. K. Duncan, General Manager, Engineering, The Broken Hill Proprietary Co. Ltd.

Dr. J. Ellis, Lecturer, Department of Chemistry, Wollongong University College.

Mr. B. S. Gillett, Director, South Coast Area, Department of Education.

Mr. M. E. Hale, Director, Wollongong Institute of Education.

Dr. B. S. Hilliar, Ear, Nose and Throat Specialist.

Mrs. R. Hutton, Secondary School Teacher.

Associate Professor C. P. Kiernan, Department of History, Wollongong University College.

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

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

Mr. W. Pike, Deputy Director, Wollongong Institute of Education.

Mr. W. Sims, President, Wollongong University College, Students’ Representative Council.

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

Ex Officio:

Emeritus Professor L. M. Birt, Vice-Chancellor designate.

Professor B. H. Smith, Chairman, Wollongong University College Interim Academic Senate

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

* The first Council of the University of Wollongong came into existence on 1st January, 1975.
UNIVERSITY LIBRARY

All Staff and students are encouraged to use the University Library and material can be borrowed by using a union card (student) or a library card (staff). Fines are levied for late return of books.

The Library has the responsibility of providing material for all courses in the University curriculum and carries information in books, periodicals and microforms. It has a growing reference collection and endeavours to provide for needs outside curricular and research requirements.

Stage I of the Library complex accommodates 280 readers, has photocopying facilities, a periodicals display area and a group study room. Suggestions concerning facilities and services are welcomed.

Stage II of the Library is currently under construction and may be completed by the end of 1975. When both Stages are occupied there will be initially accommodation for 150,000 volumes, 450 reader places and some personnel from academic Departments and the University administration.

Hours of opening are usually 9 a.m.-10 p.m. Monday to Friday and 9 a.m.-5 p.m. on Saturday. Variations in hours are displayed on a notice board.

The library is presently used by many people from outside the University campus, particularly qualified personnel from local commerce and industry. It may be necessary to be more restrictive in the future.

UNIVERSITY UNION

The Union, which provides opportunities for the development of social and intellectual intercourse between members, is situated at the southern boundary of the campus. It was opened in 1965 and Stage II additions were completed in 1970. The premises now comprise four common rooms and refectory plus associated offices and kitchen. A coffee bar and hot meal service is provided and there is also a Union shop. The Union building also accommodates a branch of the University Co-operative Bookshop Limited and an agency of the Commercial Bank of Australia.

It is anticipated that Stage III additions to the Union building will include a new dining room and kitchens, conversion of the Union Hall from a dining room to an auditorium, two extra common rooms, a take-away food service bar, a coffee bar, a members' dining room, two licensed bars, two squash courts and new administrative offices.

Membership is compulsory for all students; staff may elect to become members. The affairs of the Union are controlled by a Board of Management and, in day to day matters, by its executive officer, the Secretary/Manager.
The following clubs and societies are affiliated to, and supported by, the Union:—

- Drama Society
- Camera Club
- Commerce Society
- Film Group
- Geological Society
- Music Society

STUDENTS' REPRESENTATIVE COUNCIL

The Students' Representative Council is a body elected by the students to promote student welfare and interests. It provides a channel through which students can express their views.

The S.R.C. organizes dances, cabarets, balls and other social functions. It also interests itself in community affairs and sponsors a number of clubs and societies. It works in close co-operation with the University Union and the Sports Association, but it is a distinct autonomous body.

As a constituent member of the Australian Union of Students (A.U.S.) the S.R.C. offers travel and health schemes, National U (Student Paper), and a means of keeping in touch with other universities.

"Tertangala", the Journal of the University of Wollongong Students' Representative Council is published throughout the year. Students are invited to participate in its publication and to submit items for it.

SPORTS ASSOCIATION

All students pay a compulsory fee which automatically makes them members of the Sports Association. Membership is also open to employees of the University on payment of the same fee as students. Membership entitlements include the use of the recreational facilities provided by the Sports Association. Members may also join one or other of the constituent clubs of the Association at a small extra subscription. The Sports Association aims to provide physical recreation facilities of an opportunity-type for individuals or small groups. In addition, it aims to ensure that its constituent clubs are provided with adequate playing surfaces and associated equipment, that adequate funds are available to subsidise travelling, and that both clubs and individuals are encouraged to attain higher sporting standards through competition under the auspices of local associations and through inter-varsity competitions, representative matches and championships organised by the Australian Universities Sports Association.

There are sports grounds on the campus including facilities for Rugby, Soccer, Hockey and Cricket Clubs. There are also two tennis courts and financial support is given to a Squash Club, a Table Tennis Club, a Basketball Club and an Outdoors Club. The latter engages in bush walking, canoeing, camping and climbing.
Stage I of a Sports Centre is being planned and should be available for use in 1975. It will contain changing/shower rooms, a club room and kitchen and a small recreation hall. Stage II, which is not likely to be available before 1978, will make full provision for basketball courts and most other indoor sports.

The constituent clubs of the Sports Association are as follows. Enquiries in respect of them should be made at the Union Office:

<table>
<thead>
<tr>
<th>Club</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Badminton</td>
<td>Outdoors</td>
</tr>
<tr>
<td>Basketball</td>
<td>Rugby</td>
</tr>
<tr>
<td>Cricket</td>
<td>Soccer</td>
</tr>
<tr>
<td>Fencing</td>
<td>Squash</td>
</tr>
<tr>
<td>Hockey (men)</td>
<td>Table Tennis</td>
</tr>
<tr>
<td>Women's Hockey</td>
<td>Tennis</td>
</tr>
<tr>
<td>Australian National Football</td>
<td></td>
</tr>
</tbody>
</table>

CHAPLAINCY SERVICE

A Chaplaincy Service is provided within the University for the benefit of students and staff by four Christian Churches.

The Service offers fellowship, personal counselling and guidance, and leadership in biblical and doctrinal studies and in worship. The Chaplains maintain close liaison with student religious societies. The Chaplains may be contacted at their private addresses or through the Registrar.

Anglican
Rev. Eric Bird,
The Curate's Cottage, Market Street,
Wollongong, 2500. Tel. 29 1167.

Methodist
Methodist Minister—36 Fisher Street,
West Wollongong, 2500. Tel. 29 2119.

Presbyterian:
Rev. D. R. Parker, 2 Lachlan Street,
Thirroul, 2515. Tel. 67 1444.

Roman Catholic
Rev. Father T. Fox,
The Presbytery, Cabbage Tree Lane,
Fairy Meadow, 2519. Tel. 29 4133.

UNISEARCH LIMITED

Unisearch Ltd. was established in April, 1959, by the Council of the University of New South Wales for the purpose of furthering one of the major objects of that University as set out in the Act of Incorporation, viz. "to aid by research and other suitable means the advancement, development and practical application of science to industry and commerce".

Unisearch actively seeks to assist Australian industry in the solution of its research and developmental problems. It provides testing services in a wide variety of industrial fields, and is
THE UNIVERSITY

responsible for the exploitation of patents of inventions arising out of the work of the University. The Company has had considerable success in solving production problems brought to it by industrial organisations in all Australian States and in assisting in the establishment of new industrial processes.

At the time of publication negotiations are proceeding for similar facilities to be available within the University of Wollongong.

ACCOMMODATION

The Student Accommodation Service, located in the Hut (tennis court end) handles a variety of non-residential accommodation e.g. board (both 7 and 5 day), single rooms, flats and houses. Enquiries should be made as early as possible in the year by calling in, or phoning 29 7311, extension 355.

INTERNATIONAL HOUSE

Warden: T. A. Lambert, ThB, PhD, CHC, JP
Assistant Warden: Rosalind L. Baynes, DipTL, JP

International House is the only residential College at Wollongong affiliated with the University. It is situated between the University and the North Wollongong beaches on the Princes Highway at its junction with the Wollongong “By-Pass”.

The College is operated as a co-educational non-denominational College by the Council of International House, and is owned by the YMCA of Wollongong. The College philosophy attempts to build a community which combines the best features of the older traditional Colleges with a more modern approach to corporate life. International House holds to a strong belief in the contribution that the individual may make to his community in an atmosphere which will enrich his experience of learning within the University. As indicated by its title the College provides a place of living for overseas students, thus providing for a meeting place of varying cultures.

The College presently provides for 222 graduate and undergraduate students and 10 tutors.

The resident students both male and female are housed in five three-level residential blocks. Facilities include a large common room, dining room, tutorial rooms, music and television rooms, laundry, students’ kiosk and a large multi-purpose recreational hall for student functions, films, etc.

To cater for the large number of students who live close to Wollongong and who return home for weekends the cost of meals is not charged in students’ fees. Meals may be purchased in the Dining Room as required.

For further information, contact the Warden, International House, P.O. Box 1799, Wollongong 2500. Tel. 29 9015.
EMPLOYMENT

The Student Employment Service, run in conjunction with the Commonwealth Employment Service, is located in the Hut (tennis court end). The Service provides casual and part-time work throughout the year, plus vacation work. Information on jobs is displayed on two boards: one in the hut, the other in the dining room of the Union.

All enquiries concerning casual, part-time and vacation work should be directed to the Student Employment Service, phone 29 7311, extension 355.

COUNSELLING SERVICE

The University's Counsellor is available to assist any member of the University, staff and students, in any problem situation which is interfering with his or her full development as a person. Individual counselling is available where the individual feels distressed or unable to resolve a difficulty alone.

These difficulties may involve feelings: anxiety, confusion, depression; they may be to do with interpersonal relationships; they may involve university life—lack of motivation, inability to study effectively, anxiety in exams, uncertainty about course-choice or career-goals. In all these, counselling aims to help the person to an understanding of the problem, allowing the person to use their capacity for effective action to overcome the difficulty.

The Counselling Centre offers other personal development oriented services:

- group workshops in communication skills and human relationships
- study method workshops
- career planning seminars
- reading effectiveness improvement laboratories
- careers information

The Counselling Centre is in the white hut (Building 9) near the tennis courts. Any person may make an appointment to see the Counsellor. The telephone number is 29 7311, extension 355. All discussions with the Counsellor are confidential.

STUDENTS' TRAVELLING CONCESSION PASSES

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

Application forms for these concessions may be obtained from the Student Enquiries Section, First Floor, Administration Building.
Train:
(a) Periodical tickets are available during sessions to full-time students not in employment nor in receipt of any remuneration.
(b) Vacation travel concessions are available to students qualifying under (a) above.

Aircraft:
Concession fares for travel overseas, inter-state and intra-state are available under the conditions ruling for the various operating companies.

STUDENT IDENTIFICATION CARDS

All students are issued with a Student Identification Card. This card must be carried during attendance at the University and shown on request.

The number appearing on the front of the card is the student registration number used in the University's records. This number should be quoted in all correspondence.

The card must be presented when borrowing from the Library, when applying for travel concessions and when notifying a change of address. It must also be presented when paying fees on re-enrolment each year when it will be made valid for the year and returned. Failure to present the card could result in some inconvenience in completing re-enrolment.

A student who loses his identification card must notify the Registrar as soon as possible. Forms for this purpose are available from Student Enquiries Section, First Floor, Administration Building.

New students will be issued with Student Identification Cards as soon as possible after enrolment. In the meantime, the receipt form issued at the time of enrolment should be carried during attendance at the University and shown on request. If the identification card is not received within three weeks of enrolment the Registrar should be notified.

LOST PROPERTY

Enquiries concerning lost property should be made to the Student Enquiries Section, First Floor, Administration Building, and the Union Office.
General Information and Regulations
GENERAL CONDUCT

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

Smoking is not permitted during lectures, in examination rooms or in the University Library. Gambling is also forbidden.

Members of the academic staff of the University, senior administrative officers, and other persons authorised for the purpose, have authority, and it is their duty, to check and report on disorderly or improper conduct or any breach of regulations occurring in the University.

ATTENDANCE AT CLASSES

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

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

Applications to the Registrar for exemption from re-attendance at classes, either for lectures or practical work, may only be granted on the recommendation of the appropriate Departmental Chairman. The granting of an exemption from attendance does not carry with it exemption from payment of fees.

Application forms for exemption from lectures are available from the Student Enquiries Section, First Floor, Administration Building, and should be lodged there (with a medical certificate where applicable). If session examinations have been missed this fact should be noted in the application.

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

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

INDEBTEDNESS TO THE UNIVERSITY

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

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

CHANGES IN COURSE PROGRAMMES AND WITHDRAWAL FROM SUBJECTS*

Students seeking approval to substitute one subject for another, add one or more subjects to their programme or discontinue part of their programme must make application to the Registrar on a form available from the Student Enquiries Section, First Floor, Administration Building.

Any addition or substitution of subjects after four weeks from the commencement of first session will be accepted only with the express approval of the Registrar on the recommendation of the appropriate Departmental Chairman, and approval will be given in exceptional circumstances only.

In the case of students wishing to terminate their enrolment the application must be lodged at the Student Enquiries Section, First Floor, Administration Building. The Registrar will inform students of the decision. Fees will be adjusted where necessary.

Approval of withdrawal from subjects is not automatic, each application being determined after considering the circumstances advanced as justifying withdrawal.

It is emphasized that:

(1) withdrawal from a subject, tuition in which extends over the academic year, at any time after the commencement of the second session;

(2) withdrawal from a subject, tuition in which extends over only one session, at any time after ten weeks from the commencement of the subject; or

(3) failure to sit for the examinations in any subject in which the student has enrolled,

shall be regarded as failure to satisfy the examiners in the subject, unless written approval to withdraw without failure has been obtained from the Registrar.

* These requirements are currently under review. Students are advised to contact the Student Enquiries Section for further information.
ANNUAL EXAMINATIONS

Annual examinations may take place at the end of the first or second session. Timetables showing time and place at which individual examinations will be held are posted on notice boards. Mis-reading of the timetable is not an acceptable excuse for failure to attend an examination. Examination results are posted to the session addresses of students. No information concerning examinations or results will be given by telephone.

Examination results may be reviewed for a fee of $11 a subject which is refundable in the event of an error being discovered. Applications for review must be submitted on the appropriate form, together with the necessary fee by the date indicated on the notification of results.

In the assessment of a student's progress in University courses, consideration is given to written work, work in laboratory and class exercises, and to any sessional or other tests given throughout the year, as well as to the annual examination results.

A student who through serious illness or other cause outside his control is unable to attend an examination is required to bring the circumstances (supported by a medical certificate or other evidence) to the notice of the Registrar not later than seven days after the date of the examination. The medical certificate should show the nature of the illness and the extent to which the student's performance at the examination was likely to have been affected.

A student who believes that his performance at an examination has been affected by serious illness during the year or by other cause outside his control, and who desires these circumstances to be taken into consideration in determining his standing is required to bring the circumstances (supported by a medical certificate or other evidence) to the notice of the Registrar not later than seven days after the date of the examination. The medical certificate should show the nature and duration of the illness and the extent to which a student's performance in his course was likely to have been affected.

A student who attempts an examination, yet claims that his performance is prejudiced by sickness on the day of the examination, must notify the Registrar or Examination Supervisor before, during, or immediately after the examination, and may be required to submit to medical examination.

A student suffering from a physical disability which puts him at a disadvantage in written examinations may apply to the Registrar for special provision when examinations are taken. The student may be required to support his request with medical evidence.
Rules and Procedure for the Conduct of Examinations

(a) Candidates are required to obey any instruction given by an examination supervisor for the proper conduct of the examination.

(b) Candidates are required to be in their places in the examination room not less than ten minutes before the time for commencement.

(c) No bag, writing paper, blotting paper, manuscript or book, other than a specified aid, is to be brought into the examination room.

(d) No candidate shall be admitted to an examination after thirty minutes from the time of commencement of the examination.

(e) No candidate shall be permitted to leave the examination room before the expiry of thirty minutes from the time the examination commences.

(f) No candidate shall be re-admitted to the examination room after he has left it unless during the full period of his absence he has been under approved supervision.

(g) A candidate shall not by any improper means obtain, or endeavour to obtain, assistance in his work, give, or endeavour to give, assistance to any other candidate, or commit any breach of good order.

(h) Smoking is not permitted during the course of examinations.

(i) A candidate who commits any infringement of the rules governing examinations is liable to disqualification at the particular examination, to immediate expulsion from the examination room, and to such further penalty as may be determined in accordance with the By-Laws.

DEFERRED EXAMINATIONS

Most departments at the University do not offer deferred examinations except in medical and compassionate cases.

TERMINATING PASSES

The award of the grade of terminating pass will prohibit a student progressing to the next subject in a sequence for which the subject in which the terminating pass is awarded, is a prerequisite. However, students are not prevented from repeating a subject for which a terminating pass has been awarded.

APPLICATION FOR ADMISSION TO A DEGREE OR DIPLOMA

Applications for admission to a degree or the award of a diploma of the University must be made on the appropriate form by 10th January. Applicants should ensure that they have completed all requirements for the degree or diploma, including industrial training where necessary.
RESTRICTION UPON STUDENTS RE-ENROLLING

The University has yet to determine rules governing the re-enrolment of students. However, students enrolled prior to 1975 are subject to the rules laid down in the 1974 University of New South Wales Calendar. Students enrolled for University of Wollongong degrees are advised to contact the Registrar for the most recent information.

RE-ADMISSION AFTER EXCLUSION

Applications for re-admission after exclusion must be lodged with the Registrar not later than 31st October 1974.

RULES OF PROGRESSION

The University has not yet determined rules of progression and students are advised to contact the Registrar for the most recent information. Students enrolled for University of New South Wales degrees should consult the 1974 University of New South Wales Calendar.

Admission with Advanced Standing

Any person who wishes to apply for admission with advanced standing is advised to contact the Student Enquiries Section, First Floor, Administration Building. University policy on this matter has yet to be determined.

CHANGE OF ADDRESS

Students are requested to notify the Registrar in writing of any change in their address as soon as possible. Failure to do this could lead to important correspondence or course information not reaching the student. The University cannot accept responsibility if official communications fail to reach a student who has not notified the Registrar of a change of address.

CHANGE OF NAME BY MARRIAGE OR DEED POLL

All records held, and statements issued by the University will be in the name given by students at the time of their admission to the University.

Students who change their name by marriage or by Deed Poll and who also wish to change their name on University records should complete a Change of Name form which is available from the Student Enquiries Section, Administration Building, and present for notation the original Marriage Certificate or Deed Poll document.
OWNERSHIP OF STUDENTS' WORK

The University reserves the right to retain at its own discretion the original or one copy of any drawings, models, designs, plans and specifications, essays, theses or other work executed by students as part of their courses, or submitted for any award or competition conducted by the University.

NOTICES

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

APPLICATION OF RULES

Any student who requires information on the application of these rules or any service which the University offers, may make enquiries from the Registrar.
Undergraduate Admission and Enrolment Procedure, Fees, Scholarships and Prizes
REQUIREMENTS FOR ADMISSION*

A person who seeks to become a candidate for any degree of Bachelor of the University must first have qualified for matriculation and have satisfied the requirements for admission to the particular course or subject chosen.

In addition to complying with these conditions candidates must be selected before being permitted to enrol in a course. In 1975 it will be necessary for the University to limit the number of students enrolling in undergraduate courses.

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

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

All enquiries regarding admission and enrolment should be directed to the Student Enquiries Section.

Section A

GENERAL MATRICULATION AND ADMISSION REQUIREMENTS

1. A candidate may qualify for matriculation by attaining in recognised matriculation subjects at one New South Wales Higher School Certificate Examination or at one University of Sydney Matriculation Examination a level of performance determined by the Academic Senate from time to time.

2. The level of performance required to qualify for matriculation shall be

(a) passes in at least five recognised matriculation subjects, one of which shall be English and three of which shall be at Level 2 or higher; and

(b) the attainment of an aggregate of marks, as specified by the Academic Senate, in not more than five recognised matriculation subjects, such marks being co-ordinated in a manner approved by the Senate.

* These requirements are currently under review. Students are advised to contact the Student Enquiries Section, First Floor, Administration Building, for the most recent information.
3. The following subjects, and such other subjects as may be approved by the Academic Senate from time to time, shall be recognised matriculation subjects:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Subject</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>Greek</td>
<td>Chinese</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Latin</td>
<td>Japanese</td>
</tr>
<tr>
<td>Science</td>
<td>French</td>
<td>Hebrew</td>
</tr>
<tr>
<td>Agriculture</td>
<td>German</td>
<td>Dutch</td>
</tr>
<tr>
<td>Modern History</td>
<td>Italian</td>
<td>Art</td>
</tr>
<tr>
<td>Ancient History</td>
<td>Indonesian</td>
<td>Music</td>
</tr>
<tr>
<td>Geography</td>
<td>Spanish</td>
<td>Industrial Arts</td>
</tr>
<tr>
<td>Economics</td>
<td>Russian</td>
<td></td>
</tr>
</tbody>
</table>

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

(a) his qualification includes a pass at the level indicated in the subject or subjects specified in Schedule A as course or subject prerequisites; or

(b) the requirements regarding these particular course or subject prerequisites as specified in Schedule A, have been met at a separate Higher School Certificate or University of Sydney Matriculation Examination.

5. Notwithstanding any of the provisions of Clauses 1 to 4, the Academic Senate may grant matriculation status to any candidate at the Higher School Certificate or University of Sydney Matriculation Examination who has reached an acceptable standard and may admit him to any course or subject.

NOTE:

1. For the purposes of clause 2(a), Mathematics and Science both passed at first level or second level full course shall together count as three subjects.

2. For the purposes of clause 2(b), Mathematics and Science taken either singly or together at first level or second level full course shall each count as one and one half subjects.
## SCHEDULE A — PREREQUISITES

<table>
<thead>
<tr>
<th>COURSE</th>
<th>COURSE PREREQUISITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>English at Level 2 or higher</td>
</tr>
<tr>
<td>Commerce</td>
<td>(a) Mathematics at Level 2S or higher AND (b) Either English at Level 2 or higher OR English at Level 3, provided that the candidate’s performance in this subject and his general level of attainment are at standards acceptable to the Academic Senate.</td>
</tr>
<tr>
<td>Engineering</td>
<td>(a) Science at Level 2S or higher AND (b) Either Mathematics at Level 2F or higher OR Mathematics at Level 2S, provided that the candidate’s performance in this subject and his general level of attainment are at standards acceptable to the Academic Senate.</td>
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<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>SUBJECT PREREQUISITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics I</td>
<td>As for Science</td>
</tr>
<tr>
<td>Chemistry I</td>
<td>Science at Level 2S or higher</td>
</tr>
<tr>
<td>General and Human Biology</td>
<td>Mathematics at Level 2F or higher</td>
</tr>
<tr>
<td>Geology I</td>
<td>Either Mathematics at Level 2F or higher OR Mathematics at Level 2S, provided that the candidate’s performance in the subject and his general level of attainment are at standards acceptable to the Academic Senate.</td>
</tr>
<tr>
<td>Higher Mathematics I</td>
<td>Mathematics at Level 2S</td>
</tr>
<tr>
<td>Mathematics I</td>
<td>As for Commerce</td>
</tr>
<tr>
<td>Economics I</td>
<td>Mathematics at Level 2S</td>
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<tr>
<td>Economics II</td>
<td>English at Level 2 or higher</td>
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<td>English I</td>
<td>French at Level 2 or higher</td>
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<tr>
<td>History I</td>
<td></td>
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<tr>
<td>French I</td>
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Section B

SUPPLEMENTARY PROVISIONS FOR MATRICULATION

1. Notwithstanding the provisions of Section A above, candidates may be accepted as "matriculated students" of the University under the following conditions subject to the approval of the Academic Senate:

(a) Any person who holds a diploma from the New South Wales Department of Technical Education, or any other Technical College which may from time to time be recognised by the University, may be admitted to the University as a "matriculated student" with such status as the Senate may determine, provided that, in the opinion of the Senate, the applicant's qualifications are sufficient for matriculation to the course nominated.

(b) The Senate may admit as a "matriculated student" to any course with such status as the Senate may determine in the circumstances:

(i) A graduate of any approved University.

(ii) An applicant who presents a certificate from a University showing that he has a satisfactory record and is qualified for entrance to that University, provided that in the opinion of the Senate there is an acceptable correspondence between the qualifying conditions relied upon by the applicant and conditions laid down for matriculation to the nominated course offered by the University of Wollongong.

(c) (i) Any person who has completed the first year of the course at the Royal Military College of Australia and submits a certificate from the Commandant to that effect may be admitted as a "matriculated student" of the University.

(ii) Any person who has completed a full course of at least three years' prescribed study at the Royal Military College of Australia and produces a certificate from the Commandant to that effect may be admitted as a "matriculated student" of the University with such status as the Senate may determine.

(d) Any person who has completed satisfactorily the passing out examination of the Royal Australian Naval College and submits a certificate from the Commanding Officer may be admitted as a "matriculated student" of the University.

(e) (i) Any person who has completed the first year of the course at the Royal Australian Air Force College and
submits a certificate from the Commandant to that effect, may be admitted as a "matriculated student" of the University.

(ii) Any person who has completed two years of the course at the Royal Australian Air Force College and submits a certificate from the Commandant to that effect, may be admitted as a "matriculated student" of the University with such status as the Senate may determine.

(f) An applicant who presents a certificate from another University showing that he is qualified for entrance to that University and setting out the grounds of such qualification, provided that in the opinion of the Academic Senate there is an acceptable correspondence between the qualifying conditions relied upon by the applicant and the conditions laid down for matriculation to the nominated course offered by the University of Wollongong.

2. (a) The Academic Senate may in special cases, including cases concerning persons of other than Australian education, declare any person qualified to enter a course as a "provisionally matriculated student" although he has not complied with the requirements set out above, and in so doing may prescribe the completion of certain requirements before confirming the person's standing as a "matriculated student". Students who satisfactorily complete these requirements will be permitted to count the courses so passed as qualifying for degree purposes.*

(b) Persons over the age of twenty-five years may be admitted to provisional matriculation status provided that—

(i) they have satisfactorily completed an approved course of systematic study extending over at least three years after passing the School Certificate Examination, or

Students admitted to an undergraduate course with provisional matriculation status, in order to establish their status as matriculated students and to be eligible to continue attendance in such courses, shall be required, unless otherwise exempted, to have attended regularly in the normal first year programme of the course in which they are enrolled, to have completed the class work and assignments required in that programme, to have taken the annual examinations in all subjects of that programme and to have passed the annual or deferred examinations in at least half the number of subjects of which the programme is comprised.
(ii) they satisfy the Academic Senate that they have reached a standard of education sufficient to enable them profitably to pursue the first year of the proposed course.

(c) Any applicant for provisional status may be required to take such examination as the Academic Senate may prescribe before such status is granted.

3. The Academic Senate may at its discretion permit a person, who does not satisfy the requirements for admission, to attend lectures in a subject or subjects at the University, on payment of the prescribed fees provided that such person shall not necessarily have the privileges of "matriculated students" and shall not be eligible to proceed to a degree.
ENROLMENT AND RE-ENROLMENT PROCEDURE

The enrolment procedure in 1975 for the different classes of undergraduate students is as follows:

FIRST ENROLMENTS

All applications for admission must be lodged with The Metropolitan Universities Admissions Centre, 13-15 Wentworth Avenue, Sydney (P.O. Box 7049, G.P.O., Sydney 2001), not later than:

(a) 5 p.m., Friday, 25th October, 1974, by all applicants other than those qualifying for admission by the 1974 New South Wales Higher School Certificate; or
(b) 5 p.m., Friday, 17th January, 1975, by applicants who, in 1974, have taken the New South Wales Higher School Certificate.

Students whose applications for enrolment are accepted will be required to complete their enrolment at a specified time before the start of Session 1. Fees must be paid on the day specified.* However, in special circumstances and provided class places are still available students may be allowed to complete their enrolment after the prescribed date, subject to the payment of a late fee.

RE-ENROLMENTS

All students enrolling other than for the first time should re-enrol by lodging a provisional re-enrolment form by 2nd November, 1974, and attending the University to complete re-enrolment, including the payment of fees, on days prescribed during the week commencing Monday, 24th February, 1975.

Students who are unable to attend the University to complete re-enrolment on the days prescribed should apply in writing to the Registrar for approval to re-enrol at a later date.

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

Enrolment must be completed during the prescribed enrolment period. Students who fail to comply with this requirement will incur a late fee of $10. For details of fee requirements, including late fee provisions, see under Fees.

No student is considered to have completed his enrolment until all fees and charges have been paid.

* Refer to p. 64
COURSE TRANSFERS

Students who are currently enrolled at the University and who wish to transfer to another first year course (including Stages I and II of the part-time courses) at the University should apply through the Metropolitan Universities Admissions Centre in the same manner as is required of new applicants.

Students wishing to transfer to later years (i.e. excluding the year/stage referred to above) of another course at the University should complete the "Application to Transfer Course" form which is available from the Student Enquiries Section, First Floor, Administration Building, or should make a written application to the Registrar. Such applications for course transfers should be lodged with the Registrar by Friday, 17th January, 1975.

Students whose applications to transfer are successful are required to comply with the enrolment procedures for the year/stage of the new course in which they expect to enrol. Unless otherwise instructed they must present the letter granting approval of the transfer to the enrolling officer.

Students who have not received advice regarding their application to transfer before the date on which they are required to enrol should check with the Registrar.

RESUMPTION OF COURSES

Students who have been granted leave of absence for 1974 should contact the Registrar by 17th January, 1975, for information on enrolment procedures.

All other students seeking to resume their studies after an absence of twelve months or more are required to apply for re-admission through the Metropolitan Universities Admissions Centre by 25th October, 1974.

Students re-enrolling in this way will normally be required to satisfy conditions pertaining to the course at the time of re-enrolment. This condition applies also to students who have been re-admitted to a course after exclusion under the rules restricting students re-enrolling.

MISCELLANEOUS SUBJECT ENROLMENTS

Applications from students to enrol for miscellaneous subjects (i.e. as students not proceeding to a degree or diploma) may be considered provided the Departmental Chairman of the Department offering the subject considers it will be of benefit to the student and there are facilities available. Only in exceptional cases will subjects taken in this way count towards a degree or diploma. Where a student is under exclusion he may not be enrolled in miscellaneous subjects unless given approval by the Academic Senate.
Application forms can be obtained by written application to the Registrar or from the Student Enquiries Section, First Floor, Administration Building. Application forms should be received by the Registrar by 17th January, 1975.

**Final Dates for Completion of Enrolment**

No enrolments will be accepted from *new students* after the end of the second week of session 1 (14th March, 1975) except with the express approval of the Registrar and the Departmental Chairman concerned; no *later year enrolments* will be accepted after the end of the fourth week of Session 1 (28th March 1975) without the express approval of the Registrar which will be given in exceptional circumstances only.
FEES

Students are required to meet the following fees and charges:

1. Penalty charges such as late fees, parking fines, etc.
2. Administrative charges such as "statement of record" fees, "review of result" fees or charges for examinations requiring special arrangements.
3. Cost of travel incurred by students attending practical work for courses in social work, teacher training etc.
4. Cost of travel incurred by external students attending residential schools.
5. Accommodation charges and cost of subsistence on excursions, field work etc.
6. Charges for special clothing or laundry costs.
7. Purchase of instruments or equipment.
8. Cost of handbooks and notes.
9. Fees and charges associated with the development and operation of unions, student associations, students' representative councils and other student activities.
10. Deposits and refundable fees.

Compulsory Fees

All registered undergraduates will be required to pay—

University Union—entrance fee ................................. $22
Sports Association—entrance fee ................................ $6
Student Activities Fees
  University Union—annual subscription ....................... $37
  Sports Association—annual subscription ................... $6
  Students' Representative Council—annual subscription $9
  Miscellaneous Fee—annual fee ................................. $2

Special Examination Fees

Deferred examination—$8 for each subject.
Examinations conducted under special circumstances—$11 for each subject.
Review of examination result—$11 for each subject.
Late Fees

First Enrolments

Fees paid after the prescribed enrolment period and before commencement of Session 1 ........................................ $10
Fee paid during the 1st and 2nd weeks of Session 1 ........................................... $20
Fees paid after the commencement of the 3rd week of Session 1 with the express approval of the Registrar ........................................... $40

Re-enrolments

Failure to attend enrolment centre during the prescribed enrolment period ........................................... $10
Fees paid after the commencement of the 3rd week of Session 1 to 31st March ........................................... $20
Fees paid after 31st March where accepted with the express approval of the Registrar ........................................... $40

Session 2—All enrolments

Fees paid in 3rd and 4th weeks of Session 2 ........................................... $20
Fees paid thereafter ........................................... $40

Withdrawal

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

2. Where notice of withdrawal from a course is received by the Registrar before the first day of Session 1 a refund of all fees paid will be made.

3. Where a student terminates for acceptable reasons a course of study within 30 days of the commencement of first session a refund of fees paid, in respect of the University Union Entrance and membership fees, the Students' Representative Council fee, the Sports Association fee, and the Miscellaneous Fee may be made as shown hereunder.

4. On notice of withdrawal within 30 days, a partial refund of fees is made on the following basis:
   - University Union—$9.25 in respect of each half session.
   - Students' Representative Council—$4.
   - Sports Association—a full refund.
   - Miscellaneous Fee—a full refund.
Extension of Time

Any student who is unable to pay fees by the due date may apply on the prescribed form to the Registrar for an extension of time. Such application must state clearly and fully the reasons why payment cannot be made and the extension sought, and must be lodged before the date on which a late fee becomes payable. Normally the maximum extension of time for the payment of fees is until 31st March.

Assisted Students

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

Failure to Pay Fees

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

No student is eligible to attend the annual examinations in any subject where any portion of his fees for the year is outstanding after the end of the fourth week of Session 2.

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

Cashier's Hours

The Cashier's office is open for the payment of fees from 9.30 a.m. to 4.30 p.m., Monday to Friday. The Cashier's office may be open for additional periods during the first two weeks of session. Details of these additional times may be obtained from notices posted at the Cashier's Office before the commencement of each session.
SCHOLARSHIPS

Australian Government Assistance

The Australian Government provides assistance to students by way of the Tertiary Education Assistance Scheme. Details of application procedure and further information is available from the Regional Director, N.S.W. State Office, Department of Education, 59 Goulburn Street, Sydney, 2000 (Telephone: 20929).

Teachers' College Scholarships

A limited number of Teachers' College Scholarships are available to allow students to undertake studies for a University degree, to be followed by a year devoted exclusively to training as a teacher. Benefits include the payment of University fees and a scholarship allowance.

Scholarship holders are expected to attend the University appropriate to the home address of their parents or legal guardian. The area appropriate to students whose training can be adequately undertaken at the University of Wollongong is bounded by a line drawn through and including Helensburgh, Braidwood and Moruya.

Further information, application forms and the Teachers' College Scholarship Handbook may be obtained from the Officer-in-Charge, Teacher Training Division, Department of Education and Science, Blackfriars Street, Chippendale, N.S.W., 2006.

Other Scholarships

It is anticipated that some companies in the Illawarra Area may offer scholarships to students of the University in 1975. However, at the time of printing, a full list of these scholarships is not available.

Students should contact the Student Enquiries Section for further information.
PRIZES

The Austin Keane Prize
Awarded to the student who most excels in the subject Applied Mathematics III.

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

The Australian Institute of Metals (Port Kembla Branch) Metallurgy Prize
Awarded each year to the graduate who has shown the best general proficiency throughout the full course.

The Peter Beckmann Memorial Prize
Awarded for meritorious performance in third year Chemistry.

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

The Illawarra Group of the Institution of Engineers, Australia, Prizes for Engineering
(1) Awarded to the full-time, final year student proceeding to an undergraduate degree in Engineering with the best academic record.

(2) Awarded to the part-time, final stage student proceeding to an undergraduate degree in Engineering with the best academic record.

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

The Australia Institute of Mining and Metallurgy (Illawarra Branch) Geology Prize
Awarded to the student proceeding to an undergraduate degree in Science (in a Geology course) with the best academic record.
The Metallurgical Society Award

Awarded to the student who most excels in the subject Metallurgy IIA or Metallurgy II.

The Gina Savage Prize

Awarded to the final year woman student proceeding to an undergraduate degree in Science with the best academic record.

The Marjory Brown Prize

Awarded to the final year woman student proceeding to an undergraduate degree in Arts with the best academic performance in fourth year English, when that course is being offered, and otherwise in third year English.
Undergraduate Degrees
1. INTRODUCTION

The following is an outline of the new degree arrangements approved for introduction in 1975. Intending students are advised that this is a general statement only of the new degree structure. Formal degree regulations will be available by the beginning of first session, 1975. Students must consult these before enrolling.

Courses of study will be available leading to the following degrees:

Bachelor of Arts (BA) where the only restriction in the programme is on the levels of subjects taken and pre- and co-requisites, if any.

Bachelor of Commerce (BCom) which specifies levels and a minimum number of subjects to be taken from those offered by or approved by the Departments of Accountancy and Economics and specified 100 level subjects.

Bachelor of Science (BSc) which specifies levels and a minimum number of subjects to be taken from those offered by or approved by member Departments of the Faculties of Mathematics and/or Science.

Bachelor of Engineering (BE) where there is a prescribed core curriculum as well as electives offered by Departments in the Faculties of Engineering, Commerce, Science and Mathematics.

Bachelor of Metallurgy (BMet) where the core subjects in the course are prescribed.

Most of the degrees may be completed by full or part-time study. They may be taken either as Pass or Honours degrees.

Below is a list of the fields of study in which students may normally major.

<table>
<thead>
<tr>
<th>Degree Offered</th>
<th>Fields of Study</th>
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<tbody>
<tr>
<td>(Pass and Honours)</td>
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<tr>
<td>ARTS</td>
<td>Accounting</td>
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<tr>
<td>(Bachelor of Arts—BA)</td>
<td>Biology</td>
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<td></td>
<td>Chemistry</td>
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<td></td>
<td>Civil Engineering</td>
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<td>Economics</td>
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<tr>
<td>Degree Offered</td>
<td>Fields of Study</td>
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<td>----------------------------------</td>
<td>----------------------------------------</td>
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<tr>
<td>(Pass and Honours)</td>
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<tr>
<td>ARTS (Bachelor of Arts—BA)</td>
<td>Electrical Engineering</td>
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<tr>
<td>(cont’d)</td>
<td>English</td>
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<td></td>
<td>French</td>
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<td></td>
<td>Geography</td>
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<td>Geology</td>
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<td>History</td>
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<td></td>
<td>History and Philosophy of Science</td>
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<td>Mathematics</td>
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<td></td>
<td>Mechanical Engineering</td>
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<td></td>
<td>Metallurgy</td>
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<td></td>
<td>Mining Engineering*</td>
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<td>Philosophy</td>
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<td>Physics</td>
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<td>Psychology</td>
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<td>Sociology</td>
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<tr>
<td>COMMERCE (Bachelor of Commerce—</td>
<td>Accounting</td>
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<tr>
<td>BCom)</td>
<td>Economics</td>
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<td></td>
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<tr>
<td>ENGINEERING (Bachelor of</td>
<td>Electrical Engineering</td>
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<td>Engineering—BE)</td>
<td>Civil Engineering</td>
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<td></td>
<td>Mechanical Engineering</td>
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<td></td>
<td>Mining Engineering*</td>
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<tr>
<td>METALLURGY (Bachelor of</td>
<td>Metallurgy</td>
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<td>Metallurgy—BMet)</td>
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<tr>
<td>SCIENCE (Bachelor of Science—BSc)</td>
<td>Biology</td>
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<td>Chemistry</td>
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<td>Geology</td>
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<td>Mathematics</td>
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<td>Physics</td>
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</tbody>
</table>

The course for the degree of Bachelor of Arts allows a student to enrol in any of the fields of study offered by the University and includes the possibility of obtaining professional qualifications in some areas (e.g. Accountancy, Psychology). However, if a student wishes to obtain a degree specific to his vocational interest he may prefer to enrol for that particular degree (e.g. Engineering, Commerce, Metallurgy, Science).

* Refer to Prescribed Courses, Prescription A, 5 Bachelor of Engineering —Mining Engineering.
Transfers from courses in Commerce, Engineering, Metallurgy and Science to Arts can be made readily. Transfers from Arts to other degrees may create difficulties in some cases because of the more detailed specification in programmes for degrees in Commerce, Engineering, Metallurgy and Science.

At the beginning of each year candidates enrol for a particular degree and select a course of study from the Schedule of Subjects (Arts, Commerce, Science) or Prescribed Courses (Engineering and Metallurgy) after consulting academic advisers. Depending on their interests, candidates may choose to specialise in a particular field of study, or they may undertake a programme covering more than one field of study. The choice of subjects will be limited by the exigencies of the time-table. Candidates may be permitted to change a programme of study during the year.

2. DEGREE REQUIREMENTS

COURSES IN ARTS, COMMERCE AND SCIENCE

Each degree requires a student to successfully complete subjects having a minimum total credit point value of 144 for a three-year pass course and 192 for a four-year honours course. Credit points are a measure of the work load required by each subject.

Each subject at first-year level is known as a “100-level subject”; each subject at second-year level as a “200-level subject”; each subject at third-year level as a “300-level subject”, and each subject at fourth-year level as a “400-level subject”. On satisfactory completion of a subject, a student is credited with the number of points allocated to that subject in the Schedule of Subjects.

A candidate whose programme of studies in any year is made up of subjects aggregating not less than 36 credit points is designated a full-time student for that year. A full-time student normally enrols in a programme not exceeding 48 credit points although approval may be given for a programme in excess of this limit.

The normal programme for a part-time student amounts to about 24 credit points per year although this may be increased in appropriate cases.

Except with special approval, a candidate is required to enrol in a programme of study made up of subjects aggregating not less than 12 credit points in his first year of enrolment and not less than 16 credit points in any subsequent year of enrolment.

The completion of requirements for the degree of Bachelor of Arts, Commerce and Science normally requires a minimum of three years’ full-time study (longer for part-time students). The
completion of the requirement of the honours degrees of Bachelor of Arts, Commerce and Science in general requires four years' full-time study (longer for part-time students).

**ARTS DEGREES**

**Pass Degree**

In order to complete a programme of study which qualifies for the award of the degree of Bachelor of Arts, a candidate must obtain, from the successful completion of subjects listed in the Schedule of Subjects, an aggregate of not less than 144 credit points of which:

(i) not less than 72 shall be obtained in respect of subjects other than 100-level subjects, and

(ii) not less than 24 shall be obtained in respect of 300-level subjects approved by the Academic Senate on the recommendation of the appropriate Departmental Chairman as providing a substantial and coherent study at the 300-level.

**Honours Degree**

In order to complete a programme of study which qualifies for the award of the degree of Bachelor of Arts with Honours, a candidate must obtain, from the successful completion of subjects listed in the Schedule of Subjects, an aggregate of not less than 192 credit points. Further,

(i) the programme of study shall be approved by the Academic Senate on the recommendation of the appropriate Departmental Chairman.

(ii) entry to the honours year shall be determined at the end of the equivalent of three years of full-time study by the Academic Senate on the recommendation of the appropriate Departmental Chairman on the basis of the student’s performance.

**COMMERCE DEGREES**

**Pass Degree**

In order to complete a programme of study which qualifies for the award of the degree of Bachelor of Commerce, a candidate must obtain, from the successful completion of subjects listed in the Schedule of Subjects, an aggregate of not less than 144 credit points, of which:

(i) not less than 96 shall be obtained in respect of subjects offered by or approved by the Departments of Accountancy and Economics in the Schedule of Subjects.

(ii) 84 (including 24 in respect of 300-level subjects) shall be obtained in respect of subjects offered by either the Department of Accountancy or the Department of Economics.
(iii) not less than 24 shall be obtained in respect of 300-level subjects (selected from those offered in the Schedule of Subjects) approved by the Academic Senate on the recommendation of the appropriate Departmental Chairman as providing a substantial and coherent study at the 300-level. 

(iv) Further, there shall be prescribed subjects as approved by the Academic Senate on the recommendations of the Departmental Chairmen of Accountancy and Economics. 

Honours Degree

In order to complete a programme of study which qualifies for the award of the degree of Bachelor of Commerce with Honours, a candidate must obtain, from the successful completion of subjects listed in the Schedule of Subjects, an aggregate of not less than 192 credit points. Further,

(i) the programme of study shall be approved by the Academic Senate on the recommendation of the appropriate Departmental Chairman.

(ii) entry to the honours year shall be determined at the end of the equivalent of three years of full-time study by the Academic Senate on the recommendation of appropriate Departmental Chairman on the basis of the student's performance.

SCIENCE DEGREES

Pass Degree

In order to complete a programme of study which qualifies for the award of Bachelor of Science, a candidate must obtain, from the successful completion of subjects listed in the Schedule of Subjects, an aggregate of not less than 144 credit points, of which:

(i) not less than 108 shall be obtained in respect of subjects selected from those offered by or approved by the member Departments in the Faculties of Mathematics and/or Science in the Schedule of Subjects; further, of the 108 credit points, not less than 54 shall be obtained in respect of subjects selected from one of the member Departments; the subjects making up the 108 credit points must be approved by the Chairman of one of the two faculties concerned.

(ii) not more than 60 shall be obtained in respect of 100-level subjects.

* The Academic Senate has approved the following prescribed subjects: Economics I and II, Accounting and Financial Management IA and IB, and Quantitative Methods I and II must be taken with the proviso that Accountancy students may elect to take an approved Mathematics subject in place of Quantitative Methods I and II subject to the approval of the Departmental Chairman of Accountancy.
(iii) not less than 24 shall be obtained in respect of 300-level subjects selected from the Schedule of Subjects approved by the Academic Senate on the recommendation of the appropriate Departmental Chairman as providing a substantial and coherent study at the 300 level.

Honours Degree

In order to complete a programme of study which qualifies for the award of the degree of Bachelor of Science with Honours, a candidate must obtain, from the successful completion of subjects listed in the Schedule of Subjects, an aggregate of not less than 192 credit points. Further,

(i) the programme of study shall be approved by the Academic Senate on the recommendation of the appropriate Departmental Chairman;

(ii) entry to the honours year shall be determined at the end of the equivalent of three years of full-time study by the Academic Senate on the recommendation of the appropriate Departmental Chairman on the basis of the student's performance.

ENGINEERING DEGREES

In order to complete a programme of study which qualifies for the award of the degree of Bachelor of Engineering, a candidate must successfully complete the subjects set out in Prescription A.

The prescriptions set out the courses that must be taken from the Faculty of Engineering and the options permitted from other Departments.

The completion of requirements for the degree in Engineering normally requires a minimum of four years full-time study (longer for part-time students). Honours are awarded on the basis of performance in the prescribed programme.

METALLURGY DEGREES

In order to complete a programme of study which qualifies for the degree of Bachelor of Metallurgy, a candidate must successfully complete the subjects set out in Prescription B.

The completion of the requirements for the degree in Metallurgy normally requires a minimum of four years full-time study (longer for part-time students). Honours are awarded on the basis of performance in the prescribed programme.

* Refer to p. 80.
† Refer to p. 85.
3. TRANSITIONAL ARRANGEMENTS

Students enrolled at Wollongong University College in 1974 may opt to complete their degrees under the regulations of the University of New South Wales, provided they so complete them in a specified time. Students wishing to transfer to degrees under the regulations prevailing at the University (of Wollongong) in 1975 may do so subject to their satisfying the requirements of the approved transitional arrangements.

4. SCHEDULE OF SUBJECTS FOR ARTS, COMMERCE AND SCIENCE COURSES

(This Schedule lists 100 level subjects only. A complete schedule will be available before the beginning of first session, 1975.)

Intending students are strongly urged to read the details of each subject in which they are interested, as set out in the entry for each Department in the Section "Description of Subjects". In particular, when selecting their programme of study they should ensure that they are complying with any special requirements concerning the subject or subjects which they wish to study beyond the first year (100 level).

The information in the columns headed "Prerequisites" and "Corequisites" indicate the minimum requirements to be met by students wishing to enrol in the various subjects.*

Students or intending students, who feel that they have good grounds for requesting waiver of a prerequisite or corequisite should present their case to the appropriate Departmental Chairman.

Under the Regulations a Departmental Chairman may dispense with the need to comply with a prerequisite or corequisite. However, prerequisites and corequisites have been carefully determined and waiver will be allowed only in cases where the Departmental Chairman is satisfied that the student has a background of study sufficient to take the subject profitably.

In the column headed "When Offered" the following abbreviations are used.

1 = first half-year
2 = second half-year
3 = full year

The University reserves the right to withdraw any subject or subjects at any time without notice.

* Final decisions have not yet been made with regard to prerequisites, corequisites, and subjects not to be counted together. It is expected that this information will be available from the Student Enquiries Section before the end of October, 1974.
## SCHEDULE OF SUBJECTS
### ARTS, COMMERCE AND SCIENCE COURSES
#### 100-LEVEL SUBJECTS—1975

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Department</th>
<th>Subject</th>
<th>Credit Points</th>
<th>Session Offered</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FACULTY OF ENGINEERING</strong></td>
<td></td>
<td>Applied Mechanics I</td>
<td>6</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Design I</td>
<td>6</td>
<td>2</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Materials I</td>
<td>6</td>
<td>2</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>FACULTY OF HUMANITIES</strong></td>
<td>Department of English</td>
<td>Modern English Literature</td>
<td>12</td>
<td>3</td>
<td>—</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>English Language Studies</td>
<td>12</td>
<td>3</td>
<td>—</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(* Students intending to proceed to Honours in English are required to complete both 100-level subjects)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Department of French</td>
<td>French IA</td>
<td>6</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>French IB</td>
<td>6</td>
<td>2</td>
<td>French 1A</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Department of History</td>
<td>English Social History</td>
<td>12</td>
<td>3</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Department of History and Philosophy of Science</td>
<td>History and Philosophy of Science I</td>
<td>12</td>
<td>3</td>
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<td>—</td>
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<tr>
<td></td>
<td>Department of Philosophy</td>
<td>Philosophy I</td>
<td>12</td>
<td>3</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>FACULTY OF MATHEMATICS</strong></td>
<td></td>
<td>Mathematics I</td>
<td>12</td>
<td>3</td>
<td>—</td>
<td>—</td>
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<tr>
<td><strong>FACULTY OF SCIENCE</strong></td>
<td>Department of Biology</td>
<td>General and Human Biology</td>
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<td>3</td>
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<tr>
<td></td>
<td>Department of Chemistry</td>
<td>Chemistry IA</td>
<td>6</td>
<td>1</td>
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<td>—</td>
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<tr>
<td></td>
<td></td>
<td>Chemistry IB</td>
<td>6</td>
<td>2</td>
<td>Chemistry 1A</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Department of Geology</td>
<td>Geology IA</td>
<td>6</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geology IB</td>
<td>6</td>
<td>2</td>
<td>Geology IA</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>Department of Physics</td>
<td>Physics I</td>
<td>12</td>
<td>3</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

1 Final decisions have not yet been made with regard to prerequisites, corequisites, and subjects not to be counted together. It is expected that this information will be available from the Student Enquiries Section before the end of October, 1974.
<table>
<thead>
<tr>
<th>Subject</th>
<th>Credit Points</th>
<th>Session Offered</th>
<th>Pre-requisites</th>
<th>Co-requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FACULTY OF SOCIAL SCIENCES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Department of Accountancy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting and Financial Management IA</td>
<td>6</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Accounting and Financial Management IB</td>
<td>6</td>
<td>2</td>
<td>A. &amp; F.M. IA</td>
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</tr>
<tr>
<td>Law in Society</td>
<td>6</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Business Law I</td>
<td>6</td>
<td>2</td>
<td>Law in Society</td>
<td>—</td>
</tr>
<tr>
<td><strong>Department of Economics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics I</td>
<td>6</td>
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<tr>
<td>Economics II</td>
<td>6</td>
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<td>—</td>
</tr>
<tr>
<td>Quantitative Methods I</td>
<td>6</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Quantitative Methods II</td>
<td>6</td>
<td>2</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Department of Geography</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to Human Geography</td>
<td>6</td>
<td>1</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Introduction to Physical Geography</td>
<td>6</td>
<td>2</td>
<td>Intro. to Human Geog.</td>
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<tr>
<td><strong>Department of Psychology</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology IA</td>
<td>6</td>
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<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Psychology IB</td>
<td>6</td>
<td>2</td>
<td>Psychology IA</td>
<td>—</td>
</tr>
<tr>
<td><strong>Department of Sociology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology I</td>
<td>12</td>
<td>3</td>
<td>—</td>
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</tr>
</tbody>
</table>

1 Refer to footnote, p. 78
PRESCRIPTION A
ENGINEERING COURSES

1 BACHELOR OF ENGINEERING—CIVIL ENGINEERING

YEAR I

<table>
<thead>
<tr>
<th>Session I</th>
<th>Session II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Mechanics I</td>
<td>Design I</td>
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<tr>
<td>Mathematics I</td>
<td>Mathematics I</td>
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<tr>
<td>Physics I</td>
<td>Physics I</td>
</tr>
<tr>
<td>Chemistry 1A</td>
<td>Materials I</td>
</tr>
</tbody>
</table>

YEAR II

| Mathematics II | Mathematics II |
| Exper. Engineering I | Materials II |
| Strength of Materials | Design II (A&B) |
| Thermodynamics I | Fluid Mechanics I |
| Applied Mechanics II | Applied Mechanics III |
| General Studies | General Studies |

YEAR III

| Applied Mechanics IV | Applied Mechanics V |
| Surveying I | Surveying II |
| Design III | Systems Analysis I |
| Structures I | Heat Transfer |
| Soil Mechanics I | Materials III |
| Fluid Mechanics I | Fluid Mechanics IIIB |
| General Studies | Survey Camp |
| General Studies | |

YEAR IV

| Thesis | Thesis |
| Systems Analysis II | Design IVB |
| Engg. Management I | Engg. Management II |

Plus at least 5 subjects from the following:*  

| Roads Engineering | Soil Mechanics II |
| Materials IV | Public Health Engg. |
| Structures II | Structures II |
| Systems Analysis III | Geology for Engrs. I |
| Thermodynamics II | Experimental Eng. II |
| Materials Handling Systems I | Town Planning |

1 The arrangement of subjects set out by year above applies to those enrolled as full-time students. Part-time students would take this programme over a longer period of time. Details of the sequence of subjects for part-time students may be obtained from the Departmental Chairman.

N.B. Full-time students should be aware that industrial experience is an integral part of the course.

* Subject to the approval of the Departmental Chairman of Civil Engineering.
# 2 Bachelor of Engineering—Electrical Engineering

## Full-Time Programme

### Year 1

<table>
<thead>
<tr>
<th>Session I</th>
<th>Session II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics I</td>
<td>Mathematics I</td>
</tr>
<tr>
<td>Physics I</td>
<td>Physics I</td>
</tr>
<tr>
<td>Engineering I:</td>
<td>Engineering I:</td>
</tr>
<tr>
<td>Applied Mechanics I</td>
<td>Design I</td>
</tr>
<tr>
<td>Chemistry 1A</td>
<td>Materials 1E</td>
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</table>

### Year 2

<table>
<thead>
<tr>
<th>Electrical Engineering Y2:</th>
<th>Electrical Engineering Y2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circuit Theory 1</td>
<td>Circuit Theory 2</td>
</tr>
<tr>
<td>Electronics 1</td>
<td>Energy Conv. &amp; Dist. 1</td>
</tr>
<tr>
<td></td>
<td>Laboratory 2</td>
</tr>
<tr>
<td>Physics:</td>
<td></td>
</tr>
<tr>
<td>Electromagnetism &amp; Optics</td>
<td>Electromagnetism &amp; Optics</td>
</tr>
<tr>
<td>Atomic &amp; Nuclear Physics &amp; Wave Mechanics</td>
<td>Atomic &amp; Nuclear Physics &amp; Wave Mechanics</td>
</tr>
<tr>
<td>Mathematics:</td>
<td></td>
</tr>
<tr>
<td>Algebra I</td>
<td>Algebra I</td>
</tr>
<tr>
<td>Analysis I</td>
<td>Analysis I</td>
</tr>
<tr>
<td>Complex Variable</td>
<td>Complex Variable</td>
</tr>
<tr>
<td>Engineering II:</td>
<td>Engineering III:</td>
</tr>
<tr>
<td>Strength of Materials</td>
<td></td>
</tr>
<tr>
<td>or Thermodynamics</td>
<td>Fluid Mechanics</td>
</tr>
<tr>
<td>or App. Mechanics II</td>
<td>or Materials II</td>
</tr>
<tr>
<td>General Studies</td>
<td>or App. Mechanics III</td>
</tr>
</tbody>
</table>

### Year 3

<table>
<thead>
<tr>
<th>Electrical Engineering Y3:</th>
<th>Electrical Engineering Y3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers 1</td>
<td>Control 2</td>
</tr>
<tr>
<td>Control 1</td>
<td>Electronics 3</td>
</tr>
<tr>
<td>Electronics 2</td>
<td>Energy Conv. &amp; Dist. 2</td>
</tr>
<tr>
<td>Laboratory 3A</td>
<td>Laboratory 3C</td>
</tr>
<tr>
<td>Laboratory 3B</td>
<td>Laboratory 3D</td>
</tr>
<tr>
<td>Mathematics:</td>
<td></td>
</tr>
<tr>
<td>Analysis II</td>
<td>Analysis II</td>
</tr>
<tr>
<td>Numerical Analysis</td>
<td>Numerical Analysis</td>
</tr>
<tr>
<td>or Mathematical Methods</td>
<td>or Mathematical Methods</td>
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<tr>
<td>Engineering III:</td>
<td>Engineering III:</td>
</tr>
<tr>
<td>Thermodynamics II</td>
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</tr>
<tr>
<td>or Materials IV</td>
<td>Heat Transfer</td>
</tr>
<tr>
<td>or Applied Mechanics IV</td>
<td>or Applied Mechanics V</td>
</tr>
<tr>
<td>General Studies</td>
<td>or Systems Analysis I</td>
</tr>
<tr>
<td></td>
<td>(or units listed under Engg. II)</td>
</tr>
<tr>
<td></td>
<td>General Studies</td>
</tr>
</tbody>
</table>

1. Subjects selected must be approved by the Departmental Chairman and must meet the prerequisite and corequisite requirements.

N.B. Full-time students should be aware that industrial experience is an integral part of the course.
YEAR 4 (1975 only)

Electrical Engineering Y4:
- Circuit Theory 3
- Energy Conv. & Dist. 3
- Computers 2
- Communications 1
- Laboratory 4
- Thesis
- General Studies

Electrical Engineering Y4:
- Elective A
  "  B
  "  C
  "  D
- Thesis
- General Studies

3 (i) BACHELOR OF ENGINEERING—ELECTRICAL ENGINEERING
PART-TIME PROGRAMME

Part-time students enrolling for the first time in 1975 will be enrolled in a part-time B.E. programme.

Stage I of this programme will comprise:

STAGE 1

Session I
- Mathematics 1
- Engineering 1:
  - Applied Mechanics 1

Session II
- Mathematics 1
- Engineering 1:
  - Design 1

3 (ii) BACHELOR OF SCIENCE (ENGINEERING) — ELECTRICAL ENGINEERING
PART-TIME PROGRAMME

No new enrolments will be accepted in this course. The programme for re-enrolling students is:

STAGE 2

Session I
- Physics 1
- Chemistry IA

Session II
- Physics 1
- Materials 1E

STAGE 3

Electrical Engineering S3:
- Circuit Theory 1
- Electronics 1
- Mathematics IIE
- General Studies

Electrical Engineering S3:
- Circuit Theory 2
- Laboratory 2
- Mathematics IIE
- General Studies

STAGE 4

Electrical Engineering S4:
- Electronics 2
- Computers 1
- Laboratory 3B
- Engineering II
- General Studies

Electrical Engineering S4:
- Electronics 3
- Energy Conversion & Distribution I
- Laboratory 3B
- Engineering II

2 With the approval of the Departmental Chairman, one Electrical Engineering elective may be replaced by a suitable equivalent subject offered by another department.
UNDERGRADUATE DEGREES

STAGE 5

Electrical Engineering S5:
- Control 1
- Circuit Theory 3
- General Studies

Electrical Engineering S5:
- Control 2
- Energy Conv. & Dis. 2
- Laboratory 3D
- Laboratory 3C
- Engineering III

STAGE 6 (in 1975 only)

Electrical Engineering S6:
- Circuit Theory 3
- Energy Conversion and Dist. 3
- Communications 1
- Laboratory 3D
- General Studies

Electrical Engineering S6:
- Control 2
- Laboratory 3C
- Elective A
- Elective B

1 Eng. II and Eng. III comprise the same units as for the Bachelor of Engineering course. Subjects selected must be approved by the Departmental Chairman.

4 BACHELOR OF ENGINEERING—MECHANICAL ENGINEERING

YEAR I

Session I
- Applied Mechanics I
- Mathematics I
- Physics I
- Chemistry IA

Session II
- Design I
- Mathematics I
- Physics I
- Materials I

YEAR II

Mathematics II
Exper. Engg. I
Applied Elec. I
Strength of Materials
Thermodynamics I
Applied Mechanics II
General Studies

Mathematics II
Material's II
Applied Elec. I
Design II (A&B)
Fluid Mechanics I
Applied Mechanics III
General Studies

YEAR III

Thermodynamics II
Control Systems I
Design III
Applied Mechanics IV
Fluid Mechanics II
Structures I
General Studies

Heat Transfer
Control Systems II
Systems Analysis I
Applied Mechanics V
Fluid Mechanics III
Exper. Engg. II
General Studies

The arrangement of subjects set out by year applies to those enrolled as full-time students. Part-time students would take this programme over a longer period of time. Details of the sequence of subjects for part-time students may be obtained from the Departmental Chairman.

N.B. Full-time students should be aware that industrial experience is an integral part of the course.
UNDERGRADUATE DEGREES

YEAR IV

Thesis
Systems Analysis II
Engg. Management I

Thesis
Design IVA
Engg. Management II

Plus at least 5 subjects from the following:*

Thermodynamics III
Applies Dynamics I
Structures II
Nuclear Power Technology I
Systems Analysis III
Applied Elect. II
Materials Handling Systems I

Fluid Mechanics IV
Applied Dynamics II
Structures III
Nuclear Power Technology II
Materials III
Applied Elect. II
Materials Handling Systems II

* Subject to the approval of the Departmental Chairman of Mechanical Engineering

5 BACHELOR OF ENGINEERING—MINING ENGINEERING

Before enrolling in a Mining Engineering programme students should consult the Departmental Chairman of Civil Engineering.

YEAR I

Session I
Applied Mechanics
Mathematics I
Physics I
Chemistry IA

Session II
Design I
Mathematics I
Physics I
Chemistry IB

6 BACHELOR OF SCIENCE (ENGINEERING)—CIVIL, ELECTRICAL, MECHANICAL AND MINING ENGINEERING

PART-TIME COURSE

New enrolments will not be accepted for the BSc(Eng) courses in 1975.

These courses are being phased out and will not be offered after 1980. They are to be replaced by a BE course. Students at present enrolled in the BSc(Eng) courses will be given the opportunity of transferring to the BE course if they so desire.
UNDERGRADUATE DEGREES

PRESCRIPTION B

METALLURGY COURSE

1 BACHELOR OF METALLURGY

FULL-TIME PROGRAMME

Year 1:
- Engineering I
- Mathematics I
- Physics I
- Chemistry I

Year 2:
- Chemistry II
- Mathematics II
- Design M
- Metallurgical Statistics
- General Studies
- Metallurgy Subjects: Level 1

Year 3:
- Applied Electricity 1/1
- General Studies
- Metallurgy Subjects: Level 2

Year 4:
- Engineering Management
- General Studies
- Metallurgy Subjects: Level 3
- Metallurgy Project
- Applied Science/Engineering Option

N.B. Full-time students should be aware that industrial experience is an integral part of the course.

2 BACHELOR OF METALLURGY

PART-TIME PROGRAMME

Stage 1:
- Engineering I
- Mathematics I

Stage 2:
- Physics I
- Chemistry I

Stage 3:
- Chemistry II
- Mathematics II
- Design M
- General Studies

Stage 4:
- Metallurgy Subjects: Level 1
- Metallurgical Statistics

Stage 5:
- Metallurgy Subjects: Level 2A
- Applied Electricity 1/1
- General Studies

Stage 6:
- Metallurgy Subjects: Level 2B
- Engineering Management
- General Studies
Description of Subjects
DESCRIPTION OF SUBJECTS

ACCOUNTANCY

Compulsory Subjects for Pass Degree under 1973 regulations

Accounting and Financial Management IA

First session subject

The basic concepts of financial model building and information systems, including the double-entry recording system, the accounting cycle, income measurement and financial reporting and an introduction to basic elements of taxation and auditing.

TEXTBOOKS


Accounting and Financial Management IB

Second session subject

Development of basic concepts introduced in Accounting and Financial Management IA including management accounting and operations research, corporate reporting, business finance, system design, elementary computer programming and applications.

TEXTBOOKS

As for Accounting and Financial Management IA.

Accounting and Financial Management IIA

First session subject

The design, production and use of accounting and other quantitative information in the planning and control of organisations, with particular reference to manufacturing activities and to long and short-term decision-making and financial planning.

TEXTBOOKS


Accounting and Financial Management IIB

Second session subject

A critical examination of concepts and problems in income measurement and financial reporting for various forms of undertaking with particular reference to corporate organisations, including associated aspects of auditing and taxation.

TEXTBOOKS

Accounting and Financial Management IIIA
First session subject

TEXTBOOKS

Accounting and Financial Management IIIB
Second session subject
Management Accounting: An advanced treatment of management accounting theory and applications including statistical cost analysis, cost accounting, control systems, budgetary and strategic planning and decision models.

TEXTBOOKS

Law in Society
First session subject
An introduction to the nature of law, the legal system, legal reasoning and the administration of justice, including the sociological and political implications of the legal environment.

TEXTBOOKS

Information Systems
First session subject
Management information systems, including data collection and processing, internal control and internal reporting. System design and computer applications.

TEXTBOOKS
DESCRIPTION OF SUBJECTS

**Business Finance**

*Second session subject*

The finance function, with particular reference to corporate financing, financial policy and financial management, including aspects of Australian financial institutions and the development of theories of financial structure.

**TEXTBOOKS**


**Optional Subjects for Pass Degree under 1973 regulations**

Note: The availability of optional subjects will depend on sufficient student enrolments and the availability of staff.

**Advanced Auditing**

*First session subject*

Advanced aspects of auditing, including auditing standards and responsibilities, problems of valuation and verification, organisation and application to various forms of accounting systems including computer systems, and investigations.

**TEXTBOOKS**


**Advanced Business Finance**

*First session subject*

Advanced aspects of corporate financial management, growth strategies, combinations and reorganisations; theories and models of capital structure and cost of capital.

**TEXTBOOKS**

No prescribed textbooks.

**Advanced Information Systems**

*Second session subject*

Advanced aspects of communication and information theory, system evaluation, design, implementation and management, accounting and associated computer applications, and software development.

**TEXTBOOKS**


**Business Law I**

*Second session subject*

Common Law and statutes relating to business, with special reference to the law of contracts, sale of goods and an introduction to the law relating to business organisations.

**TEXTBOOKS**


Statutes:


**Business Law II**

*First session subject*

The law relating to business organisations, with particular reference to companies, and other areas of law relevant to commerce, including banker and customer, hire purchase, insurance and bankruptcy.

**TEXTBOOKS**


or


Statute:

*Companies Act (N.S.W.) 1961 (as amended to date)*. Government Printer, Sydney.

**Business Organisation and Policy**

*Session to be determined*

The relationship of organisation theories and behavioural considerations to the functions of management and of accounting, with particular reference to organisation structures, communication, motivation, inter-personal and inter-group relationships and decision processes. Corporate strategy, policy formulation and integration of business functions.

**TEXTBOOKS**


Industrial Law
Session to be determined.
An examination of the Commonwealth and State systems, the relationship between them and the effect on industrial relations of the Australian Federal system; with particular reference to the constitution of the tribunals, their respective powers and the effect of awards, agreements and other regulatory activities.

TEXTBOOKS
O'Dea, R. Industrial Relations in Australia. 2nd ed. West, 1970.

Taxation Law
Second session subject
Income tax law and practice.

TEXTBOOKS

Compulsory Subjects for Honours Degree under 1973 regulations

Accounting and Financial Management III (Honours)
An extension of the work included in the subjects Accounting and Financial Management IIIA and IIIB, and an introduction to the nature of research, theory formation and validation.

TEXTBOOKS*
No prescribed textbooks.

Accounting Theory

TEXTBOOKS*
No prescribed textbooks.

Current Developments in Accounting Thought—Financial
Review of objectives and functions of external reporting with particular reference to problems of periodic income measurement, value and valuation, and communication. Evaluation of accounting measurement and valuation methods, including historical cost, general price level account-

*Reading is required from a wide variety of references, including books and journal articles. Specific recommendations may be obtained from the Accountancy Department.
ing, current value and relative price change accounting models. Contemporary developments in accounting thought arising from alterations in social attitudes, the law and professional pronouncements.

TEXTBOOKS*
No prescribed textbooks.

Current Developments in Accounting Thought—Managerial
The conceptual basis of managerial accounting and information systems. Management systems and the management process. Business objectives; multiple and conflicting goals. Qualification of objectives. Information theory and communication within organizations. Developments in decision models, project and period planning, budgetary models and control systems, and measurement of performance, including motivation and behavioural considerations.

TEXTBOOKS*
No prescribed textbooks.

Optional Subjects for Honours Degree under 1973 regulations
Note: The options to be offered in any session will depend on the availability of staff and sufficient student enrolments.

Management Planning and Control

TEXTBOOKS*
No prescribed textbooks.

Studies in Taxation
The statutory and common law foundations of the Federal income tax system. Common Law concepts of income and capital and statutory modifications and interpretations of these concepts. Legal and accounting approaches to taxable income. Tax and estate planning concepts. Tax avoidance and evasion. Tax incidence and equity. An examination of tax policies, provisions and problems relating to special entities—companies, partnerships, trusts, superannuation schemes—and special provision areas, such as primary producers, mining and petroleum industries, non-residence, foreign-controlled companies and royalty provisions. International aspects of Australian income tax including double tax agreements.

TEXTBOOKS*
No prescribed textbooks.

*Reading is required from a wide variety of references, including books and journal articles. Specific recommendations may be obtained from the Accountancy Department.
DESCRIPTION OF SUBJECTS

International Accounting

TEXTBOOKS*
No prescribed textbooks.

History and Development of Accounting Thought

TEXTBOOKS*
No prescribed textbooks.

Issues in Financial Accounting and Reporting
Contemporary issues in the field of financial accountability to external parties, particularly in respect of corporate organisations. Legal, institutional, and professional reporting requirements. Financial accounting aspects of short term assets including inventories and long-lived assets and liabilities including intangibles, leases, pensions, long service leave and tax allocation. Proposals for improvement in external reporting.

TEXTBOOKS*
No prescribed textbooks.

Investment Analysis and Management

TEXTBOOKS*
No prescribed textbooks.

*Reading is required from a wide variety of references, including books and journal articles. Specific recommendations may be obtained from the Accountancy Department.
DESCRIPTION OF SUBJECTS

BIOLOGY

General and Human Biology
Double session subject (84 hrs. lectures, 28 hrs. tutorials and 56 hrs. practical).

This is an introductory course for students intending to proceed in the biological sciences.


TEXTBOOKS

Requirements for Practical Work: Students will be notified of equipment required for practical work. This must be purchased before the first practical class.

CHEMISTRY

INTRODUCTORY (LEVEL I) COURSES

Chemistry Level I

Part 1A. Introductory Physical and General Chemistry.
First session subject (28 hrs. lectures, 14 hrs. tutorials and 42 hrs. practical).

Atomic theory and structure, chemical bonding, shapes of molecules. Particle theory of matter, gases and liquids, thermodynamics and thermochemistry.

Part 1B. Introductory Organic and Physical Chemistry.
Second session subject (28 hrs. lectures, 14 hrs. tutorials and 42 hrs. practical).


TEXTBOOKS

* Not required for Part 1A.

REFERENCE BOOK
MAJOR COURSES IN CHEMISTRY

All units of the Chemistry course are single session subjects which consist of 28 hours lectures, 14 hours tutorials and 42 hours practical. There are four second level units and eight third level units.

Students taking a single major in Chemistry may not take more than two of the following third level units except by permission of the Head of Department:

- Inorganic Chemistry III
- Spectroscopy III
- Analytical Chemistry IIIA
- Analytical Chemistry IIIB

As course sequences are currently under review students are advised to contact the Department for further information about the units required for single and double majors.

No reference books are listed for the Chemistry units. Students will be provided with a list of recommended reading at the commencement of each course.

SECOND LEVEL CHEMISTRY SUBJECTS

Physical Chemistry IIA

Single session subject

Introductory Quantum Chemistry: Applications of quantum theory to the extra-nuclear structure of atoms. Applications to other chemical and physical systems. Molecular energies from both quantum mechanical and classical viewpoints.

Kinetic Theory: The study of rate processes. Collision theory and transition state theory. Applications to chemical systems.

TEXTBOOKS


Physical Chemistry IIB

Single session subject


TEXTBOOK


Inorganic Chemistry II

Single session subject


TEXTBOOKS

Organic Chemistry II

*Single session subject*


**TEXTBOOKS**


#### THIRD LEVEL CHEMISTRY SUBJECTS

**Organic Chemistry IIIA**

*Single session subject*

Stereochemistry. Heterocyclic chemistry. Non-benzenoid aromatic and condensed ring systems.

**TEXTBOOKS**


**Organic Chemistry IIIB**

*Single session subject*

Synthetic organic chemistry. Natural products and biosynthesis.

**TEXTBOOKS**


**REFERENCE BOOK**


**Physical and Theoretical Chemistry IIIA**

*Single session subject*

Reaction kinetics and reaction mechanisms. Correlation of molecular structure with chemical reactivity. Theoretical chemistry of simple molecules. Theoretical chemistry applied to organic molecules. Quantum mechanical theory of electronic structure and bonding.

**TEXTBOOKS**


Wiberg, K. *Physical Organic Chemistry*. Wiley, 1964,
or

Physical Chemistry III

*Single session subject*
Thermodynamics of non-ideal systems. Surface chemistry and colloids. Chromatography.

**TEXTBOOKS**

**Spectroscopy III**

*Single session subject*

**TEXTBOOKS**

**Inorganic Chemistry III**

*Single session subject*
Coordination chemistry: The coordinate bond; stereochemistry; types of coordination compounds. Ligand Field Theory: Absorption spectra; Orgel diagrams; Jahn Teller effect. Magnetochemistry: The magnetic properties of the free ion; effect of crystal fields on magnetic properties; molecular anti-ferromagnetism.

**TEXTBOOKS**

**Analytical Chemistry IIIA**

*Single Session Subject*
Introduction to analytical procedures, ionic equilibrium studies as applied to analytical chemistry, methods of analysis.

**TEXTBOOKS**

**Analytical Chemistry IIIB**

*Single Session Subject*
Electro analytical chemistry, analytical spectroscopy, radiochemistry, trace analysis.
DESCRIPTION OF SUBJECTS

TEXTBOOKS

**Second Level Chemistry for Metallurgists**
Comprises *Physical Chemistry IIA* and *Chemistry IIM*.

**Physical Chemistry IIA**
*Single session subject*

*Introductory Quantum Chemistry*: Applications of quantum theory to the extra-nuclear structure of atoms. Applications to other chemical and physical systems. Molecular energies from both quantum mechanical and classical viewpoints.

*Kinetic Theory*: The study of rate processes. Collision theory and transition state theory. Applications to chemical systems.

**Chemistry IIM** *(for Metallurgy students only)*
*Single session subject*

*Analytical Procedures*: Sampling, solutions, separation methods, analysis techniques, statistical treatment of data.

*Methods of Analysis*: Gravimetric, volumetric—acid-base, redox, complexometry—spectroscopy, electrochemistry, extraction techniques.

**TEXTBOOK**
CIVIL, MECHANICAL AND MINING ENGINEERING

The following courses are at present under review.

In 1975, it is anticipated that new requirements shall apply to the Bachelor of Science (Engineering) courses in Civil, Mechanical and Mining Engineering, primarily as a result of changing Professional requirements in 1980, as follows:

(1) no candidate shall be permitted to enrol or re-enrol in the BSc(Eng) course, unless he was enrolled in it prior to January 1st, 1975.

(2) a candidate who was enrolled in the course prior to January 1st, 1975, may either

   (a) transfer to new part-time or full-time course with standing in accordance with the transition arrangements established

   OR

   (b) continue in the course for as long as he has passed sufficient subjects in the course to enable him to complete all requirements for admission to the degree before the end of 1979 academic year.

YEAR I

Applied Mechanics I
First session subject

(a) Engineering Mechanics

Two dimensional force systems; laws of equilibrium; concurrent and non-concurrent forces; funicular polygon; statics applied to rigid bars; statics of pin-jointed frames, analytical and graphical treatment; concepts of shear force, axial force and bending moment; simple states of stress; three-dimensional statics; composition and resolution of forces; general laws of equilibrium; dynamics of a particle; graphical and analytical analysis of velocities, accelerations; relative motion and energy conservation. Introduction to rigid body dynamics.

(b) Introduction to Computers and Systems

Computers: Information-concepts, representation storage and manipulation in automatic systems; algorithms—transformation of information by algorithms, expression in flow charts and languages, iterative and recursive algorithms; computer organisation—user languages and hardware organisation, number and data representation, instruction sets, basic organisation, computer components, present and future uses of computers.

Systems: General introduction to systems involving consideration of the basic concepts of systems, system components and quantities involved. These concepts to be related to the phenomena within the experience of the students and to be illustrated by case histories and engineering examples.

PRESCRIBED TEXTBOOKS
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION

One three-hour paper at end of course and class assignments.
DESCRIPTION OF SUBJECTS

Design I
Second session subject

(a) Principles of Engineering Drawing and Design
Limits and fits; elementary rivetted, bolted and welded connections; couplings and bearings; brakes, clutches, power screws and springs. Conceptual design.

(b) Engineering Technology
Materials: Classification of materials in common use, occurrence of raw materials, processing of raw materials, refinements and properties of materials. Manufacture: description and appraisal of the processes classified as forming from liquid or solid, material removal, materials joining. Machines: analysis of the primary functions of the machine tools and an appraisal of their limitations; principles of operations of common machine tools and illustration of their use.

PRESCRIBED TEXTBOOKS

REFERENCE BOOKS
Grant, H. E. Engineering Drawing with Creative Design. 2nd ed. McGraw-Hill.
Krick, E. V. An Introduction to Engineering and Engineering Design. 2nd ed. Wiley.

EXAMINATION
One two-hour paper on Section (b) at end of course. Section (a) will be assessed by class assignments and a Conceptual Design Project.

Materials I
Second session subject
Atomic theory, stoichiometry and structure; states of matter; energy concepts including bond and lattice energies. Crystalline nature of metals and its significance; solidification of metals; phase equilibria in metallic alloys; heat treatment of some ferrous and non-ferrous alloys; plastic deformation of crystalline materials; introduction to the study of the mechanical properties of metals and non-metals.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One three-hour paper at end of course.
DESCRIPTION OF SUBJECTS

YEAR II

Applied Mechanics II
First session subject
Kinematics of rigid bodies. Dynamics of rigid bodies in plane motion; moments of inertia, equations of motion, dynamic equilibrium; momentum and impulse, energy analysis. Dynamics of simple mechanisms. Introduction to mechanical vibrations.

PRESCRIBED TEXTBOOKS
Hirschhorn, J. Dynamics of Machinery. Nelson.

REFERENCE BOOKS
Church, A. H. Mechanical Vibrations. Wiley.
Meriam, J. L. Dynamics. Wiley.

EXAMINATION
One two-hour paper at end of course.

Applied Mechanics III
Second session subject
System classification—ordinary and partial differential equations that commonly occur in engineering problems. Circuit diagrams for mechanical systems; "through" and "across" variables; equilibrium analysis; block diagrams; reduction of equations; concept of state; free and forced response; system functions; stability; sinusoidal response; Fourier Series and Integral; Laplace Transform applied to linear systems.

PRESCRIBED TEXTBOOK

REFERENCE BOOKS
Haberman, C. M. Engineering Systems Analysis. Merrill.
Meriam, J. L. Dynamics. Wiley.
Salvadori, M. G. & Schwarz, R. J. Differential Equations in Engineering Problems. Prentice-Hall.

EXAMINATION
One two-hour paper at end of course.

Design II
Second session subject
(a) Machinery: Permissible stresses; probability of failure and safety factors. Machine elements including shafts, clutches, brakes, springs, power screws and bearings.
(b) Steel Structures: Bolted, riveted and welded connections; simple and built up beams, trusses and columns.

PRESCRIBED TEXTBOOKS
Gorenc, B. E. Steel Designer's Handbook. A. & R.
S.A.A. CA1. Steel Structures; CA8 Arc Welding in Building Construction; CA34 Loading Code (Parts I and II); B249 Design of Shafts for Cranes and Hoists.
REFERENCE BOOK

EXAMINATION
No formal examination. Assessment will be based on drawing office assignments.

**Experimental Engineering I**
*First session subject*

**PRESCRIBED TEXTBOOK**
Nil.

**REFERENCE BOOKS**
To be advised during course.

**EXAMINATION**
No formal examination. Assessment will be based on laboratory reports all of which are compulsory.

**Fluid Mechanics I**
*Second session subject*
Review of physical properties of fluids; fluid statics and manometry; continuity and momentum equations; rotation and vorticity; equations of motion; steady flow energy equation; fluid flow measurements.

**PRESCRIBED TEXTBOOK**

**REFERENCE BOOK**

**EXAMINATION**
One two-hour paper at end of course.

**Materials II**
*Second session subject*
Materials in engineering design, including—standard specification and acceptance tests, measurement of fatigue and impact strengths and hardness, notch sensitivity, application of criterions of failure.

**PRESCRIBED TEXTBOOK**
Nil.

**REFERENCE BOOKS**
Relevant standards covering specifications and acceptance tests—list provided during course.

**EXAMINATION**
One two-hour paper at end of course.
Strength of Materials
First session subject
Components of stress and strain; two-dimensional stress systems; torsion of circular shafts; springs; flexure and deflexion of beams; structures; slope deflexion equation; strain energy; frame structures.

PRESCRIBED TEXTBOOK

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

Thermodynamics I
First session subject

PRESCRIBED TEXTBOOK

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

YEAR III

Applied Mechanics IV
First session subject

PRESCRIBED TEXTBOOK

REFERENCE BOOKS
Haberman, C. M. Engineering Systems Analysis. Merrill.
EXAMINATION
One two-hour paper at end of course.

Applied Mechanics V
Second session subject

PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

Control Systems I
First session subject
Principles and techniques applicable to the analysis and design of feedback control systems with particular application to industrial processes. Modelling of control systems. Basic control actions, time domain and frequency domain analysis of linear systems, stability analysis, Nyquist Criterion, Bode Diagrams, Nichols Charts. Analogue computers.

PRESCRIBED TEXTBOOK
Ogata, K. Modern Control Engineering. Prentice-Hall.

REFERENCES BOOKS
Kuo, B. C. Automatic Control Systems. Prentice-Hall.

EXAMINATION
One two-hour paper at end of course.

Control Systems II
Second session subject

PRESCRIBED TEXTBOOK
Ogata, K. Modern Control Engineering. Prentice-Hall.

REFERENCES BOOKS
De Russo, P. M. et al. State Variables for Engineers. Wiley.
Kuo, B. C. *Automatic Control Engineering*. Prentice-Hall.
Ogata, K. *State Space Analysis of Control Systems*. Prentice-Hall.

EXAMINATION
One two-hour paper at end of course.

### Design III

*First session subject*

(i) *Experimental methods*: The application of models and analog methods in design for both static and dynamic loadings; to include photoelastic, Moiré and strain gauge techniques.

(ii) *Optimization and computers*: The application of computers to design; computer simulation and optimizing techniques.

(iii) *Concrete structures*: Reinforced concrete elements, including slabs, beams, columns and foundations.

**PRESCRIBED TEXTBOOKS**

C. & C.A. *Australian Reinforced Concrete Design Handbook*.
S.A.A. CA2 *Concrete in Buildings; CA34 Loading Code* (Parts 1 & 2).

**REFERENCE BOOK**

Zienkiewicz, O. C. & Hollister, G. S. *Stress Analysis*. Wiley.

EXAMINATION
No formal examination. Assessment will be based on drawing office assignments.

### Design IV

*Second session subject*

Either

**Design A (Process and industrial machinery)**

Topics covered are selected from the following areas:
Rolling mills, air pollution control equipment, internal combustion engines, pumping equipment, blowers and compressors.

or

**Design B**

(i) *Steel structures*: Design of portal frames and mill buildings. Introduction to plastic design. Selected topics will be considered from the following areas: suspension and continuous girder bridges; transmission towers and guyed structures.

(ii) *Concrete structures*: Further design of concrete columns and continuous slabs. Design of pre- and post-stressed concrete structures.

In both Design A and Design B, the design and preparation of working drawings for selected topics will be required.

**PRESCRIBED TEXTBOOKS**

**Design A**
Nil.

**Design B**

Cowan, H. J. & Smith, P. R. *The Design of Reinforced Concrete*. A. & R.
S.A.A. CA1 *Steel Structures*; CA2 *Concrete in Buildings*; CA8 *Arc Welding*
DESCRIPTION OF SUBJECTS

in Building Construction; CA34 Loading Code (Parts 1 & 2); CA35 Prestressed concrete; CA45 High Strength Bolting.

REFERENCE BOOKS
Design A and Design B
To be advised during course, depending on projects undertaken.

EXAMINATION
No formal examination. Assessment will be based on drawing office assignments.

Experimental Engineering II
Second session subject
Testing of reciprocating and rotodynamic machines: refrigeration plant nozzles; heat exchangers.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
No formal examinations. Assessment will be based on laboratory reports all of which are compulsory.

Fluid Mechanics II
First session subject

PRESCRIBED TEXTBOOK

REFERENCE BOOK

EXAMINATION
One two-hour paper at end of course.

Fluid Mechanics III
Second session subject
Students must take either Part A or Part B of this subject.


PRESCRIBED TEXTBOOK
Nil.
REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.


PRESCRIBED TEXTBOOK

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

**Heat Transfer**

*Second session subject*

One and two-dimensional steady state conduction; free and forced convection; radiation; combined heat transfer mechanics and applications.

PRESCRIBED TEXTBOOK

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

**Materials III**

*Second session subject*

Mechanical behaviour of materials; non-destructive test procedures; concrete technology.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.
Soil Mechanics I
First session subject

PRESCRIBED TEXTBOOKS
Lambe, T. W. Soil Testing for Engineers. Wiley.

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

Structures I
First session subject
Analysis of statically indeterminate structures; shells; plastic analysis of steel structures; introduction to two-dimensional elasticity; approximate methods.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One three-hour paper at end of course.

Surveying I
First session subject
Linear measurements, chain surveying; levelling; measurement of angles; traverse surveys and computations; horizontal and vertical curves.

PRESCRIBED TEXTBOOKS
Seven Figure Mathematical Tables. Chambers.

REFERENCE BOOKS
Sandover, J. A. Plane Surveying. Arnold.

EXAMINATION
One two-hour paper at end of course and assignments.
DESCRIPTION OF SUBJECTS

Surveying II
Second session subject
Indirect measurements of distance, electronic methods; topographic surveys, tacheometry, plane tabling; photogrammetry, radial line plotting, stereoscopy; earthwork calculations.

PRESCRIBED TEXTBOOKS
As for Surveying I.

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course and assignments.

Thermodynamics II
First session subject

PRESCRIBED TEXTBOOKS
or

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

YEAR IV

Applied Dynamics I
First session subject
Kinematics of particles and rigid bodies in three dimensions. Three dimensional dynamics of rigid bodies; inertia tensor; Euler's equations of motion. Relativistic dynamics. Dynamic analysis of mechanisms.

PRESCRIBED TEXTBOOKS

REFERENCE BOOKS
Holowenko, A. R. *Dynamics of Machinery*. Wiley.
Mable, H. H. & Ocvirk, F. W. *Mechanisms and Dynamics of Machinery*. Wiley.
McCuskey, S. W. *Introduction to Advanced Dynamics*. Addison-Wesley.
EXAMINATION
One two-hour paper at end of course.

Applied Dynamics II
Second session subject
Lagrangian Dynamics and Hamilton's Principle applied to particles and rigid bodies; holonomic and non holonomic constraints; dynamics of continuous systems; introduction to statistical mechanics.

PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
McCuskey, S. W. Introduction to Advanced Dynamics. Addison-Wesley.

EXAMINATION
One two-hour paper at end of course.

Engineering Management I
First session subject
Theory and practice of organisation and industry; general principles of law of contract.

PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

Engineering Management II
Second session subject
Industrial relations. Introduction to cost accounting.

PRESCRIBED TEXTBOOK
To be advised.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

Fluid Mechanics IV
Second session subject
DESCRIPTION OF SUBJECTS


PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
Pao, R. H. F. Fluid Dynamics. Merrill.

EXAMINATION
One two-hour paper at end of course.

Geology for Engineers
Civil Engineering Elective
Second session subject
Rock forming minerals, clay minerals; rock classification and properties; structural geology; groundwater; application of geology and geophysics in engineering practice.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour examination at end of course.

Materials IV
First session subject
Further work on mechanical behaviour of metals and non-metals; behaviour of materials in electromagnetic fields; metallic and ceramic phases and their properties; equilibrium diagrams.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during the course.

EXAMINATION
One three-hour paper at end of course.

Materials Handling Systems 1
First session subject
Principles of granular mechanics; packings; flow patterns and properties; measurement of flow properties in relation to Hopper design; stress analysis of bulk solids and determination of Hopper configurations.
PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS

EXAMINATION
One two-hour examination at end of course.

**Materials Handling Systems II**
*Second session subject*
Design and performance of conveyor systems; forced and free flow of granular materials. Two phase flow; system identification and optimization applied to bulk handling systems.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
Selected research papers.

EXAMINATION
One two-hour paper at end of course.

**Nuclear Power Technology I**
*First session subject*
Nuclear processes, fission and energy deposition, nuclear reaction rates, fuel cycles and nuclear reactor types. Primary and secondary radiation sources, multiplication slowing down and diffusion of neutrons, criticality conditions and reactivity changes with burnup. Fine scale flux in fuel element lattices, effects of control rods and reflectors. Delayed neutrons, point reactor neutron kinetics, and reactor control.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

**Nuclear Power Technology II**
*Second session subject*
The thermodynamics of nuclear power systems. The special nuclear, thermal and cost characteristics of gas cooled, pressurized water, boiling water and liquid metal fast reactor systems. Isotopic power generators, process heat and other reactor applications.

PREScribed TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

**Public Health Engineering**
*Second session subject*
Process of decomposition or decay; chemical and biochemical measurements, basic principles of the treatment of polluted waters. Water supply schemes; principles and practice of water treatment; sewage systems, sewage treatment and disposal; refuse disposal.

PREScribed TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

**Roads Engineering**
*First session subject*
Road location and surveys, road design standards, types and functions of pavements, construction methods, earthworks and earth moving machinery. Construction planning and scheduling. Road drainage requirements. Economic analysis and costing. Transport systems and communication networks.

PREScribed TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
Assessment will be based on class examinations held during course.

**Soil Mechanics II**
*Second session subject*
PREScribed TEXTBOOKS
Terzaghi, K. *Theoretical Soil Mechanics*. Wiley.

REFERENCE BOOKS
Scott, R. F. *Principles of Soil Mechanics*. Addison-Wesley.
*Soil Mechanics for Road Engineers*. HMSO.

EXAMINATION
One three-hour paper at end of course.

**Structures II**
*First session subject*
Experimental structural analysis; indirect and direct model analysis. Structural similitude. Limit analysis of steel structures.

PREScribed TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

**Structures III**
*Second session subject*
Topics will include the following: Stiffness and flexibility methods of analysis of indeterminate structures; dynamics of structures; shells; finite element analysis; variational principles.

PREScribed TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

**Systems Analysis I**
*First session subject*
Linear programming; network analysis; dynamic programming; queuing theory.

PREScribed TEXTBOOK
REFERENCE BOOKS
Rosenbrock, H. & Storey, S. *Computational Techniques for Chemical Engineers*. Pergamon.

EXAMINATION
One two-hour paper at end of course.

**Systems Analysis II**
*Second session subject*
System optimization; variational methods; random data analysis; signal theory; stochastic processes.

PRESCRIBED TEXTBOOK
Nil.

REFERENCE BOOKS
To be advised during course.

EXAMINATION
One two-hour paper at end of course.

**Systems Analysis III**
*First session subject*

PRESCRIBED TEXTBOOK

REFERENCE BOOKS

EXAMINATION
One two-hour paper at end of course.

**Thermodynamics III**
*First session subject*

PRESCRIBED TEXTBOOK
Nil.
REFERENCE BOOKS
Tribus, M. *Thermostatics and Thermodynamics*. Van Nostrand.
Wark, K. *Thermodynamics*. McGraw-Hill.

EXAMINATION
One two-hour paper at end of course.

*The following is for the Metallurgy Course only:*

**Design M**
*Double session subject*
Moving loads; influence lines for beams; permissible stresses; design of welded plate web girder; project.

*The following are for the Mining Engineering Course only:*

**Geology for Engineers**
Practical work will include introductory mineralogy, petrology (including weathered rocks) and introductory mapping. Field work (two days) will be a necessary part of the practical work. Satisfactory reports of the practical work must be completed.

**TEXTBOOKS**

or

or

**REFERENCE BOOKS**

Mining Engineering I

Double session subject


Mining and Mineral Process Engineering

Double session subject


Engineering Surveying

Double session subject


Part B: Levelling (other methods). Linear measurement (electronic). Applications of survey techniques; control surveys, provision of information for design, setting out engineering works, etc. Outline of photogrammetry.

Geology for Mining Engineers

Double session subject

Mining Engineering II  
*Double session subject*

Mining atmosphere, gas, dust, spontaneous combustion, explosions, fires, mine rescue and recovery organization. Mine ventilation properties of mine air fans, air flow, shock losses, thermodynamics. Transport of materials, flow of bulk solids, chute and storage design, conveyors, tracked and trackless transport, head frames, shaft conveyances, wire ropes, oil and slurry pipe lines. State of stress in earth’s crust, subsidence, strata control, rock bursts, physical properties of rocks.


Mineral Processing I  
*Double session subject*


Mine Surveying and Control Engineering  
*Double session subject*

Surveying techniques in the development and exploitation of mineral resources and the assessment of mineral properties. Tunnel surveys; transfer of azimuth; bore hole surveying; stope and ore reserves surveys; special mine surveys; mine survey office organization. Stereographic projection. Organization and programming of mining methods or techniques. Method of production control and grade control. Mathematical models of mining methods.

Mineral Industry Elective Project  
*Double session subject*

Elective may include mineral process engineering; statistics; sampling and valuation; rock mechanics; mine and treatment plant design; minerals and petroleum production engineering; selected courses from other Schools.
ECONOMICS

Economics I
First session subject (Four class hrs. per week)
The course consists of two parts:
An introduction to macroeconomic analysis including the study of national income and the relationships between flows of payments and flows of goods and services which constitute income.
An introductory study of some important Australian economic institutions and changes in these institutions affecting the structure of markets for products, financial markets, and the labour market.

TEXTBOOK

REFERENCE BOOKS

Economics II
Second session subject (Four class hrs. per week)
An introduction to microeconomics which includes the market system, demand and supply analysis, the equilibrium of the firm under different market structures, factor pricing and markets, and general equilibrium analysis. The organizational aspects of this analysis will be related to the Australian economy.

TEXTBOOK

REFERENCE BOOKS

Microeconomics III
First session subject (Three class hrs. per week)
Theory of consumer demand: utility, indifference curve analysis, elasticity; theory of production: production functions, stages of production, law of diminishing marginal returns, returns to scale; theory of costs; Isoquants

*Subject to possible reconsideration when certain forthcoming publications are available.
and isocosts, optimum factor combinations, nature and type of costs; prices and output in perfect competition: resource allocation and economic efficiency, short run and long run equilibrium; price and output in imperfect competition: monopoly, price discrimination, monopolistic competition; theory of factor pricing: demand for factors, supply of factors, economic rent, equilibrium in factor markets; economic interdependence: general and partial equilibrium, input-output analysis.

TEXTBOOKS
or
or

**Microeconomics IV**

*Second session subject (Three class hrs. per week)*

Prices in oligopoly: kinked demand curve, price leadership, limit pricing and barriers to entry, marginal cost pricing, full cost pricing; goals of oligopolists: profit maximization, sales maximization, growth maximization, alternatives to maximization; implications of market structure, concentration, size of firms, non-price competition, restrictive trade practices, countervailing power, research and development, uncertainty and interdependence; growth of firms: diversification, mergers, zones of stability; economic progress: dynamic v. static performance, sources of growth, innovation, planning, and technological change.

REFERENCE BOOKS

**Macroeconomics III**

*First session subject (Three class hrs. per week)*

A basic study of theoretical macroeconomics concerned with: interactions between markets for money, products and labour; theories of investment and interest rates; the multiplier and its empirical applications; internal and external balance; theories of inflation; and theories of business cycles and economic growth.

REFERENCE BOOK
SUPPLEMENTARY REFERENCES

**Macroeconomics IV**
*Second session subject (Three class hrs. per week)*
A study in the application of basic macroeconomic theories, principally concerned with the Australian economy. It includes the analysis of the Australian national accounts, input-output relations, and the flow-of-funds accounts; intertemporal and international comparisons of real income; the national debt and debt management; monetary theory; and money, banking and the capital market of Australia.

**REFERENCE BOOKS**

**Quantitative Methods I**
*First session subject (Four class hrs. per week)*
Analysis of data, use of matrix algebra in economics, measures of central tendency; time series, trend, seasonal, and cyclical components, index numbers, construction and use; introduction to probability theory as it relates to sampling theory and practice.

**REFERENCE BOOKS**

or

**Quantitative Methods II**
*Second session subject (Four class hrs. per week)*
Introduction to derivatives of functions as it relates to minimisation and maximisation; minimisation of errors in simple regression analysis; introduction to sampling distribution, hypothesis testing and errors as they relate to simple linear regression.

**REFERENCE BOOKS**
As for Quantitative Methods in Economics I
DESCRIPTION OF SUBJECTS

Quantitative Methods III
First session subject (Three class hrs. per week)
Extension to probability theory, Bayes theorem as it relates to decision theory; managerial decision theory, types of decisions, Bayesian decision theory, games theory; inventory problems, replacement problems, queuing theory; discounting procedures, internal rate of return, net present value, Benefit/cost ratio.

REFERENCE BOOKS

Quantitative Methods IV
Second session subject (Three class hrs. per week)
Input-output analysis: theory, economic applications; linear programming: theory, economic applications, relation to various types of allocation problems.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES

International Economics
First session subject (Three class hrs. per week)
Structure and pattern of international trade and income levels. Analysis of resource allocation: comparative advantage, Heckscher-Ohlin model, Rybczynski theorem. Protection: infant industries argument, optimum tariff, tariff structure and rates, tariff vs. subsidy, quantitative restrictions. Balance of payments analysis and policy: balance of payments accounts, transmission of business cycles, exchange rates, elasticity and absorption approach, internal and external balance. International monetary system. Australian international economic relations will be studied.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES

**Comparative Economic Systems**

*First session subject (Three class hrs. per week)*

Classification of economic systems. A priori arguments about the relative efficiency and non-economic implications of centralised and decentralised economic systems. The structure, conduct and performance of the Soviet, Yugoslav, Japanese and French economies.

**REFERENCE BOOKS**


**SUPPLEMENTARY REFERENCES**


**Natural Resource Economics**

*First session subject (Three class hrs. per week)*

A study of the role of natural resources in the economic process and of the problems associated with the use and development of natural resources. Reference will be made to current problems in resource use. Topics to be studied include: definition and classification of natural resources, their social significance; how natural resources become involved in the economic process, the theory of property rights, the role of property; the use of natural resources by individuals and by society; natural resources in relation to economic growth and development, classical doctrine of natural resource scarcity, impact of technological change.

**REFERENCE BOOKS**

SUPPLEMENTARY REFERENCES

Industrial Economics
*First session subject (Three class hrs. per week)*
A study of factors affecting production and productivity, with particular regard to industrial organisation in Australia. The emphasis will be on the industry, the economic sector, and the regional and national organisation of industry, as they affect the decisions relating to employment, investment, innovation, output and income distribution.

REFERENCE BOOKS
Tariff Board. *Annual Reports*.

Economic Development Issues
*First session subject (Three class hrs. per week)*
The course concentrates on the study of those factors which characterise underdevelopment. Particular emphasis is placed on the institutional aspects of underdevelopment and the way in which these influence the choice of development strategy. Particular emphasis is placed on education and the role of labour in development, including manpower policies. Other major topics include distribution of income, agriculture and land reform; industrialization (with special emphasis on the traditional small-scale sector); trade; aid and foreign investment. Finally some of the newer theories of development which take account of institutional factors in underdeveloped countries are studied.
TEXTBOOKS
Meier, G. M. Leading Issues in Economic Development. O.U.P.

REFERENCE BOOKS

Economic Policy
Second session subject (Three class hrs. per week)
This is a study of the objectives of macroeconomic policies, the relations between objectives, and the use of monetary, fiscal and other instruments of policy. Particular attention is given to policies concerned with prices, employment and incomes in Australia and the main instruments available for their implementation.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES
Runcie, N. The Economics of Instalment Credit. London U.P., 1969.

Economic Development Planning
Second session subject (Three class hrs. per week)
This course emphasises techniques of development planning, and deals with the following subjects:—
Models of development and development strategy; programming; project evaluation; budgeting; planning organisation; development plans of some less-developed countries.
DESCRIPTION OF SUBJECTS

TEXTBOOKS

REFERENCE BOOKS

Regional Economics
Second session subject (Three class hrs. per week)
The nature of the regional problem in Australia and overseas:
1. Inter-regional disparities in unemployment, income and growth. The effect of such disparities on achievement of national macroeconomic goals.

Some applications of macroeconomic theory at the regional level: regional accounts, regional input-output analysis, regional growth models, regional multipliers, inter-regional trade theory, regional equilibrium analysis.

Australian and European policies for control of spatial distribution of economic activity. Effectiveness of such policies.

REFERENCE BOOKS

SUPPLEMENTARY REFERENCES
DESCRIPTION OF SUBJECTS

Mathematical Economics
Second session subject (Three class hrs. per week)

Material for this course will be drawn from the following:

Mathematical treatment of Microeconomics and Macroeconomics. Market equilibrium, perfect competition, imperfect competition; welfare economics, pareto optimality; consumption, savings, investment function; Keynesian models, dynamic multiplier; simple models.

Transport Economics
Second session subject

This subject considers the significance of transport systems in structuring spatial patterns. It consists of two interdependent sections, one devoted to the development of a conceptual framework and substantive discussion of transport systems and the other concerned with statistical techniques and methodology.

Section A examines system concepts, analysis and structure for selected modal systems at various scales—for example, intra-urban transit systems, inter-urban road, rail systems and international air and maritime systems.

Section B deals with techniques for network analysis, optimizing flows in networks and regression analysis.

Reference Books


Econometrics
Second session subject (Three class hrs. per week)

This subject will complete a 3-year sequence in methods of quantitative analysis applied to Economics. It will be an optional subject for inclusion in a BCom degree course as a Group II option, or for inclusion in a BA course as part of Economics IIIB or Economics IIIB Hons. It consists of
a rigorous treatment of econometric theory and includes the general linear model, simultaneous equation models, and other estimation procedures. Extensive use will be made of computer programmes for regression.

REFERENCE BOOKS

**Advanced Economic Analysis**

*Double session subject (six class hrs. per week)*

This subject, together with the completion of the thesis, occupies the final year of the full-time Honours degree course. It consists of six parts, each of which normally requires 21 class hours. The whole amounts to a survey of advanced economic theory; it normally includes advanced macro- and micro-economics, cyclical fluctuations, economic growth, monetary theory, international economics, welfare, and history of economic thought.
ELECTRICAL ENGINEERING

1. CORE MATERIAL

All one-session subjects (Three hrs. per week)

Circuit Theory 1, 2 and 3
Development of circuit analysis from field descriptions; validity of KCL and KVL; topological properties of networks; mesh current, node voltage and cut-set analysis; classical solution of network equations; special case of sinusoidal steady state, phasor and impedance concepts. Generalised network analysis via Laplace transforms.

Network theorems, sinusoidal steady state, 3 phase systems. Further analysis in the S-domain; Fourier series and transform applications; two-port networks; state space and matrix methods.

Filter circuits, transmission lines, introduction to random signal theory.

TEXTBOOKS
Circuit Theory 1 and 2

Circuit Theory 3

Electronics 1, 2 and 3
Semiconductor devices and device models; current transport in semiconductors, diodes, bipolar and field-effect transistors, circuit modelling, biasing, single-stage wideband amplifiers, frequency response, design procedures.

Analysis and design of multistage amplifiers, feedback amplifiers, and sinusoidal oscillators. Applications of integrated circuits as building blocks for linear and non-linear analog systems.

Analysis and design of digital, switching, and power circuits: IC logic gates, combinational digital circuits; discrete-component multivibrators and IC flip-flops, sequential circuits; basic methods for analog/digital conversions; amplifiers, stabilised power supplies, thyristor regulators.

TEXTBOOKS

Energy Conversion and Distribution 1, 2 and 3
Recapitulation of basic laws in electro and magneto statics and dynamics. Properties of ferromagnetic materials and magnetic circuits. Energy conversion principles, with emphasis on electro mechanical devices. Coupled circuits, polyphase and instrument transformers; dynamic circuit theory; transducers.

Transmission line parameters and system modelling. Load flow analysis; frequency and voltage control; maximum power transfer, steady state stability. Symmetrical and unsymmetrical fault calculations.

Static converters; applications to a.c. and d.c. machine control.

**TEXTBOOKS**

*Energy Conv. & Dist. 1*

*Energy Conv. & Dist. 2*

*Energy Conv. & Dist. 3*

**Control 1 and 2**

Description of physical systems by differential equations—Lagrange's equations; the convolution integral, transfer functions, block diagrams and signal flow graphs; feedback and its effects; analog computer simulation; stability by Routh-Hurwitz criteria; frequency response on polar and rectangular plots; stability by Nyquist criterion and its extension to Bode Plots; System types and performance with standard inputs.

Root locus methods, frequency response and transient response from root locus diagram; performance criteria and their application to design; synthesis of single-input single-output linear systems by root locus, and Bode diagram; minor loop design.

**TEXTBOOKS**


**Computers 1 and 2**

Switching algebra, combination and sequential logic. Number systems and codes.

Use and application of high-level and assembler languages.

Digital computer organisation and control, arithmetic and memory elements, input-output devices. Analog computer components, setting up of linear systems, time and magnitude scale factors.

Advanced switching algebra for combination and sequential circuits, error detection, cycles, races hazards.

Advanced work on digital computer organisation and interfacing. Representation of higher-order linear non-linear and time varying systems on analog computers. Introduction to Hybrid computers.

Simulation and modelling of engineering systems on computers.

**TEXTBOOKS**


Communications 1
Basic structure of communication systems; analog modulation and detection, analysis and methods of signal processing, performance of AM and FM systems in presence of noise; binary PCM and ΔM, quantization, error probability, decision detection.

TEXTBOOK

Laboratory 2, 3 (A, B, C, D), and 4
The laboratory programmes for the BE and BSc(Eng) courses will normally cover the following topics:
- Measuring equipment and techniques relevant to electric, magnetic and electro-mechanical circuits and systems.
- Response of first an higher order systems; characteristics of sinusoidally excited circuits; harmonic analysis; amplifiers; regulated power supplies; wave shaping circuits; oscillators, digital circuits.
- Transformers, d.c., induction and synchronous machines, dynamic characteristics; control circuits and simulation, frequency response, effects of feedback.
- Advanced modern measurement equipment and techniques. Selected topics may include: circuit measurement with deterministic and random signals, R.F. and microwave measurements, digital and analog circuits and systems, advanced control circuits for machine.

2. ELECTIVES

*All one-session subjects (Three hrs. per week)*

**Elective 1—Circuit Theory**
Network functions, introduction to network synthesis, filter design (classical and modern) digital and active filters.

TEXTBOOK

**Elective 2—Probability and Random Processes**
Probability theory; random variables, distribution and density functions, mean values and moments, ergodicity and stationarity; correlation functions, spectral densities; linear system response to random inputs; filtering and prediction.

TEXTBOOK

**Elective 3—Electric Energy Systems I**
Transmission line parameters, system modelling, application of the computer to load flow analysis. Optimum operating conditions, frequency and voltage control. Economic aspects of power transmission.

TEXTBOOK
Elective 4—Electric Energy Systems II
Unsymmetrical fault analysis, interruption theory, surges, transient stability. Transient characteristics of synchronous machine. System protection.

TEXTBOOK

Elective 5—Communications
Scope: analysis and design of communication circuits for analog signal processing and frequency-domain multiplexing.

TEXTBOOK

Elective 6—Signal Transmission
Scope: wave propagation in cables, waveguides and atmosphere; radiation and antennas.

TEXTBOOK
Staniforth, J. A. Microwave Transmission. EUP, 1972.

Elective 7—Control

TEXTBOOK

Elective 8—Generalised Machine Theory
Development of machine models, transformations, methods of solution, small signal responses, transfer and weighting function representation, with emphasis on synchronous and induction machines.

TEXTBOOK
No set text.

Elective 9—Electrical Properties of Materials
Electric conduction and breakdown in solid, liquid and gaseous dielectrics; field strength calculations using Laplace and Poisson's equations. High voltage testing.

TEXTBOOK
No set text.

3. APPLIED ELECTRICITY I
Double session subject
A course for metallurgists and engineers not intending to follow electrical engineering as a profession, presenting selected topics from circuit theory, electronic devices and their applications in linear and digital circuits, electromagnetic devices, and instrumentation systems.

TEXTBOOK
ENGLISH

In 1975 the Department of English will offer subjects in English Language I and English Literature I and in English II and III Pass and English II, III and IV Honours in the BA degree course. The curriculum is under review and subject to alteration in 1976.

Each subject comprises at least 28 hours (2 hours per week per session) of lectures, seminars and tutorials. Some subjects are optional. Not all subjects will be offered at both day and evening times. Furthermore, the Chairman of the Department of English reserves the right to place a limit on numbers in particular subjects and to advise students on the subjects best suited to their qualifications and purposes. As many of the subjects described in the following pages will be offered as can be with the staff available.

Pass students are required to take FOUR and Honours students SIX subjects in each year. In addition to those subjects designated as compulsory, Honours students must take at least one of the Old English Language or the Medieval English Literature subjects. Students proceeding to English III must include in their course one Shakespeare subject.

In all subjects, students are required to hand in written assignments and sit for examinations during or at the end of each year. English IV Honours students are also required to write a thesis of 10,000 words on a topic approved by the Chairman of the Department.

ENGLISH I

Both courses in English I are double-session courses. Students proceeding to an Honours degree in English are required to complete both courses, English Literature I and English Language I.

ENGLISH LITERATURE I

The course comprises 56 hours per session (4 hours per week of lectures and tutorials). Another two contact hours per week are assumed for individual teaching, interviewing and returning essays, etc. Students are required to hand in written assignments and sit for examination at the end of the year.

Introduction to Modern Literature

First Session

(A) Critical Method: Poetry. Problems and techniques involved in the criticism of poetry: critical discussion and interpretation of selected poems.

BASIC READING

(B) Critical Method: Prose. Problems and techniques involved in the criticism of prose: critical discussion and interpretation of selected short stories and novels.

BASIC READING
DESCRIPTION OF SUBJECTS

Second Session

(A) Modern Poetry. Varying critical approaches to modern poetry: interpretation and discussion of selected modern poems.

BASIC READING

(B) Modern Fiction. Critical interpretation and discussion of the short stories and novels of selected modern writers.

BASIC READING

ENGLISH LANGUAGE I

The course comprises four subject units of which students would study two, in the order set out below, each session. Each proposed subject-unit comprises 28 hours per session (2 hours per week per session of lectures and tutorials). As with English Literature I another two contact hours would be assumed for individual teaching, interviewing and returning essays, etc. In all four units students would be required to hand in written assignments and sit for examination at the end of the year.

Introduction to English Language Studies

First Session

(A) The Development of English up to the early modern period.

BASIC READING
Barber, C. L. The Story of Language. Pan.

(B) Introduction to Medieval Life and Thought.

BASIC READING
Heer, F. The Medieval World.

Second Session

(A) Present day English, its sound system, vocabulary and structure.

BASIC READING
Quirk, R. The Use of English. 2nd ed. Longmans.

(B) Introduction to Early English Language and Literature: a study of Chaucer's Language and of selected Canterbury Tales.

BASIC READING
ENGLISH II—COMPULSORY SUBJECTS

First Session

The Victorian Novel
Novels of Dickens, Thackeray, Emily Brontë and George Eliot.

BASIC READING

SUPPLEMENTARY READING

Second Session

The Romantic Poets

BASIC READING

ENGLISH III—COMPULSORY SUBJECTS

First Session

The Novel in the Eighteenth Century

BASIC READING

Second Session

The Poetry of Milton, Dryden and Pope

BASIC READING
ENGLISH II AND III—OPTIONS

First Session

Metaphysical Poetry
Selected poems of Donne, Herbert, Crashaw, Vaughan and Marvell.

BASIC READING
The Poems of George Herbert, ed. Helen Gardner. World's Classics.

Shakespeare’s Tragedies
Macbeth, Hamlet, Othello, King Lear, Timon of Athens, Antony and Cleopatra, Coriolanus.

BASIC READING

Old English
An Introduction to the language, literature and culture of the Anglo-Saxons.

BASIC READING

Second Session

Victorian Poetry
Selected poems of Tennyson, Browning, Arnold, Hopkins and Hardy.

BASIC READING

Utopian and Anti-Utopian Literature

BASIC READING
Durrell. The Dark Labyrinth. Faber.
Golding. Lord of the Flies. Faber.

BACKGROUND READING
Old English Prose and Verse

*Old English* (see under First Session) is a prerequisite for this subject.

**BASIC READING**


Medieval Dream Poetry

Poems by Chaucer and the Scottish Chaucerians.

**BASIC READING**


**ENGLISH IV (HONOURS)**

**First Session**

**Critical Practice and Theory**

*Part I:*

(A) Selected critical essays on a number of major literary texts. The essays will be chosen to illustrate a variety of critical approaches. The list of texts will include Shakespeare’s *Othello* and *Macbeth*, Donne’s *Songs and Sonnets*, Swift’s *A Tale of a Tub*, and Sterne’s *Tristram Shandy*.


**Elizabethan Drama**

Selected plays by Lyly, Peele, Kyd, Marlowe, Greene; Shakespeare’s early plays, Comedies and “Problem Plays”.

**BASIC READING**


Alexander’s (Collins) or Sisson’s (Odhams) edition of Shakespeare’s plays, or the separate volumes of the New Arden Shakespeare (Methuen), the New Shakespeare (C.U.P.), the Signet Classics or the New Penguin Shakespeare.

**Renaissance Poetry**

The works of particular poets are prescribed, but the subject of study will be not so much authors as the principal modes, themes and conventions of sixteenth- and seventeenth-century English poetry.

**BASIC READING**


Literary Scholarship
A study of research methods, with special reference to Early Tudor textual problems.

Beowulf and Related Heroic Poetry

BASIC READING


**ENGLISH IV (HONOURS)**

Second Session

Critical Practice and Theory

*Part II:*

(A) Selected essays on a number of major texts. The list of texts will include Coleridge’s *The Ancient Mariner*, Shelley’s lyric poems, Melville’s *Moby Dick*, Dickens’ *Little Dorrit*, Eliot’s *The Waste Land* and Faulkner’s *The Bear*.

(B) Selected essays on critical theory by Matthew Arnold, Henry James, T. S. Eliot, I. A. Richards, F. R. Leavis, Empson, Wellek, Frye and Lionel Trilling. Students are advised to purchase *Five Approaches of Literary Criticism*, ed. Wilbur Scott (Collier), *Principles of Literary Criticism* and *Practical Criticism* by I. A. Richards (Routledge), *Seven Types of Ambiguity* by Empson (Peregrine), *Beyond Culture* by Lionel Trilling (Penguin), and F. C. Crews, *Pooh Perplex* (University of California Press paperback).

Jacobean Drama
Selected plays by Jonson, Chapman, Marston, Tourneur, Webster, Middleton, Beaumont and Fletcher, Massinger.

Renaissance Prose

BASIC READING


Selected sermons of Latimer, Andrews, Playfere and Donne (texts to be made available).

Beowulf and Related Heroic Poetry

BASIC READING

DESCRIPTION OF SUBJECTS

FRENCH

FRENCH I

First Session

French Language A

French language A concentrates on aural comprehension; it includes general linguistic principles, general language learning, and gives a basic grounding in the discrimination between sounds. In the language laboratory and classes a considerable amount of time is devoted to the oral reproduction of passages in French and practice in aural comprehension. Major grammatical points arising in the passages for oral reproduction and aural comprehension are dealt with as they occur.

TEXTBOOKS


REFERENCE BOOKS


French Literature A

Through an examination of several thematically linked French short stories and short novels, this course serves to introduce students to techniques of literary analysis.

TEXTBOOKS


Second Session

French Language B

The aural comprehension begun in French Language A is complemented by the development of reading ability. Passages in French on various subjects are analysed linguistically and the ability to express relatively simple ideas in grammatically correct written French is developed. Major grammatical points continue to be studied as they arise.

TEXTBOOKS

As for French Language A.

REFERENCE BOOKS

As for French Language A.
French Literature B
This course pursues the aim of French Literature A by analysing some aspects of 20th century French theatre.

TEXTBOOKS
Montherlant, H. La Reine morte. Gallimard, Paris (Folio no. 12).
GENERAL STUDIES

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

Since 1971 the normal general studies requirement has been 168 hours for full-time courses of at least four years duration and 126 hours for three-year full-time courses. The corresponding figures for part-time courses are 168 hours for courses of over six years and 126 hours for courses of six years and under. This means that students in the longer courses will take four subjects and those in the shorter courses will take three.

The General Studies programme at the University of Wollongong consists of fourteen-week subjects, each of which in turn consists of fourteen lectures and seven tutorials.

The programme is designed to cover various aspects of the modern world, its thought and artistic expression.

Where a subject is offered in two parts, Part II will allow students who have shown interest and ability in Part I to pursue the subject further and at greater depth in the second session.

The subjects offered in 1975 are:

First Session:
Aspects of Modern Psychology, Part I
Contemporary History, Part I
Architecture, Part I
Population Studies
A History of Modern Art, Part I

Second Session:
Introduction to English Linguistics
Aspects of Modern Psychology, Part II
Contemporary History, Part II
Architecture, Part II
A History of Modern Art, Part II
Aspects of Industrial Society
Developments in Present Day Music.

Advanced Elective for Honours Students: Asia in the Twentieth Century (28 weeks).

FIRST SESSION

Aspects of Modern Psychology

Part I
The course introduces students to developments in contemporary psychology, with special emphasis on the relevance of recent research to basic human problems: human development; control of behaviour; identity and the identity crisis; conformity, compliance and integrity; conflict and conflict resolution. Presentation will be aimed at stimulating interest and encouraging further reading in this subject.

TEXTBOOK

*Except those for the Bachelor of Arts Degree.
REFERENCE BOOKS
A list of additional references will be supplied at the beginning of the course.

Contemporary History
This course seeks to develop an awareness of the contemporary world through the study of some important issues. Contemporary history takes problems that are actual in the world today and examines them from the time they first take recognisable shape. The focus will be on events since 1945, but the roots of the problems will often necessitate a backward look to earlier periods.

Part I: The first part of the course will lay the necessary foundation (especially for students who have not seriously studied the subject before) and will then begin the study of certain issues like the changing face of Communism, Superpowers, the Cold War, and World Co-operation.

TEXTBOOKS

REFERENCE BOOKS
A comprehensive list of reference books dealing with particular topics in Parts I and II will be provided at the beginning of the course.

Architecture
The course is offered in two closely related parts, the second designed for those students who have developed an understanding of and interest in the ideas presented in the first session.

Part I: The aim is to demonstrate how modern architecture is a mirror of our times, just as the architecture of an earlier age reflected that particular age. The main focus will be on 'the walls around us' now, though this will necessarily include reference to styles of other periods.

TEXTBOOKS

REFERENCE BOOKS
Cichy, B. Architecture of the Ancient Civilization in Colour. Thames & Hudson.

Population Studies
This subject is intended to present a world picture of population on a regional basis, with emphasis on spatial differences of selected characteristics of population. It examines population growth and patterns of density; the age and sex composition; cultural and economic determinants of population numbers and distribution; socio-economic evolution of mankind and urbanization; the balance of people and resources; the future pattern of population.
TEXTBOOK
Zelinsky, W. A Prologue to Population Geography. Prentice-Hall.

REFERENCE BOOKS
Wilson, A. Population Geography. N.A.P.

A History of Modern Art
The course will be offered in two parts, the first providing the background to an understanding of more traditional as well as more recent art, the second looking at art in Australia.

TEXTBOOKS
To be notified later.

RECOMMENDED READING
Lucie-Smith, E. Movements in Art since 1945. Thames & Hudson.

SECOND SESSION
An Introduction to English Linguistics
The subject will introduce students to the main approaches of linguistics as applied to a study of English. Students intending to enrol in this subject are advised that it assumes a basic understanding of the language as given in the first session subject English Language and Literature.

TEXTBOOKS
Palmer, F. Grammar. Pelican.
(One further text to be announced later).

REFERENCE BOOKS
A reference list of books and articles will be provided at the beginning of the course.

Aspects of Modern Psychology
Part II
In Part II of this course, special attention will be given to such questions as: racism and race relations; violence and aggression; man and technology; education, creativity, and the student; the psychology and treatment of abnormal behaviour.

TEXTBOOK

REFERENCE BOOKS
A list of reference books will be supplied at the beginning of the course.
DESCRIPTION OF SUBJECTS

Contemporary History
Part II: The second part of the course will further explore such questions as the growth of nationalism in Africa and Asia; the Middle East; Latin America; democracy in theory and practice; race relations; twentieth century revolutions and guerrilla warfare.

TEXTBOOKS
Two to be notified later.

RECOMMENDED READING
As for Contemporary History, Part I.

Architecture
Part II: Man and Architecture. Building on the first session course, this will pursue more closely the concept of architectural expression, considering how this has reflected and can be expected to reflect man's outlook in the future. The hypothesis would thus contemplate the structure of man's future environment while remaining aware of previous cycles in the history of civilization.

TEXTBOOKS
As for Architecture, Part I, plus:

REFERENCE BOOKS
A list of reference material will be supplied at the beginning of Part II.

A History of Modern Art
Part II: This part of the course goes on to deal with the development of art in Australia, with special attention to certain major artists and movements.

RECOMMENDED READING
As for History of Modern Art, Part I, but additional references to Australian Art will be given during the course.

Aspects of Industrial Society
A one-session subject which considers some of the social and economic aspects of industrial society. Topics to be discussed include the impact of industrial society on the individual, its effects on the quality of life, the complexity of social and economic institutions and organisations, automation and changing industrial technology, the problems of poverty in an affluent society and the causes and consequences of rapid social change.

There will be 1½ hours per week made up of lectures and seminars: a 1½ hour examination paper will be held at the end of the session. A detailed reading list for each topic and assignment will be handed out at the first lecture.

TEXTBOOKS
Pen, J. Harmony and Conflict in Modern Society. McGraw-Hill.
DESCRIPTION OF SUBJECTS

Developments in Present Day Music
The subject will seek to give an understanding and appreciation of twentieth century music by means of discussion and illustration. The main points to be dealt with are: recent developments in music; changing elements in music's vocabulary; the development of jazz; electronic music; the music of Asia and its influence on modern European music; and the making of music in Australia at the present time.

TEXTBOOKS
Salzman, E. Introduction to 20th Century Music. Prentice-Hall.

RECOMMENDED READING

Asia in the Twentieth Century (Advanced Elective for Honours Students)
The subject, which runs for 28 weeks (42 hours) is a survey of the main problems in Asian history today commencing with a brief survey of Asia at the beginning of the 20th century, the decline of the old imperialism after 1918, and the rise of Japan.

The course of World War II in the Pacific and its consequences are evaluated; economic, political, and social and foreign policy problems since 1945 are considered in relation to Japan, China, India, Pakistan and the nations of S.E. Asia. Particular reference is made to the new nationalism and its interaction with communism, democracy and authoritarianism. The wars in Indo China and Korea are examined in the light of new theories of warfare.

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

TEXTBOOKS
Macmahon Ball, W. Australia and Japan. Nelson.
Osborne, M. Region of Revolt. Pelican.
GEOGRAPHY

Subjects in Geography may be studied to third year in the Pass BA or Commerce degrees, fourth year in the BA Honours degree and to second year in the BSc.

In the first year all students follow a common course of two lectures and three hours of practical/tutorial work weekly throughout the year. In later years programmes may be put together from an array of options, the extent of which will vary from year to year according to the availability of staff.

Third year students may opt to take two subjects in Geography by selecting four of the options being offered at that level. These will arbitrarily be defined as Geography IIIA and IIIB.

Entry to the Honours programme normally occurs at the beginning of the second year. Students admitted to Honours are required in their second and third years to attend additional tutorial/seminar work in each course and to undertake such additional reading, writing, or field work as may be specified.

Field tutorials/excursions may be required in any course as a normal part of the work load. In Geography I attendance at up to two one-day excursions is obligatory. In Geography II and III up to four and five days respectively may be required in single day or residential field schools.

In all subjects course work (essays, tutorials, periodic tests), field work and practical work may be assessed as part of the final grade. The precise weighting to be given to each component will be discussed with classes early in the session.

Wherever possible lecture hours will be scheduled to suit day and evening students.

Students considering enrolling in Geography in 1975 should enquire from the Departmental Office for an up-to-date statement of courses offered, requirements and class schedules.

GEOGRAPHY I

Geography I consists of two courses
1. Introductory Human Geography.
2. Introductory Physical Geography.

Each unit occupies one session and consists of integrated lectures and laboratory/tutorial sessions and field classes.

In 1975 it is probable that Human Geography will occupy the first session and Physical the second.

Human Geography
This course focuses on the patterns, underlying principles, dynamics and implications of the spatial organization of human activities. Particular attention will be paid to problems of spatial structure and behaviour in modern space economies.

Analytical techniques relevant to the topics under discussion will be introduced in the laboratory/tutorial sessions.
DESCRIPTION OF SUBJECTS

REFERENCE BOOKS

Physical Geography
This course presents a geographical approach to major problems encountered in environmental studies. Interdependence among physical, chemical and biological processes is illustrated both by Australian and overseas examples. Particular attention is paid to man's modification of the environment.

TEXTBOOKS

Students should also have ready access to an up-to-date atlas.

REFERENCE BOOK

GEOGRAPHY II

Geography II consists of two one-session courses, one of which must be Urban Location and Structure. The second may be chosen from such other courses as are available at this level. Courses normally offered are

1. Urban Location and Structure
2. Biogeography
3. Regional Geography

but others may be substituted or added, depending upon the availability of staff.

1. Urban Location and Structure
This course contains two interdependent segments. One is concerned with the hypotheses, theories and techniques of urban analysis which shed light on the organization, structure and function of urban centres; the other is designed to familiarise students with basic quantitative techniques necessary for an adequate understanding of the relevant contemporary literature. Part One contains four major study areas— intra-urban spatial patterns, intra-urban mobility, people in the urban system and systems of cities.

Part Two concentrates on descriptive measures of statistical populations, statistical relationships between variables and the generation of hypotheses from regression analysis.

REFERENCE BOOKS
*Part One*
DESCRIPTION OF SUBJECTS


Part Two

2. Biogeography
This subject adopts the ecological approach to the study of vegetation communities and considers the inter-relationship between climate, soil, vegetation and fauna. Systematic studies are made of plant requirements and processes in plant growth, and of the role of energy flow and biogeochemical cycling in the functioning of ecosystems; case studies are chosen from Australia and elsewhere of vegetation communities in relation to climate, landforms and soil. The foregoing principles are further applied to studies of conservation, and of trace element contamination in the soil/plant system.

TEXTBOOKS

REFERENCE BOOKS
Oosting, H. J. Study of Plant Communities. Freeman, 1956.

3. Regional Geography
This subject considers briefly the regional concept and method in geography as an introduction to Southeast Asia as a region and examines the cultural and economic aspects and related problems of that region. A more detailed treatment of selected regions is included.
TEXTBOOKS

REFERENCE BOOKS

GEOGRAPHY II HONOURS
Honours students do the courses prescribed for Geography II Pass, together with such additional and advanced class work and reading as is specified.

GEOGRAPHY IIIA AND IIIB PASS
Geography III comprises any two courses from those offered by the Department at the appropriate level. Geography IIIB consists of any other two courses in Geography at this level not forming a part of any other subject.

Courses currently taught at this level are
1. Geography of Transport Systems
2. Population Geography
3. Geomorphology
4. Agricultural Geography*
5. Soil Studies*

Courses asterisked (*) may not be available in 1975 owing to staff absences but at least one additional course in advanced Physical or Human Geography will be offered. Full details on courses available and their scheduling will be obtainable from the Department before the end of 1974.

1. Geography of Transport Systems
This subject considers the significance of transport systems in structuring spatial patterns. It consists of two interdependent sections, one devoted to the development of a conceptual framework and substantive discussion of transport systems and the other concerned with statistical techniques and methodology.

Section A examines system concepts, analysis and structure for selected modal systems at various scales—for example, intra-urban transit systems, inter-urban road, rail systems and international air and maritime systems.

Section B deals with techniques for network analysis, optimizing flows in networks and regression analysis.
REFERENCE BOOKS


2. Population Geography

This course constitutes an introduction to the study of spatial patterning of, the processes responsible for and the consequences of demographic structure and population dynamics in developed and developing societies. Particular attention is devoted to the vital processes of fertility and mortality and to the socio-spatial processes of migration and diffusion. Techniques of data collection, manipulation and analysis will also be treated.

REFERENCE BOOKS (Works asterisked are useful preliminary reading).

Geomorphology

This subject consists of: processes in the evolution of hillslopes, stream channels and valley forms; lithological, structural and temporal controls in landscape development; and the application of these principles to morphogenetic landscape studies, with special reference to Australian examples.

TEXTBOOKS

REFERENCE BOOKS
4. Agricultural Geography

This subject deals with the origin, dispersals, and basis of agriculture; models of location of agricultural activity; agricultural structure and typology; measurements of various agricultural attributes (intensity, productivity, concentration and diversification); sampling and representative farms in agricultural geography; regional comparisons in farm structure; studies in agricultural change; and diffusion of innovation.

TEXTBOOKS

REFERENCE BOOKS

5. Soil Studies

This subject consists of three parts:

1. Scientific background to soil studies.
2. Pedological studies with special reference to Australian Great Soil groups.
3. Applied studies in soil conservation, productivity, and land capability.

Practical work comprising a series of laboratory experiments in (1) above, and field tutorials and soil cartography in (2) and (3) forms an integral part of the course.

TEXTBOOK

REFERENCE BOOKS

**GEOGRAPHY III HONOURS**
Honours candidates take the pass courses and attend such additional lectures, tutorials, seminars and practical or field classes as may be required of them, whether in connection with each course or separately arranged.

**GEOGRAPHY IV HONOURS**
Geography IV consists of three parts—a thesis, a General Course (common for all Honours IV candidates) and a Special Course related to the candidate's research area.

1. **Thesis**
Each candidate is required to write a thesis of approximately 20-25,000 words. A detailed statement concerning requirements, format, etc. may be obtained from the Department.

2. **General Course**
This seminar course is conceived to introduce honours students to questions of methodological and philosophical significance to research and teaching in modern Geography.

**REFERENCE BOOKS**
Woolridge, S. W. & East, G. *Spirit and Purpose of Geography*. 1951.

3. **Special Course**
Each student is required to undertake a directed reading/seminar course in the wider area of his research.

Special courses will normally be held in the first session. The General course may be run over part of both sessions or concentrated in the second session. Each course requires an average of three hours' class work weekly.

Assessment in the final year is based upon the thesis, which has the weight of three papers, and performance in the Special and General course programme (one paper each).
GEOLOGY

UNIT A. Introductory Geology, Crystallography, Mineralogy, Petrology.

First session subject (3 hrs. lectures and 3 hrs. practical per week).

Geology as a science, geological time, the earth in space, shape of the earth, astrogeology, Earthquakes and earth structure, orogenesis and epeirogenesis, and volcanoes. The geological cycle.

Crystallography: Crystal symmetry, crystal forms, crystal systems, stereographic projection, twinning.

Mineralogy: Occurrence, form and physical properties of minerals. Mineral classification of silicates. Descriptive mineralogy of the rock-forming minerals (essentially the silicates).


Practical Work: Study of crystal models in clinographic and stereographic projection. Identification and description of common minerals and rocks in hand-specimen. At least one field tutorial.

UNIT B. Physical Geology, Palaeontology and Stratigraphy.

Second session subject (3 hrs. lectures and 3 hrs. practical per week).


Stratigraphy and Palaeontology: Basic principles of stratigraphy. Introductory palaeontology, especially the morphology of the main invertebrate animal and plant phyla. The geological history of the Australian continent and more specifically that of the Sydney Basin and New South Wales.

Practical Work: Recognition and description of examples of important fossil groups and their use in stratigraphy. Interpretation and preparation of geological maps and cross-sections. Map reading and the use of simple geological instruments. At least one field tutorial.

TEXTBOOKS

For Unit A and Unit B.

or

Wollongong Sheet Geological Map. 1:250,000. Mines Dept., N.S.W.
A mapping handbook prepared by the Department of Geology. (Not required for Unit A.)

REFERENCE BOOKS

DESCRIPTION OF SUBJECTS

Mason, B. & Berry, L. G. *Elements of Mineralogy*. Freeman, 1968.

* The purchase of these books is suggested for students who intend to proceed to later units in Geology.

Geology II

UNIT A. Crystallography, Crystal Chemistry and Mineralogy.

First session subject (2 hrs. lectures and 4 hrs. practical per week).


Practical: A laboratory study of the optical properties of minerals using the petrological microscope.


Economic Minerals: The application of the principles of crystal chemistry to the following mineral classes: native elements, sulphides, oxides, halides, carbonates, sulphates and phosphates.

Practical: A study of economic minerals in hand-specimen.

Silicate Minerals: The application of the principles of crystal chemistry to, and a study of, the physical and chemical properties of the silicate minerals.

Practical: A study of silicates in hand-specimen and thin-section.

TEXTBOOKS

REFERENCE BOOKS

UNIT B. Petrology.
Second session subject (2 hrs. lectures and 4 hrs. practical per week).
Practical: Study of rocks in hand-specimen and thin-section.

TEXTBOOK
Williams, H., Turner, F. J. & Gilbert, C. M. *Petrography.* Freeman, 1955.

REFERENCE BOOKS

UNIT C. Palaeontology, Stratigraphy and Sedimentation.
First session subject (3 hrs. lectures and 3 hrs. practical per week).
Palaeontology: Taxonomy, evolution, species concepts. Systematic treatment of the more important invertebrates — morphology, classification, phylogeny, ecology, geological distribution, theoretical aspects of palaeontology. Study of demonstrations to illustrate the lecture course.

TEXTBOOKS
(Only recommended for students not proceeding to further geology courses).
REFERENCE BOOKS


* The purchase of these books is suggested for students who intend to proceed to later units in Geology.


Second session subject (1 hr. lectures, 1½ hrs. practical per week and up to a total of 10 days of field work).

Course Description: Introductory lecture and practical course-work. Field mapping tutorial, held during a vacation. Students will map in detail the geology of a selected area. Map compilation and progress reports on each day's work with final interpretation of results in the laboratory tutorials after completion of the field tutorial.

REFERENCE BOOKS


Geology III

It should be noted that all units may not be offered in any one year. A list of units on offer can be obtained from the Head of the Department.

UNIT A. Crystallography, Mineralogy, Igneous and Metamorphic Petrology.

First session subject (2 hrs. lectures and 4 hrs. practical per week).

Optical Crystallography: Oil immersion techniques and mineral determination by dispersion in refractive index liquids. The universal stage, feldspar determination, location of vibration axes, optic axes and 2V measurement, determination of extinction angles.

X-ray Mineralogy: Theory and practice of X-ray instrument techniques, powder photographs, cell dimensions.


DESCRIPTION OF SUBJECTS

Practical: Determination of unknown mineral grains by immersion techniques. Exercises involving use of the universal stage. Determination of crystal class and cell dimensions from powder photographs. The study of igneous and metamorphic rocks and rock suites in hand-specimen and thin-section.

TEXTBOOKS

REFERENCE BOOKS

UNIT B. Geophysics and Statistical Methods in Geology.

First session subject (4 hrs. lectures and 2 hrs. tutorials or practical per week).

Geophysics: Geodesy — study of the shape of the earth, and its gravitational field. Seismology — study of natural (and artificial) earthquake phenomena, and their relation to the structure of the earth and its properties. The earth's near-atmosphere. Geomagnetism and palaeomagnetism. The earth's magnetic field, its characteristics and variations; the history of this geomagnetic field, especially as recorded in rocks and similar material. Solar-planetary relationships. The sun, planets, moon, meteorites and their relationships. Geochronology — methods of radiometric dating and correlation. Geothermy — thermal properties of the earth, heat flow.

TEXTBOOKS

or

REFERENCE BOOKS


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

TEXTBOOKS

or

REFERENCE BOOK

Second session subject (3 hrs. lectures and 3 hrs. practical per week).

Sedimentary Rocks: Further studies of sediments, classificatory schemes for sedimentary rocks and post-consolidation changes in sediments. Accessory minerals in sediments. The use of heavy minerals and other features in the study of provenance, including methods of separation of heavy minerals. Clays.

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

TEXTBOOKS

REFERENCE BOOK

Stratigraphy and Stratigraphic Palaeontology: Rock, time and time-rock unit concepts. Correlation methods and problems in the Pre-Cambrian and the Phanerozoic. A systematic treatment of the geological columns discussing the type successions together with other important overseas successions and those of representative Australian regions. The history of the Tasman, Caledonian and Alpine and other geosynclines.

Practical: Demonstrations of suites of rocks and fossils from important successions.

Vertebrate Palaeontology: The main features of the major groups in the evolution of the vertebrates.

Practical: Study of morphology of some important groups.

TEXTBOOK

REFERENCE BOOKS
UNIT D. Structural Geology and Geotectonics, Economic Geology.

Second session subject (2 hrs. lectures and 4 hrs. practical per week).

Structural Geology and Geotectonics: Non-diastrophic and diastrophic deformation of rocks. Structures, internal and external, associated with igneous rocks. Introduction to structural analysis. Large-scale deformations such as alpine tectonics, and the structure and structural evolution of the European Alps and the Himalayas. Other examples of mountain-building, and geosynclines. Mid-oceanic ridges and associated features.


TEXTBOOKS


or


REFERENCE BOOKS


Economic Geology: Outline of the scope of economic geology and of the processes of concentration of economically important minerals. Introduction to some classifications of ore deposits. Description, with examples, of the major types of ore deposits — those contained in igneous rocks, those associated with igneous rocks. Sedimentary ore deposits. Effects of metamorphism in forming new ore deposits, and modifying existing ore deposits. Metallogenic analysis — the distribution of ores in space and time. Appraisal techniques. Australian ore deposits.

Practical: An introductory course in ore microscopy. The mineragraphy of some important Australian orebodies.

TEXTBOOKS


REFERENCE BOOKS


UNIT E. Crystallography, Mineralogy and Petrology and Geochemistry.
Second session subject (2 hrs. lectures and 4 hrs. practical per week).


Theoretical Petrology: The phase rule, systems of one, two and three components. Eutectics and solid solutions. Complex binary systems. Ternary systems. The application of work on synthetic systems to petrology using, for example, systems such as nepheline-kalsilite-silica, quartz-albite-orthoclase-anorthite-water, diopside-forsterite-silica. Experimental work on the melting of natural rocks. Experimental and theoretical petrology as applied to metamorphic rocks. The mineralogical phase rule. Direct determination of equilibrium curves, reactions of synthesis. Use of thermodynamic data. Experimental appraisal of critical metamorphic reactions, reactions in pelitic assemblages, reactions in siliceous dolomitic limestones, experimental data relating to magnesian schists.

Textures of rocks: Structures and textures. The sequence of crystallization in granites, the development of K-feldspar megacrysts and quartz-feldspar intergrowths. Exsolution textures. Textures of basic igneous rocks. Textures of metamorphic rocks.

Practical: Simple experiments using modern instruments especially in regard to silicate melts. Study of suites of rocks in hand-specimen and thin-section. Thin-section studies of rock textures.

Geochemistry: Elements of structural chemistry and some principles of thermodynamics. Structure of the atom, isotopes, radioactivity, ionic size, aggregates of ions, the crystalline state, imperfections in crystals, diffusion in crystals, order-disorder.


Practical: Calculation of problems in geochemistry.

TEXTBOOKS

or


or

REFERENCE BOOKS

UNIT F. Exploration Geophysics, Petroleum and Nuclear Fuels.
Second session subject (2 hrs. lectures and 4 hrs. tutorials and practicals per week).

DESCRIPTION OF SUBJECTS

**Practical:** Calculations of real and imaginary problems based on the theory and interpretation outlined in lectures for various techniques. Study of Australian case histories, in particular, will be made. Field work will be undertaken, depending on the availability of instrumentation.

**TEXTBOOKS**


**REFERENCE BOOKS**


**Petroleum and Nuclear Fuels:** Petroleum: History of the use of, and search for, petroleum. The distribution of petroleum in time and space. The generation, migration and accumulation of petroleum, including reservoir rock properties and trap characteristics. Methods of search for and exploitation of, including evaluation of, petroleum deposits. Gas, oil and petroleum solids. Australian occurrences will be described.

Nuclear Fuels: Description of the mineralogy and geology of important nuclear fuel deposits, and related mineral deposits. The methods of searching for such deposits.

**Practical:** Study of data on Australian petroleum deposits. Description of rotary drill cuttings samples.

**TEXTBOOKS AND REFERENCE BOOKS**


(The reference book for Nuclear Fuels is yet to be selected.)

**UNIT G. Basin Analysis, Sedimentation and Oceanography.**

*First session subject (2 hrs. lectures, 4 hrs. tutorials and practicals per week).*


**Practical:** Examination of textures, fabrics and structures of sedimentary rocks in the laboratory. Demonstrations of specimens and maps from some basins covered in lectures. Field examination of sediments (recent and Permian) in the Illawarra District. Experiments with erosion, transport and deposition of sands by water.
TEXTBOOKS

REFERENCE BOOKS

UNIT H. Structural Geology, Geology of Coal.
First session subject (2 hrs. lectures and 4 hrs. practical per week).

Structural Geology: Structural analysis, and further study of folding, including superposed folding. Geometrical, kinematic and dynamic analysis of folded rocks. Stress and strain and its analysis, including determination of the strain ellipsoid. Cleavage and fracture, joint and fault development.


TEXTBOOKS AND REFERENCE BOOKS
In addition to those noted for Structural Geology in Unit D of Geology III:


Practical: Examination of macerals in transmitted and reflected light. Use of immersion to adjust contrast, maceral analyses in reflected light. Measurement of reflectance and of refractive indices using polished sections.

REFERENCE BOOKS
First session subject (1 hr. lecture and 1½ hrs. practical per week and up to a total of 10 days of field work).

Advanced Geological Mapping: Field work will normally be conducted at the end of the vacation before first session. Students intending to enrol in this unit should consult the Head of the Department during the previous session.

Course Description: Lecture and laboratory tutorial course work will include the use of aerial photographs (including stereoscopic exercises) and satellite photographs in compiling geological maps. The emphasis will be on the use of these techniques in geological map compilation. The field tutorial will be similar to that outlined for Elements of Geological Mapping, but the area selected for field mapping will be more geologically complex. Final compilation and interpretation will be completed in laboratory tutorials.

Geomorphology: The study of landforms and some other aspects of geomorphology.

Practical: Study of different landforms in stereoscopic pairs of photographs.

REFERENCE BOOKS

GEOLOGY IV HONOURS
Double session subject

The formal parts of the proposed course will consist of a section on the history of geological thought together with at least two specialist sections chosen from the fields of mineral paragenesis, rock magnetism, biostratigraphy, mathematical geology, coal and petroleum geology. The other parts of the course will be field and laboratory projects, seminars and study of selected references.

TEXTBOOKS
The Head of the Department should be consulted. However, readings in "History of Geological Thought" will be selected from the following:
DESCRIPTION OF SUBJECTS

HISTORY

History I

Double session subject

English Social History, 1750-1940: During the year emphasis is placed upon economic development, class relationships, education, religion, Victorian respectability and the emergence of the welfare state.

Credit for completion of the first session will be given only after successful completion of the second session.

REFERENCE BOOKS


**History IIA**

*Double session subject*

*Russian History 1825-1964*: The course is designed to introduce students to certain broad themes of Russian history, while making them thoroughly conversant with the chief events in the history of modern Russia. Class relationships and economic and political development will be emphasized throughout. Session I will be devoted to the history of Tsarist Russia down to 1914. Session II will deal with the rise of Social-Democracy in Russia, the end of the Autocracy and the development of the Soviet Union. Credit for completion of the first session will be given only after successful completion of the second session.

**REFERENCE BOOKS**


**History IIA (Honours)**

A series of classes for second year Honours students will be run throughout the year. Students will submit one 5,000 word paper and one 3,000 word essay. The course will be concerned with the October Revolution of 1917 in Russia. Emphasis will be placed on the causes and consequences of the Revolution, its place in history, the role of Lenin and the extent to which the expectations and fears aroused by the Revolution were realised.

**History IIB**

*Double session subject*

*Australian Social History*: The History IIB programme for the two sessions is as follows:
(a) Australian social history from 1800 to 1890. The principal themes for study are the relations between social classes, demographic change, and social welfare. Study will be based chiefly on the examination of primary records.

(b) Australian social history from 1890 to 1950. The emphasis remains as in session I.

Credit for completion of the first session will be given only after successful completion of the second session.

REFERENCE BOOKS
Barcan, A. A Short History of Education in N.S.W. Martindale, Sydney, 1965.

History IIIB (Honours)
This course involves a comparative study of English and Australian Social History during the period 1850-1950. Students will be asked to select particular topics for intensive study.

History IIIA
Double session subject

French History

(a) Session I: The chief events in French history from the age of Louis XIV to 1815 with emphasis on the growth of the state; the relationship of state and society; and with particular reference to science, enlightenment and revolution in French history to 1815. The emphasis in this part of the course will be on the relationship of the Enlightenment to the French Revolution.

(b) Session 2: The approach will be the same as in Session I, the only difference being in the period to be covered, namely, from 1815 to 1940. The course will include a detailed study of France in the age of Napoleon III.

REFERENCE BOOKS


**History IIIA (Honours)**

*French History:* The course will concentrate on the question of the relationship of the Enlightenment and the French Revolution of 1789. A comparative study of some eighteenth-century British thought will be included, together with a study of French thought about science and its relationship to Enlightenment and Revolution in France.

**History IIIB***

*Double session subject*

*Modern Southeast Asian History:* The programme for the two sessions is as follows:

(a) One of the main aims during the first session will be to acquaint students with the essential features of selected societies in the region (including a brief analysis of their history before the European impact). Major attention will focus on Indonesia, particularly on social changes induced by Dutch policies, and the rise of nationalism.

(b) During the second session students will study and contrast the colonial policies of Britain, France, and Australia in Malaya, Vietnam and Papua-New Guinea respectively. The emphasis, as before, will be on cultural interaction. The course will conclude with a consideration of some current problems in the region.

**REFERENCE BOOKS**


*This subject may not be offered in 1975. Students are advised to contact the Department for further details.*
DESCRIPTION OF SUBJECTS


**History IIIB (Honours)*

*Southeast Asian History*

This course will involve the use of primary sources, as far as possible, in assessing aspects of the history of Modern Malaya and of Australian New Guinea. On Malaya, attention will be concentrated on British involvement, the nature of indirect rule, and the development of a plural society. On Australian New Guinea, discussion will focus on the transfer of metropolitan concepts and institutions (with their repercussions).

**HISTORY IIIC**

*Double Session Subject*

*Religion and Society in Britain from the Reformation:* The course is concerned with the history of religion in its relations to three themes:

(a) *Crisis in Government* with particular reference to the Henrician Reformation, the Elizabethan Settlement, the Puritan Revolution, and the Revolution of 1688.

(b) *Social developments,* such as the rise of capitalism, the industrial revolution, and the relations between social classes.

(c) *The history of ideas* with particular reference to the challenge to religious faith from rationalism and the scientific revolution.

**Session I:** 1517-1738. From the Reformation to the Conversion of John Wesley.

**Session II:** 1738-1900. From the Evangelical Revival to the end of the Victorian Age.


**REFERENCE BOOKS**

Bennett, G. V. & Walsh, J. D. eds. *Essays in Modern Church History.* Black, 1966.

*This subject may not be offered in 1975. Students are advised to contact the Department for further details.*


**History IIIC (Honours)**

*Religion and Society in Britain from the Reformation*: Concentrating on primary sources, this course will involve the study of the writings of such leading theologians as Richard Hooker, John Wesley and John Henry Newman.

**History IV (Honours)**

The course will require a dissertation and will consist of the following units:

(a) Historical theory and method. (*First session subject.*)

(b) Some aspects of science in eighteenth century British thought. (*Double session subject.*)

(c) Cultural contact problems in Southeast Asia. (*Second session subject.*)
HISTORY AND PHILOSOPHY OF SCIENCE

History and Philosophy of Science I

Double session subject

The Scientific Revolution and the Seventeenth Century: In the seventeenth and early eighteenth centuries, Europeans began to look at the world around them in new ways. New questions were asked and new ways of seeking answers to old questions were developed.

Fundamental changes took place in science in this period: Galileo created a new dynamics; Kepler revised the laws of planetary motion; and Newton, building on their work, set out a radically new theory of the universe. In medicine, anatomy and physiology as well as in philosophy and religion old, established ideas were challenged by Vesalius, Harvey, Bacon, Descartes, Leibniz and many others. Taken all together, the work of these men amounted to an intellectual revolution.

The course begins with a brief examination of major trends in Greek and Medieval Science, and proceeds to discuss five groups of topics.

Bacon and Baconianism: Empiricism; Experimentation and the virtuosi; the Idea of Progress.

Descartes and Cartesianism: Rationalism; the Revival of Atomism; Materialism.

Newton and Newtonianism: the ‘New Philosophy’; the Implications of the New Dynamics and Astronomy; The Mathématisation of Science.

Science and Religion: the Decline of Superstition and the Growth of Scepticism; the Physico-Theologists; Deism and the Argument from Design.

General Topics: Philosophy and Science; Methodology; the Problem of Certainty; Literature, Language and Science; the Battle of the Ancients and Moderns; the Advent of the Age of Reason.

TEXTBOOKS

Cornford, F. M. Before and After Socrates. Cambridge.


Kuhn, T. S. The Structure of Scientific Revolutions. Phoenix Books.


REFERENCE BOOKS

To be advised during course.

History and Philosophy of Science II

Double session subject

The Darwinian Revolution: The historical and philosophical development of the idea of biological evolution and its impact on Western thought.

The course will begin with a general survey of biological thought and practice in the eighteenth and early nineteenth centuries, considered in relation to the current intellectual background.

This will provide a foundation for the study of the emergence of evolutionary ideas through the application of historical explanation to the biological problems of form and development, culminating in the fully articulated Darwinian theory of evolution.
DESCRIPTION OF SUBJECTS

A detailed examination of the Darwinian theory of evolution and its reception will follow.

Students will be expected to read extensively and to engage in co-operative group research in analysing the impact of Darwinism on later nineteenth and twentieth century scientific, religious, social, economic or political ideas. An interdisciplinary approach will be stressed in selecting themes for research.

TEXTBOOKS

Coleman, W. *Biology in the Nineteenth Century*. Wiley History of Science Series.
Glass, B. et. eds. *Forerunners of Darwin. 1745-1859*.
Smith, P. *The Enlightenment, 1687-1776*. Collier.

History and Philosophy of Science III

*Double session subject*

*The Social History of Science*: An account of the growth of the scientific movement, from the early 17th to the 20th century, in relation to: (a) its social and cultural environment and the effects of social structures and social changes upon it; (b) its internal organisation; (c) its effects, intellectual and (via technology) material, upon society.

*Session 1*: The emergence of an independent social role for science, as formulated by Bacon and actualised by the Royal Society and other organisations in the 17th century, and its subsequent development in Europe and elsewhere to the end of the 19th century; with emphasis on topics such as the Enlightenment, the industrial revolution, education, government and public attitudes in relation to the scientific movement in different countries during this period.

*Session 2*: Science in 20th century society, dealing with such topics as science and war, the relation between science, technology and economic growth, government science policy, the movement for social responsibility in science and the anti-science movement, ethical issues in scientific progress, modern pressures on traditional scientific values, science in totalitarian and developing countries, the dilemmas of "trans-science".

TEXTBOOKS

No suitable books are available. Selections from primary sources, reading lists, and other material will be issued by the Department.
MATHEMATICS*

Mathematics I

*Double session subject (6 hrs. per week).*

Session 1: Calculus, introduction to abstract algebra, introduction to computing.

Session 2: Calculus, abstract algebra, linear algebra.

TEXTBOOKS

Statistics for Economists

*First session subject (4 hrs. per week).*

Session 1: Introduction to statistics, FORTRAN programming.

REFERENCE BOOKS
Hoel, P. *Elementary Statistics.* Wiley.
Huntsburger, D. & Billingsley, P. *Elements of Statistical Inference.* Allyn & Bacon.

Analysis I

*Double session subject (2 hrs. per week)*

Session 1: Partial differentiation, multiple integrals, differential equations of the first order and second order with constant coefficients.

Session 2: Fourier series, second order differential equations.

TEXTBOOKS

REFERENCE BOOKS
Marder, L. *Calculus of Several Variables.* Allen & Unwin.
Sokolnikoff, I. S. *Advanced Calculus.* McGraw-Hill.

*NOTE: These subjects are presently under review.*
Algebra I

*Double session subject (2 hrs. per week)*

*Session 1:* Vector algebra, vector calculus, general integral theorems, matrix algebra, eigen-values and eigen-vectors.

*Session 2:* Further linear algebra, linear transformations. Vector spaces.

**REFERENCE BOOKS**


Davis, H. F. *Vector Analysis.* Allyn & Bacon.

Lipschutz, S. *Linear Algebra.* Schaum.


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Computer Science I

*Double session subject (2 hrs. per week)*

*Session 1:* Boolean algebra and sequential machines.

*Session 2:* Theory of formal languages and error detecting codes.

**TEXTBOOK**


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Theory of Functions I

*Double session subject (2 hrs. per week).*

*Session 1:* Fundamental point-set topology and set theory, uniform convergence.

*Session 2:* Differentiable functions. Riemann integration, Euclidian vector spaces.

**TEXTBOOK**

Youse, B. K. *Introduction to Real Analysis.* Allyn & Bacon.

**REFERENCE BOOKS**


Rudin, W. *Complex and Real Analysis.* McGraw-Hill.

Sprecher, D. A. *Elements of Real Analysis.* Academic Press.

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Dynamics

*Double session subject (2 hrs. per week).*

*Session 1:* Elementary dynamics of a particle and a rigid body.

*Session 2:* Vibrations of particles, normal modes, vibrations of continuous systems.

**TEXTBOOK**

Green, S. L. *Dynamics.* University Tutorial Press, London.

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Probability

*Double session subject (2 hrs. per week).*

*Session 1:* Probability, discrete and continuous distributions, expectation.
Session 2: Sampling distributions, estimation, tests of hypotheses.

TEXTBOOK

REFERENCE BOOKS
Dwass, M. Probability Theory and Applications. W. A. Benjamin

Numerical Analysis I
Double session subject (2 hrs. per week).
Session 1: Numerical processes applied to functions, equations, differential equations, integration, matrices.
Session 2: Further numerical work on integration; matrices; direct methods and least squares.

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

Geometry I
Double session subject (2 hrs. per week).
Session 1: Elementary algebraic projective geometry.
Session 2: Elementary differential geometry of curves and surfaces.

TEXTBOOKS

Statistics for Metallurgists
Double session subject (2 hrs. per week)
Session 1: Probability, discrete and continuous distributions, random variables and expected value.
Session 2: Sampling distributions, estimation, testing of hypotheses, regression analysis and analysis of variance.

TEXTBOOK

REFERENCE BOOKS
Complex Variable

Double session subject (2 hrs. per week).

Session 1: Complex functions, analytic functions, Laurent series.
Session 2: Singularities, residues, contour integrals, conformal mapping.

REFERENCE BOOKS

Analysis II

Double session subject (2 hrs. per week).

Session 1: Laplace and Fourier Transforms, Error, Gamma, Zeta and Hypergeometric functions.
Session 2: Two-sided Laplace, Mellin and Hankel transforms, Bessel and Legendre functions. Orthogonal polynomials.

TEXTBOOKS

REFERENCE BOOKS
Rainville, E. D. Special Functions. Macmillan.

General Topology

Double session subject (2 hrs. per week).

Session 1: Topological spaces, separation axioms, filters, compactness, local compactness and connectedness, continuous functions.
Session 2: Metric spaces and function spaces.

TEXTBOOK

REFERENCE BOOKS
Bourbaki, N. Topologie Generale.
Kasriel, R. H. Undergraduate Topology.
Kelley, J. L. General Topology.

Algebra II

Double session subject (2 hrs. per week).

Session 1: Groups, rings and ideals.
Session 2: Fields, algebraic numbers and Galois theory.

TEXTBOOK
Herstein, I. N. Topics in Algebra. Ginn Blaisdell.

REFERENCE BOOKS
Lang, S. Algebra. Addison-Wesley.
Van der Waerden, B. L. Modern Algebra I. Ungar Publishing Co.
Theory of Functions II
Double session subject (2 hrs. per week).

Session 1: Metric spaces, function spaces, analytic functions and con­
tinuation, multiple valued functions.
Session 2: Lebesgue Integration.

TEXTBOOKS
Levinson, N. & Redheffer, R. Complex Variables. Holden-Day.

REFERENCE BOOKS
Burkhill, J. C. The Lebesgue Integral. C.U.P.
Copson, E. T. Metric Spaces. C.U.P.
Hartman, S. and Mikusinski, J. The Theory of Lebesgue Measure and Inte­
Hobson, E. V. The Theory of Functions of a Real Variable. Dover.
Nevanlinna, R. & Paatero, V. Introduction to Complex Variable. Addison-
Wesley.

Dynamics of Continuous Media
Double session subject (2 hrs. per week).

Session 1: Introduction to non-viscous fluid flow in two and three dimen­
sions, compressible flow, water waves including surface and long waves.
Session 2: Capillary and finite amplitude waves, dispersion, perturbation theory, interaction of waves, spectral analysis, infinitesimal stress and strain theory.

TEXTBOOK

REFERENCE BOOKS
Bullen, K. E. Introduction to Seismology. C.U.P.

Stochastic Processes
Second session subject (4 hrs. per week).

Session 2: Probability measures, random variables, branching processes, renewal processes, Markov chains, test of significance, sequential analysis.

REFERENCE BOOKS

Mathematical Methods
Double session subject (2 hrs. per week).

Session 1: Cartesian tensors, calculus of variations.
Session 2: Laplace's and Poisson's equation, optimisation of numerical process in solving differential equations, harmonic and data analysis.
TEXTBOOK

REFERENCE BOOKS
Hildebrand, F. B. *Methods of Applied Mathematics*. Prentice-Hall.
Jeffreys, H. & Jeffreys, B. *Methods of Mathematical Physics*. C.U.P.

**Operations Research**

*First session subject (4 hrs. per week).*

*Session 1*: Linear, non-linear and dynamic programming, queueing theory, theory of games. Simulation.

REFERENCE BOOKS

**Ocean Dynamics**

*Double session subject (2 hrs. per week).*

*Session 1*: Edge Waves.

*Session 2*: Tidal dynamics, estuary and coastline dynamics, introduction to ocean currents.

REFERENCE BOOKS

**Numerical Analysis II**

*Double session subject (2 hrs. per week).*

*Session 1*: Advanced work on function evaluation, solution of algebraic equations, solution of differential equations, and integration. Linear algebra: solutions of equations, calculations of eigen-values and eigen-vectors.


TEXTBOOK
Froberg, C. *Introduction to Numerical Analysis*. Addison-Wesley.

REFERENCE BOOKS
Varga, R. S. *Matrix Iterative Analysis*. Prentice-Hall.
Partial Differential Equations
Double session subject (2 hrs. per week).
Session 1: Cauchy-Kowaleski theorem, first order equations, linear second order equations.
Session 2: Elliptic, parabolic and hyperbolic equations.

TEXTBOOK

REFERENCE BOOKS

Logic and Number Theory
Double session subject (2 hrs. per week).
Session 1: Non-axiomatic and axiomatic treatments of positional and predicate calculus, formal number theory based on logic.
Session 2: Primality, linear and quadratic, residue theory.

TEXTBOOKS
Mendelson, E. *Introduction to Mathematical Logic*.

REFERENCE BOOKS
Dickson, L. E. *Introduction to the Theory of Numbers*. Dover.
Kleene, S. C. *Mathematical Logic*.
Niven, I. & Zuckerman, S. *An Introduction to Number Theory*.
Shoenfield, J. R. *Mathematical Logic*. Addison-Wesley.
Uspensky, J. V. & Heaslet, M. A. *Elementary Number Theory*.
Vinogradov, I. M. *Elements of Number Theory*. Dover.

Ordinary Differential Equations
Double session subject (2 hrs. per week).
Session 1: Existence and uniqueness, solution in series, Storm-Liouville Theory, Green's functions.
Session 2: Non-linear equations, stability, Liapunov functions and methods.

TEXTBOOK

REFERENCE BOOKS
DESCRIPTION OF SUBJECTS

Mathematics II Metallurgy

One session subject (4 hrs. per week).
Course content and textbooks as for Analysis I.

Mathematics II Engineering

Double session subject (5 hrs. per week).

Session 1: As for Analysis I plus
Vector algebra, vector calculus.

Session 2: As for Analysis II plus
General integral theorems, matrix algebra, eigen-values and eigen-vectors.

TEXTBOOKS

Boyce, W. E. & Di Prima, R. C. Elementary Differential Equations and
Boundary Value Problems. 2nd ed. Wiley.
**DESCRIPTION OF SUBJECTS**

**METALLURGY***

<table>
<thead>
<tr>
<th>LEVEL 1 SUBJECTS</th>
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<td>Phase Equilibria</td>
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<td>Optical Metallography</td>
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<td>Structure of Alloys I</td>
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<tr>
<td>Introduction to Mechanical Metallurgy</td>
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<tr>
<td>Shaping Processes and Testing</td>
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<tr>
<td>Fluid Flow I and II</td>
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<td>Thermodynamics I</td>
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<td>Extraction Processes I and II</td>
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<td>Physical Properties of Crystals III</td>
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<td>Kinetics</td>
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<td>Structure of Alloys II</td>
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<td>Elasticity</td>
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<tr>
<td>Structure and Mechanical Properties I</td>
<td>1 -</td>
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<tr>
<td>Thermodynamics II and III</td>
<td>1 1</td>
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<td>Mineral Dressing I and II</td>
<td>1 1</td>
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<tr>
<td>Refractories</td>
<td>1 1</td>
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<tr>
<td>Metallurgy Laboratory/Tutorial</td>
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<table>
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<tr>
<th>LEVEL 2B SUBJECTS</th>
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<tr>
<td>Mechanisms of Phase Transformations</td>
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<td>Structure of Alloys III</td>
<td>1 1</td>
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<td>Structure and Mechanical Properties II</td>
<td>1 1</td>
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<tr>
<td>Metal Joining</td>
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<tr>
<td>Fracture</td>
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<td>Heat Transfer I and II</td>
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<tr>
<td>Mass Transfer I and II</td>
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<td>Extraction Processes III</td>
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<td>Seminar</td>
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<td>Metallurgy Laboratory/Tutorial</td>
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| LEVEL 2 SUBJECTS: Essentially Level 2A and level 2B Subjects combined but excluding Extraction Processes IV. |

<table>
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<th>LEVEL 3 CORE SUBJECTS</th>
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<tr>
<td>Interfaces</td>
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<td>Structure of Alloys IV</td>
<td>1 -</td>
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<td>Structure and Mechanical Properties III</td>
<td>1 -</td>
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<tr>
<td>Plasticity and Metal Shaping</td>
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<td>Reaction Engineering</td>
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<tr>
<td>Refining</td>
<td>1 -</td>
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<tr>
<td>Extraction Processes IV and V</td>
<td>2 -</td>
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<tr>
<td>Metallurgy Laboratory/Tutorial</td>
<td>5 5</td>
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</tbody>
</table>

* Courses outlined are those offered in 1974 with only minor alterations. However, all Metallurgy courses are at present being revised and students will be advised of any further changes by the staff of the Department.
### LEVEL 3 OPTION UNITS (3 to be taken)

<table>
<thead>
<tr>
<th>Subject</th>
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<th>Session 2</th>
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<tr>
<td>Crystallography of Phase Transformations</td>
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<tr>
<td>Advanced Mechanical Metallurgy</td>
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<td>-</td>
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<tr>
<td>Solidification</td>
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</table>

Note: further option units will be offered as facilities permit.

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### Metallurgy Level I

#### TEXTBOOKS


### Metallurgy Level II

#### TEXTBOOKS

As for Level I, together with:
Hull, D. *Introduction to Dislocations*. Pergamon.

### Metallurgy Level III

#### TEXTBOOKS

As for Levels I and II, together with:
Levenspiel, O. *Chemical Reaction Engineering*. Wiley.
DESCRIPTION OF SUBJECTS

PHYSICS*

FIRST LEVEL PHYSICS

Mechanics, Heat, Optics, Electricity and Magnetism

*Double session subject (84 hrs. lectures, 28 hrs. tutorials and 56 hrs. practical).

First session
Kinematics and frames of reference; dynamics of a particle; vibrations; electrostatics; d.c. circuits.

Second session
Dynamics of a rigid body; waves, electromagnetism; heat.

TEXTBOOK

SECOND LEVEL PHYSICS

Electromagnetism and Optics

*Double session subject (42 hrs. lectures and 42 hrs. practical).*

First session
Electromagnetism
1. Vector analysis appropriate to the course.
3. Wave equations.
4. Radiation from an oscillating dipole.

Second session
Optics
1. Propagation of light.
2. Coherence and interference.
3. Diffraction.
4. Thermal radiation and light.

TEXTBOOKS

Atomic Physics, Nuclear Physics and Wave Mechanics

*Double session subject (42 hrs. lectures and 42 hrs. practical).*

First session
Atomic Physics
Black body radiation; the photoelectric effect; the Compton effect; light quanta and interference phenomena, coherence; atomic spectroscopy; Stern—Gerlach experiment; X-ray and electron diffraction.

Second session
Wave Mechanics
Matter waves; Schrödinger wave equation; free particle; correspondence principle; square potentials.

*Physics subjects are at present undergoing extensive revisions and students are requested to contact the Department for further information.
DESCRIPTION OF SUBJECTS

Nuclear Physics
General Properties of the Nucleus: Quantum states, binding energy; stable and unstable nuclei; fission; size of nuclei coulomb barrier; angular momentum, spin, electric and magnetic moments; statistics of nuclear constituents; nuclear stability and saturation of nuclear forces.

TEXTBOOK

Mechanics, Thermodynamics and Statistical Physics
Double session subject (42 hrs. lectures and 42 hrs. practical).

First session
Mechanics
Introductory topics: coordinate transformations, properties of rotation matrices, transformation matrices.
Oscillatory motion: The simple harmonic oscillator, damped harmonic motion, forced oscillations, the Laplace Transform Method, oscillations in a potential well.

Thermodynamics and Statistical Physics
Characteristic features of microscopic systems: irreversibility and the approach of equilibrium; heat and temperature.
Basic probability concepts; statistical ensembles, mean values for a spin system, distribution of molecules in an ideal gas.
Statistical description of systems of particles; statistical ensembles and postulates, equilibrium and reversibility, interactions between systems—thermal and adiabatic, general interactions—first law of thermodynamics.
Thermal interactions: distribution of energy between macroscopic systems, entropy as a measure of accessible states, contact with heat reservoir—Boltzmann factor, canonical distribution applied to paramagnetism.

Second session
Mechanics
The special theory of relativity: Galilean invariance, the Lorentz transformation, momentum and energy in relativity.
Calculus of variations: Euler's equations, functions with several dependent variables, Euler equations with auxiliary conditions.
Hamilton's principle—Lagrangian and Hamiltonian dynamics: Hamilton's principle, Lagrange's Equations of Motion, Euler's Theorem applied to kinetic energy, conservation theorems, canonical equations of motion—Hamiltonian dynamics, the Virial Theorem. The Lagrangian Function In special relativity.

Thermodynamics and Statistical Physics
Microscopic theory and macroscopic measurements: work, internal energy and heat, heat capacity and entropy changes.
Canonical distribution in the classical approximation: Maxwell velocity distribution, the equipartition theorem, specific heat of a monatomic ideal gas.
General thermodynamic interactions: the thermodynamic identity, entropy—adiabatic compression, the laws of thermodynamics, the Gibbs free energy and equilibrium, equilibrium between phases.

**TEXTBOOKS**


**Astronomy**

*Double session subject (54 hrs. lectures and 30 hrs. practical)*

**First session**

Aspects of the sky; the earth in motion; timekeeping, light and the telescope; the moon; eclipses of the moon and sun; the solar system; planets and their satellites; the sun.

**Second session**

The stars; stellar atmosphere and interiors; intrinsic variable stars; binary stars; star clusters; interstellar gas and dust; the galaxy; the exterior galaxies.

**TEXTBOOKS**


Supplemented by notes and references to be given by lecturers.

**THIRD LEVEL PHYSICS**

**Classical Mechanics and Quantum Mechanics**

*Double session subject (56 hrs. lectures and 28 hrs. seminars)*.

**First session**

Classical Mechanics

Non-linear oscillations phase diagrams for non-linear systems; non-linear oscillations in an asymmetric potential; central-force motion; kinematics of two-particle collisions; elastic collisions; cross sections; the Rutherford scattering formula; motion in a noninertial reference frame.

Quantum Mechanics

Introduction: postulates of quantum mechanics, operators of quantum mechanics, state function space—vector space, eigenvalue equations—basic vectors, expectation values, Orthonormal sets—sharing of eigenfunction sets.

The Hamiltonian Operator and Schrodinger's Equation: Hamiltonian eigenfunctions as basis wave functions; time variation of expectation values. Uncertainty principle.


The matrix formulations of quantum mechanics: matrix treatment of harmonic oscillator, promotion demotion operators.
Second session
Classical Mechanics
Dynamics of rigid bodies: the inertia tensor, moments of inertia for different body coordinate systems, Euler's equations for a rigid body, motion of a symmetrical top with one point fixed, the stability of rigid-body solutions.
Coupled oscillations.
Waves in strings.
Quantum Mechanics
Collision Theory: time-dependent perturbation theory.
Multiparticle systems.

TEXTBOOKS

Astrophysics
Double session subject (45 hrs. lectures and tutorials).
First session
Observational basis; Hertzsprung-Russell diagrams; galactic and globular clusters; stellar populations; radiative transfer; atomic ionization; equation of transfer in local thermodynamic equilibrium; opacity; theory of spectral line formation.
Second session
Line contour theory curves of growth; equations for stellar interiors; energy transport; nuclear reactions in stars; construction of stellar models; main sequence structures; stellar evolution.

TEXTBOOK

REFERENCE BOOKS

Solid State Physics and Nuclear Physics
Double session subject
Solid State Physics
First and second session
Crystalline state: the classification of crystals; crystal lattices; diffraction of X-rays, electrons and neutrons; reciprocal lattices; structure determination. Crystal binding: covalent, ionic, metallic.

**TEXTBOOK**

**Nuclear Physics**
*First and second session*
Forces between nucleons: n-p and p-p, deuteron ground state, nuclear stability.
Nuclear spectroscopy: systematics of stable nuclei, models of the nucleus. Nuclear reactions: description, cross sections, compound nucleus, resonance theory.
High energy interactions and elementary particles.

**TEXTBOOK**

**Statistical Mechanics and Kinetic Theory**
*Double session subject (45 hrs. lectures and tutorials).*

**Statistical Mechanics**
*First session*
The canonical distribution; connection of statistics with thermodynamics: the Fermi and Bose oscillators; statistics of simple systems; the ideal insulating crystal; black body radiation; systems of identical particles; the Ideal Gas; the grand canonical distribution; non-Interacting identical particles; Bose-Einstein and Fermi-Dirac distributions; the ideal monatomic gas at a definite chemical potential; Bose-Einstein degeneration; conduction of electrons in metals.

**Kinetic Theory**
*Second session*
Collisions; Boltzmann Transport Equation; equilibrium properties of a gas; hydrodynamic equations; interaction between gases in equilibrium; expansion of the distribution function; transport properties of a simple gas; transport properties of a gas mixture; some approximate forms for the collision term in the Boltzmann Transport Equation.

**TEXTBOOK**

**Laboratory Project and Thesis**
*(90 hrs.)*
PSYCHOLOGY

First Year
1. All students enrolling for the first year of Psychology are required to take Psychobiology, Learning and Cognitive Processes, Research Methods and Statistical Techniques, Motivation and Emotion, Abnormal Psychology and Individual Differences, Development and Social Processes.

Second Year
2. Provision is made for students proceeding into Psychology II as part of a BA, a BCom (Applied Psychology) or a BSc (Applied Psychology) degree. Arts students are provided for at both Pass and Distinction levels. The individual units contained in these courses are as follows:

3. Second Year Pass Course
   Personality Theory
   Learning Theory
   Developmental Psychology
   Laboratory Method II

4. Second Year BCom (Applied Psychology)
   Personality Theory
   Learning Theory
   Laboratory Method II
   Psychological Testing
   Research Design
   Psychological Measurement II

5. Second Year Distinction Course and BSc (Applied Psychology)
   Personality Theory
   Learning Theory
   Personality Laboratory
   Learning Laboratory
   Psychological Measurement II
   Research Design
   Psychological Testing
   Developmental Psychology

Third Year
6. Provision is made for students proceeding into Psychology III as part of a BA, BCom (Applied Psychology) or a BSc. Intending part-time students are advised that attendance at seminars and lectures during the hours 9 a.m. to 5 p.m. may exceed 6 hours per week.

7. Third Year Pass Course (Arts and Commerce)
   Psychology IIIA—Unit 1
   Psychological Theory
   Experimental Psychology
   Educational Psychology

   Psychology IIIA—Unit 2
   Psychological Theory
   Social Psychology
   Counselling Psychology
8. Third Year Distinction Course (Arts) and Pass and Distinction (Science), Psychology IIIA, Units 1 and 2, together with:

*Psychology IIIB—Unit 1*
Advanced Experimental Psychology
Advanced Educational Psychology

*Psychology IIIB—Unit 2*
Advanced Social Psychology
Advanced Counselling Psychology

Note: *Psychology IIIA—Unit 1* is a co-requisite for *Psychology IIIB—Unit 1.*
*Psychology IIIA—Unit 2* is a co-requisite for *Psychology IIIB—Unit 2.*
*Psychology IIIA—Unit 1* is a pre-requisite for *Psychology IIIA—Unit 2.*
*Psychology IIIB—Unit 1* is a pre-requisite for *Psychology IIIB—Unit 2.*

Fourth Year (Honours)

11. The Honours year in Psychology is planned to both prepare the student for professional practice and to pave the way for further academic work. Students are required to attend three seminar courses of full-year duration, these are: Significant Developments in Psychology; Applications and Current Issues in Psychology; and Research (The major requirements are two individual research theses, based on theoretical and empirical work by the student). Intending Honours students should consult with the Departmental Chairman.
## DEPARTMENT OF PSYCHOLOGY
### COURSES OFFERED — 1974

<table>
<thead>
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<th>Title</th>
<th>Session</th>
<th>Hours Per Week</th>
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<td><strong>PSYCHOLOGY I</strong></td>
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<td>Learning and Cognitive Processes</td>
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<tr>
<td>Research Methods and Statistical Techniques</td>
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<td>Motivation and Emotion</td>
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<td>Psychobiology</td>
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<td>Abnormal Psychology and Individual Differences</td>
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<td>Development and Social Processes</td>
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<td>Laboratory Method II</td>
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<td>Advanced Social Psychology</td>
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<td><strong>PSYCHOLOGY IV</strong></td>
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<td>Significant Developments in Psychology</td>
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<td>Applications and Current Issues in Psychology</td>
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<td>Research Seminar</td>
<td>Year</td>
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DESCRIPTION OF SUBJECTS

PSYCHOLOGY I

The aim of the course is to provide students with a general introduction to the objective study of behaviour by presenting the facts, principles and methods in some of the main areas of psychology.

Learning and Cognitive Processes

Two session subject (1 hr. per week)

This course is presented in two major sections. The first deals mainly with conditioning and learning and the second with memory and problem solving.

Syllabus:

1. Learning
   (a) Learning and performance.
   (b) Classical conditioning.
   (c) Operant conditioning.
   (d) Schedules of reinforcement.
   (e) Aversive control.
   (f) Organisation of behaviour.

2. Cognitive Processes
   (a) Information processing including attention and selection.
   (b) Memory including sensory information storage, short and long term memory, retrieval mechanisms and forgetting.
   (c) Problem solving including methodology of research.

Specific topics will be selected for group discussion and demonstration in the laboratory. Films will be used to illustrate methods and procedures.

TEXTBOOK


Research Methods and Statistical Techniques

Two session subject (1 hr. per week)

Syllabus:

1. The nature of behavioural investigation: science and non-science; the language of science; rules of evidence.

2. Basic research strategies: formulating hypotheses; naturalistic observation; post-hoc methods; pre- and post-hoc methods; control group methods.

3. Descriptive statistics: organising data; graphing data; central tendency; dispersion; standard scores; and areas under the normal curve.

4. Drawing inferences from sample data: strength of relationships; differences in central tendency; differences in distribution; sampling distributions and sampling error; significance levels; and types of data.

5. Limitations and realities of research: internal (organizational) and external (social) pressures; funding of research.

6. Formulation of theories: models; bias; generalisation.
The pattern for the teaching of the subject will be a seminar based on sections 1, 2 and 6, followed by a lecture dealing with the appropriate statistical treatment, and then a practical laboratory to demonstrate the application of the statistical technique.

TEXTBOOKS
Runyon, R. P. & Haber, A. *Workbook to accompany fundamentals of behavioural statistics*. Addison-Wesley, Massachusetts, 1971 (for second year as well).

Motivation and Emotion
*First session subject (2 hrs. per week)*

**Syllabus:**
This course is presented in three major sections. In the first, the relationships between behaviour and motivation are explored, and the characteristics of what are commonly called primary and secondary motives are examined. Also in this section, the significance of instinctual sources of motivation are considered.

The second section is concerned with emotions, and after a study of the physiological sources and accompaniments of emotional states, turns to a detailed review of human experience and behaviour associated with some commonly occurring emotional states: anger, embarrassment, fear, anxiety and love.

The third section deals with theoretical issues, and is concerned with a critical analysis of some of the major motivational systems — those of Maslow, Murray, Hull and Freud, for instance. Also phantasy life and dreams are examined.

Students will engage in exercises designed to demonstrate various correlates of emotional and/or motivational states.

**TEXTBOOK**

Psychobiology
*First session subject (2 hrs. per week)*

This course is presented in two major sections. The first deals with the biological bases of behaviour and the second with sensation and perception.

**Syllabus:**
1. Biological bases of behaviour
   (a) Physiology and genetics.
   (b) Brain-behaviour relationships.
2. Sensation and perception
   (a) Psychophysics.
   (b) The senses.
   (c) Perceptual processes.
   (d) Signal detection theory.
   (e) Sleep and dreams.
Specific topics will be selected for group discussion and demonstration.

TEXTBOOK

Abnormal Psychology and Individual Differences
Second session subject (2 hrs. per week)

Syllabus:
The subject is presented in 3 major sections —

1. Introduction
   A discussion of normality and individual differences.

2. Abnormal Psychology
   (a) Nature and history of abnormal psychology.
   (b) Major theoretical approaches
      (i) Psychogenic
      (ii) Biological
      (iii) Sociocultural
      (iv) Behavioural
   (c) Common disorders and diagnosis
   (d) Treatment

3. Individual Differences
   A discussion of issues in differential psychology, including a consideration of differences in intellect, personality, sex, and race.

Practical work will include critical evaluation of films and tape recordings.

TEXTBOOK

Development and Social Processes
Second session subject (2 hrs. per week)

Syllabus:
This subject is presented in two sections: The first is concerned with the development of the major psychological functions and processes in the child from conception to adolescence. In particular, intellectual, cognitive and perceptual development; the acquisition of language; personality development and social development are examined.

The second section deals with significant social processes which affect the lives of children and adults. Particular attention is paid to family relationships; peer group and other important group relationships; and the acquisition of attitudes and values and the ways in which these may be socially influenced. The relationship between the developing individual and his society — socialising influences and individual reactions to them — provide a unifying theme for this section of the course.

Specific topics within this subject will be selected for small group discussion and, in some instances, experimental demonstration.

TEXTBOOK
DESCRIPTION OF SUBJECTS

PSYCHOLOGY II

Personality Theory
First session subject

Aims of the Course:
1. To examine critically the major theoretical approaches to personality structure, function and development.
2. To enhance students' critical and diagnostic skills by increasing their understanding of personality as viewed within the major orientations.
3. To provide a specialist foundation in personality development and functioning for third year electives.

Syllabus:
After considering personality and its development from a descriptive, relatively atheoretical point of view, the major attributes of and criteria for assessing a satisfactory theory of personality will be examined. Detailed critical analysis will then be made of the following theorists' views as exemplars of particular orientations: Freud (psychodynamic/psychanalytic); Rogers (phenomenological/self); Kelly (cognitive); Cattell (trait/factor analytic); Murray (personology/motivational); Skinner, Dollard and Miller (behavioural/learning). Additionally, some familiarity with other widely recognised personality theorists will be established.

TEXTBOOK
or

Learning Theory
Second session subject

Aim of the Course:
1. To treat in detail material related to learning which was introduced in first year.
2. To teach laboratory methods specifically related to learning and operant conditioning.

Syllabus:
A. Theory

B. Laboratory

TEXTBOOK
To be advised.
Laboratory Method II

Double session subject

Aims of the Course:
1. To give students further experience in planning, conducting and interpreting the results of empirical research in the fields of personality and of learning.
2. To illustrate with practical exercises some of the theoretical concepts or methodological problems discussed in the personality and learning theory courses.

Syllabus:
In general, three of four studies will be designed and executed as class exercises, followed by a piece of research entirely planned by students, working in groups of three to five. In each session this student planned research must be related to the theory course (personality in session 1, learning in session 2) and the report on it submitted by students will receive a greater proportion of the session's marks than will the reports on each of the class exercises.

Personality Laboratory

First session subject

Aims of the Course:
As for Laboratory Method II.

Syllabus:
As for Laboratory Method II, with respect to the Personality segment, and with the two additional requirements:

(a) The student research project must be planned, executed and reported upon by each student working alone, rather than in a group as for pass students.

(b) The laboratory report on each class exercise will have additional sections, requiring additional work as specified by the course tutor.

Learning Laboratory

Second session subject

Aims of the Course:
As for Laboratory Method II.

Syllabus:
Three laboratory exercises will be completed during the session. The first will examine retroactive interference in learning; the second exercise is titled "verbal learning"; and the third will be concerned with the influence of acoustic similarity on short-term memory.

A fourth exercise, to be completed as a personal project, is to be submitted at the end of the session by each student, i.e. before the commencement of examinations.
Description of Subjects

Psychological Measurement II
First session subject

Aims of the Course:
1. To equip students with a more advanced knowledge of techniques and concepts treated in Psychological Measurement I.
2. To illustrate the use of these techniques in the design and analysis of experiments.

Syllabus:
1. Probability theory.
2. Random sampling.
3. Sampling distributions.
4. Normal and binomial distributions.
5. Variance ratio (F).
6. Analysis of variance (one-way, two-way and three-way).
7. Correlation and regression analysis.
8. Correlation involving dichotomous data.

TEXTBOOK

Research Design
First session subject

Aims of the Course:
1. To teach principles of research design and methodology.
2. To illustrate the practical application of statistical techniques covered in the courses Psychological Measurement I and Psychological Measurement II.

Syllabus:
1. The context of discovery.
   Formulation of hypotheses
   Form of hypotheses
   Specification of meaning of terms
   Explication
   Definitions
   Substruction (Facet analyses)
   Measurement of variables
   Scaling
   Validity
   Reliability

2. The context of evaluation.
   Experimental design
   Antecedent probability
   Control groups
   Variables
   Choosing statistical methods
   The risk function and decision theory
3. Analysis and interpretation of outcomes.
   Causality.
   Application of results (truth and knowledge)

4. Theories and models.
   Elements of a formal theory
   Formal theories and behavioural science.

TEXTBOOK

Psychological Testing
Honours students only
Second session subject

Aims of the Course:
1. To enable students to interpret the information necessary to use and evaluate tests.
2. To familiarise students with a variety of testing and assessment procedures used in research and applied settings.
3. To place such testing methods and problems in the context of measurement in psychology as a whole.

Syllabus:
1. Test Theory.
   Scales, norms and scores.
   Standardisation.
   Reliability.
   Validity.
   Item analysis.

2. Testing and assessment procedures for:
   Personality.
   Ability.
   Achievement.
   Motivation


TEXTBOOK

Developmental Psychology
Second session subject

Aims of the Course:
1. To enable students to contrast varying theoretical approaches in developmental psychology by detailed exploration of specific issues.
2. To evaluate empirical studies of development changes in cognition and personality.
3. To view development as a continuing process throughout the life-span of the individual.
DESCRIPTION OF SUBJECTS

Syllabus:
1. Cognitive theories and research.
2. Linguistic development.
3. Personality development.

TEXTBOOK
Students may specialise in either child development or ageing and should purchase the text appropriate to their choice.
Liebert, Poulos & Strauss. Developmental Psychology. Prentice-Hall, 1974. or

PSYCHOLOGY III

Psychological Theory IIIA(i)
First session subject

Aims of the Course:
1. To provide a philosophical basis for work in the elective subjects in the third year which are "applied" in orientation.
2. To extend on the student's knowledge of scientific theory construction and to provide background material. This material is mainly of historical interest, but it is necessary to a thorough understanding of contemporary psychology.

Syllabus:
Psychology as a Science.
   The nature of science.
   Psychology's place in science.
   Systems and theories.

Systems of Psychology.
   Associationism, structuralism, functionalism,
   behaviourism, Gestalt psychology, psychoanalysis.

TEXTBOOK

Psychological Theory IIIA(ii)
Second session subject

Aims of the Course:
1. To present some theoretical developments in contemporary psychology.
2. To show the relationship of contemporary theories to older systems.
Syllabus:
Contemporary Theories.
   S-R theory.
   Field theory.
   Varieties of personality theory.
   Engineering and mathematical influences on psychology.

TEXTBOOK

Counselling Psychology IIIA(ii)
Second session subject

Aims of the Course:
1. To illustrate the practical application of major personality theories to the counselling process.
2. To introduce techniques for establishing an effective counselling relationship and general procedures for interviewing.

Syllabus:
Counselling theory.
Interview techniques.
Social aspects of counselling.
Psychological testing in counselling.

TEXTBOOK

Advanced Counselling Psychology IIIB(ii)
Second session subject

Aims of the Course:
1. To extend on the course in Counselling Psychology to include:
   (a) Occupational psychology and vocational guidance.
   (b) Research methods appropriate to counselling.
2. To bring the student into contact with practising counsellors in the fields of:
   (a) Education.
   (b) Psychiatry.
   (c) Vocational guidance.
3. To conduct an independent investigation related to counselling psychology.

Syllabus:
Research methods.
Occupational psychology.
Visits and visiting speakers.
Independent research project.

TEXTBOOK
No text has been set. Selected references will be given at the beginning of the session.
Social Psychology IIIA(ii)
Second session subject

Aims of the Course:
1. To consider in detail the interaction between the personality and the social environment.
2. To present the major theories in social psychology.
3. To familiarize students with research methods appropriate to the field.

Syllabus:
1. Social psychological orientations and theories:
   (a) Field theoretical.
   (b) Psychoanalytic.
   (c) Reinforcement.
   (d) Cognitive.
2. Social psychology applied to current personal/social issues, such as:
   - Conformity and independence.
   - Identity problems in today's society.
   - Drug use and "deviant subculture" backgrounds.
   - The psychology of the disadvantaged.
   - Prejudice and group relations.
3. As necessary, specific theoretical and research material will be introduced in discussing topics.

TEXTBOOK

Advanced Social Psychology IIIB(ii)
Second session subject
The same areas will be dealt with as in IIIA(i), but at greater theoretical depth and with a wider range of empirical and historical reading required.

In addition, students enrolled in the IIIB(i) course will be required to plan, execute and report upon a piece of empirical research into some significant aspect of social psychology.

TEXTBOOKS

and either:

or
Educational Psychology IIIA(i)

First session subject

Aims of the Course:
To study the relevance of psychology to education.
1. An evaluation of the possible relevance of areas of research in psychology to education, including:
   - learning.
   - cognitive processes.
   - individual differences.
   - social psychology.
   - motivation.

2. Current issues in educational psychology, including:
   - relevance of Piaget.
   - heredity versus environment.
   - racial differences in intelligence.
   - expectancy effects.
   - individual differences in learning.

TEXTBOOK

Advanced Educational Psychology IIIB(i)

First session subject

A more detailed exploration of those issues of interest to the class and of particular importance from the above syllabus will form the basis of this advanced course.

TEXTBOOK

Experimental Psychology IIIA(i)

First session subject

Aims of the Course:
1. To develop skill in conducting psychological research in the laboratory.

Syllabus:
Emphasis will be placed on experimentation in perception, learning (including vibrotactile and bisensory presentation of coded signals), signal detection and vigilance situations, and man-machine systems. The course will comprise formal theory lectures plus seminars and laboratory experimentation.

Advanced Experimental Psychology IIIB(i)

First session subject

The syllabus will be the same as that for Experimental Psychology IIIA(ii) but students undertaking this course will be expected to devote more time to laboratory experimentation and to complete two experimental studies of their own design.
DESCRIPTION OF SUBJECTS

The books necessary for both courses (IIIA(ii) and IIIB(ii)) will be:

**TEXTBOOKS**


Additional references will be given in class.

**Psychology IV (Honours)**

The Course has three parts comprising:

*Research Seminars*

Students are required to conduct two supervised research projects: an empirical exercise which is to be presented as a 15,000 words thesis, and an essay of 8,000 words about a theoretical issue in psychology. Students will be expected to give regular progress reports about their projects during the weekly seminars.

*Significant Developments in Psychology Seminar*

A series of seminars about important theoretical and empirical developments that are occurring in psychology.

*Applications and Current Issues in Psychology Seminar*

A series of seminars about ethical issues and professional applications of psychology in such areas as counselling, personnel selection, education, organisational and industrial psychology.
SOCIOLOGY

Sociology I

Sociology I is the only course offered in Sociology in 1975. Students may however enrol in Sociology I with the expectation of being able to complete a major in Sociology over subsequent years.

The course is intended as an introduction to the basis of sociological theory, to the nature of sociological understanding and "knowledge", to the application of sociology to current social issues. Students will be expected through the course to develop a sociological analytic way of thinking about social issues. Early focus of the course is on the individual in society and construction of social meaning; from this basis coursework expands into examination of wider society and wider issues of sociological enquiry and debate.

PRELIMINARY READING

Students will be expected to have read two books prior to the commencement of formal coursework. These are:


TEXTBOOKS AND REFERENCE BOOKS

Contact the Department of Sociology for advice on which books to purchase, and for reference lists of supplementary reading.
Postgraduate Study
POSTGRADUATE STUDY

Postgraduate students enrolled for University of New South Wales degrees will have to meet the requirements of that University as prescribed in the University of New South Wales Calendar 1974. Students who enrol for postgraduate degrees of the University of Wollongong will have to meet the requirements of the University which are available from the Registrar.

Details of the enrolment procedures, fees and scholarships which apply at the time of printing are set out in the following pages.

A course outline of the postgraduate diploma course in Education offered by the University may be found on p. 213 in this section of the Handbook.

Particulars of conditions of award and of formal coursework requirements may be obtained from the Registrar.

POSTGRADUATE ENROLMENT PROCEDURE

Research Degrees

Application forms for registration are obtainable from the Student Enquiries Section, First Floor, Administration Building.

Before lodging an application applicants are advised to contact the appropriate Departmental Chairman to discuss research interests, suitability of qualifications held, and the availability of facilities for research in particular areas.

Courses Requiring Attendance at Formal Lectures

Students wishing to enrol as candidates for postgraduate degrees or diplomas requiring attendance at formal lectures should make application on the appropriate form available from the Students Enquiries Section.

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

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

Re-enrolment

Enrolment forms will be sent to re-enrolling students at the beginning of the year with instructions concerning re-enrolment procedure.
SOME CURRENT RESEARCH INTERESTS

Persons interested in pursuing postgraduate studies should contact the appropriate Departmental Chairman. The research interests of the staff cover a wide range of topics, and some current fields of interest are listed:

Accountancy

Accounting theory construction and verification.
Behavioural aspects of management information systems.
Business finance.
Business objectives.
Capital and income concepts, including cost and value concepts, and their measurement.
Capital expenditure decision-making.
Corporate strategy and growth through takeovers and mergers.
History and development of accounting thought.
International accounting.
Statements on accounting standards by professional bodies, and other means of improving accounting practice.
Taxation.

Chemistry

Chemistry of natural products—alkaloids and hallucinogenic fungi.
Correlation of chemical structure with physiological activity.
Synthetic organic chemistry.
Physical-organic chemistry—kinetic studies of hydrolysis reactions and measurement of thermodynamic acidity constants.
Catalytic deuterium exchange reactions.
Applied quantum mechanics—approximate molecular orbital theory and theories of bonding and electronic spectra.
Magneto-chemical and spectral studies of transition metal complexes.
Chemistry of organic sulphur compounds.
Gas chromatography and mass spectrometry of diastereoisomers and metabolites.
Peptide chemistry.
Environmental chemistry.

Civil, Mechanical and Mining Engineering

Applied mechanics and photoelasticity.
Computer analysis of structures.
Development of composites.
Experimental stress analysis.
Highways and traffic.
Hydraulic model studies.
Interaction between reinforcing and parent materials.
Investigation of the potentialities of blast furnace slag.
Local effects on design wind loads.
Model analysis of structures.
Significance of tyre-pavement interaction on safety.
Study of natural soil slopes and their stability.
Finite-element method in soil mechanics.
Analysis for stresses in an anisotropic soil.
Determination of flow properties of bulk solids.
Dynamic analysis and optimization of bulk handling systems.
Flow of granular materials.
Random signal analysis and stochastic processes.
System identification studies.
Boiling heat transfer.
Exhaust emissions from internal combustion engines.
Losses across valves of reciprocating air compressors.
Propagation of waves in small bore tubes.
Treatment and disposal of industrial effluents.

**Economics**
- Industrial economics.
- Regional studies.
- Economic development.
- Economics of migration.
- Labour economics.
- Monetary economics.
- Natural resource economics.

**Education**
- Classificatory ability in Australian children.
- Convergent, divergent and operational thinking among white and Aboriginal children.
- Effects of mass media on children.
- Enrichment programmes for disadvantaged preschoolers.
- Schooling and social class.
- Socialization of children, migrants and minority groups.

**Electrical Engineering**
- Automatic control.
- Plant identification.
- Electrostatic precipitation.
- Static converters.
- Electrical machines.

**English**
- Old English language and literature.
- Middle English language and literature.
- Early-Tudor literature.
- Elizabethan literature.
- Early seventeenth century literature.
Geography

Soil studies.
Geography of transport systems.
Agricultural geography.
Geomorphology.
Population studies.
Regional development and planning.
Social deprivation.

Geology

The geology of coal measures.
Rock magnetism and related geophysical phenomena.
Textures of igneous and metamorphic rocks.
Invertebrates of the Lower and Middle Palaeozoic of Australasia.
Terrestrial and shallow marine sedimentology.
Igneous Petrology of the Illawarra district.
Organic geochemistry.

History

European History from 1650.
British History from 1500.
Any area of Australian history.

Mathematics

Computing Science.
Functional analysis.
Logic and set theory.
Numerical analysis.
Nuclear reactor theory.
Oceanography.
Operations research.
Statistical decision theory.

Metallurgy

Deformation and fracture at elevated temperatures.
Solidification of metals.
Studies of structure changes in alloys using optical, electron-optical and X-ray methods.
Studies of flow phenomena in packed beds.
Mechanical behaviour of metals with particular reference to sheet forming operations.
Physics

Astronomy—visible and infra-red—near infra-red detectors.
Mössbauer spectroscopy.

Psychology

Accidents in industry—psychological and physical factors.
Achievement motivation.
Attitudes.
Bisensory learning including vibrotactile learning.
Decision and risk taking.
Deviant and criminal behaviour.
Disadvantaged children.
Human learning.
Personnel—selection and placement.
Prediction of academic success.
Social psychology of industry.
Student guidance and counselling services.
Time perception.
FEES

Students are required to meet the following fees and charges:

1. Penalty charges such as late fees, parking fines, etc.
2. Administrative charges such as "statement of record" fees, "review of result" fees or charges for examinations requiring special arrangements.
3. Cost of travel incurred by students attending practical work for courses in social work, teacher training, etc.
4. Cost of travel incurred by external students attending residential schools.
5. Accommodation charges and cost of subsistence on excursions, field work, etc.
6. Charges for special clothing or laundry costs.
7. Purchase of instruments or equipment.
8. Cost of handbooks and notes.
9. Fees and charges associated with the development and operation of unions, student associations, students' representative councils and other student activities.
10. Deposits and refundable fees.

COMPULSORY FEES

Postgraduate students are required to pay:

University Union*—entrance fee $22, annual fee $37.
Sports Association—entrance fee—$6.
Sports Association*—annual subscription—$6.
Students' Representative Council—annual subscription—$9.
Miscellaneous—annual fee—$2.

Examinations conducted under special circumstances—$11 for each subject.

Review of examination result—$11 for each subject.

RESEARCH DEGREE — SPECIAL NOTE

A candidate who at the end of a year has completed all work for the degree other than the writing up of the thesis and who anticipates submitting the thesis to the Registrar for examination during the following year is required to re-enrol for that year and pay the appropriate student fees outlined above. How-

* Life members of these bodies are exempt from the appropriate fee or fees.
ever, when the student submits his thesis for examination he will receive a refund of the student fees on the same basis as if he had notified his withdrawal from the course.

LATE FEES

Session One

Fees paid from the commencement of 3rd week of the session to 31st March ........................................ $20

Fees paid after 31st March where accepted with the express approval of the Registrar ................................ $40

Session Two

Fees paid in 3rd and 4th week of the session ........................................ $20

Fees paid thereafter ......................................................................................... $40

Initial Registration—Research Degrees

Fees paid from commencement of sixth week after date of offer of registration to end of eighth week ........ $20

WITHDRAWAL

1. Students withdrawing from a course are required to notify the Registrar in writing.

2. Where notice of withdrawal from a course is received by the Registrar before the first day of Session 1 a refund of all fees paid will be made.

3. Where a student terminates for acceptable reasons a course of study within 30 days of the commencement of first session a refund of fees paid, in respect of, the University Union Entrance and membership fees, the Students' Representative Council fee, the Sports Association fee, and the Miscellaneous fee, may be made as shown hereunder.

4. On notice of withdrawal within 30 days, a partial refund of fees is made on the following basis:

   University Union—$9.25 in respect of each half session.
   Students' Representative Council—$4.
   Sports Association—a full refund.
   Miscellaneous—a full refund.

5. Where initial registration is made at commencement of Session 2 in any year and the student subsequently withdraws, a refund of fees based on the above rules may be made.

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Extension of Time

Any student who is unable to pay fees by the date due may apply on the prescribed form to the Registrar for an extension of time. Such application must state clearly and fully the reasons why payment cannot be made and the extension sought, and must be lodged before the date on which a late fee becomes payable. Normally the maximum extension of time for the payment of fees is until 31st March.

Assisted Students

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

Failure to Pay Fees

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

No student is eligible to attend the annual examinations in any subject where any portion of his fees for the year is outstanding after the end of the fourth week of Session 2.

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

University Postgraduate Scholarships

The University provides each year a number of scholarships for postgraduate study and research in any approved field.

These awards are normally for graduates of Australian Universities who are domiciled in Australia. They are tenable for one year and, subject to satisfactory progress, may be renewed annually to provide a maximum tenure of two years in the case of a scholar registered for the degree of Master. In the case of a scholar registered for the degree of Doctor of Philosophy the award is tenable for up to a maximum of three years, but an extension for one year may be granted if special circumstances apply.

Stipend—Scholars will receive a stipend at the rate of $2,900* per annum, with a dependants’ allowance at the rate of $650 for dependant wife and first child, and $234 for each other child.

Travel Allowance—In some cases a travel allowance (equivalent to a tourist air fare where appropriate) may be paid for a scholar who is obliged to move from one Australian city to another in order to take up his award. Travel allowance is also payable for dependants.

Establishment Allowance—In some cases an allowance of $100 will be paid to married scholars, and $50 to single scholars, who are entitled to a Travel Allowance. The establishment allowance is intended to assist scholars with removal expenses and with the expenses of setting up new quarters.

Thesis Allowance—In some cases a scholar may claim reimbursement of an amount of up to $100 to assist with thesis costs. Where two theses are submitted (Master followed by PhD) two claims may be made but the total amount payable will not exceed $100.

Income Tax—The stipend provided by a scholarship is normally exempt from income tax.

In some cases, scholarship holders may supplement their stipends by undertaking up to a maximum of six hours’ teaching or demonstrating weekly, or a total of 180 hours in a calendar year. Opportunities for such work are usually available within the University. It is expected that scholarship holders will not engage in any other form of paid employment, and will be engaged full time on the work for which the scholarship is provided.

Normally a person may not hold more than one postgraduate scholarship.

Applications should be lodged with the Registrar by 31st October each year.

* Rates quoted are current at time of publication.
Australian Government Postgraduate Research Awards

A number of Australian Government Postgraduate Research Awards are available to students undertaking full-time postgraduate research at the University, leading to the degree of Master and/or PhD.

Persons permanently domiciled in Australia, who are University graduates or will graduate in the current academic year, are eligible for the awards.

Applicants should hold, or expect to obtain, at least an upper division second class honours degree or its equivalent.

Awards are tenable for one year and, subject to satisfactory progress, may be renewed annually to provide a maximum tenure of two years in the case of a scholar registered for the degree of Master. In the case of a scholar registered for the degree of Doctor of Philosophy the award is tenable for up to a maximum of three years, but an extension for one year may be granted if special circumstances apply.

Stipend is $3,050 per annum, with a dependants' allowance at the rate of $650 for dependent wife and first child, and $234 for each other child. There is provision for Establishment, Travel, Incidental and Thesis Allowances.

The closing date for applications is 31st October.

Australian Government Postgraduate Course Awards

A number of awards for full-time postgraduate study leading to the degree of Master by formal course-work are also made available by the Australian Government.

Persons permanently domiciled in Australia who are under 45 years of age on 1st January of the year in which the award is to be taken up, and who are University graduates or will graduate in the current academic year, are eligible for the awards.

Applicants are expected to have an undergraduate record at better than pass level.

Stipend and allowances are as for Research Awards.

Applications close on 30th September.

Applications and Enquiries

Application forms for Australian Government and University Postgraduate awards are available from the University. Applications should be lodged with the Registrar by the specified date.

Separate application for registration as a higher degree candidate should be made on the appropriate form, in accordance with conditions applying to the particular degree.

Further enquiries may be directed to the Student Enquiries Section.
DIPLOMA IN EDUCATION

The Diploma in Education is a professional course in education for graduates of this or another approved university who seek teacher qualifications. It also serves as an introduction to the research disciplines of education for those who will later pursue higher studies in the field. At present the course is for one year full-time, but it is anticipated that in the near future it will be available on a part-time basis over two years. The various subjects involve lectures, seminars, tutorials, individual assignments and group exercises. Demonstrations of teaching methods and practice teaching are provided in co-operation with the Wollongong Institute of Education and local schools.

COURSE OUTLINE

Hours per week are indicated in brackets. The decision as to whether subjects are offered in first or second session, or both is taken at enrolment time in the light of staff availability.

Education

Australian Education (2)
Educational Practice (2)
Educational Psychology (2)
Sociology of Education (2)
Philosophy and Theory of Education (2)
Seminars in both sessions (2)

Methods of Teaching

All method subjects are double subjects. Students must study two methods, occupying 6-8 hours weekly including demonstration lessons.

Selected Topics

Physical Education (double session subject) (1)
Communication Skills (2)
Health and Health Education (2)
Electives (4)

Supervised Teaching Practice

Eight weeks in term time, at schools in the Wollongong area, or elsewhere by arrangement with the Departmental Chairman.

AUSTRALIAN EDUCATION

This subject seeks to lift student awareness of problems in Australian education above the level of opinion and limited personal experience, by presenting them in their historical and comparative setting. Various developments in secondary and tertiary education are discussed, with a view to understanding the interplay of social, economic, political and ideological factors, and the need to subject them to more rigorous research.
TEXTBOOKS

REFERENCE BOOKS

SELECTED JOURNALS
*The Australian University*. Australian Vice-Chancellors' Committee.

EDUCATIONAL PRACTICE
An appreciation of guiding principles common to the teaching of secondary school children will be gained through study of preparation at course, topic and lesson levels and the utilisation of school and community resources; aspects of classroom control and discipline; individual and group techniques of teaching; and evaluation procedures including the construction and administration of tests and examinations.

REFERENCE BOOKS

EDUCATIONAL PSYCHOLOGY

A study of psychology as it bears on the educational process, through a treatment of learning, motivation and the development of adult modes of thinking. Although attention is paid to cognitive development throughout the school years, the cognition of the adolescent is especially considered.

TEXTBOOKS

REFERENCE BOOKS

SELECTED JOURNALS
British Journal of Educational Psychology.
Education Research.
Harvard Education Review.
SOCIOLOGY OF EDUCATION

The sociological aspects of education are studied with special reference to the school. The school is seen both as a unit in the social structure and as a social system in itself. Topics will be allocated within these two broad areas of study.

REFERENCE BOOKS

SELECTED JOURNALS
Sociology of Education. The American Sociological Assoc.
American Sociological Review.
A & N.Z.J.S.
British Journal of Sociology

PHILOSOPHY AND THEORY OF EDUCATION

A study of the nature and scope of educational theory. By tracing the development of educational ideas in western culture, it is seen how the various disciplines of educational theory have emerged to cope with problems of value, knowledge and public education.
REFERENCE BOOKS

SELECTED JOURNALS
*Educational Theory*. University of Illinois.
*Educational Philosophy and Theory*. Univ. of N.S.W.

COMMERCE METHOD
The aim is to develop competent and critical teachers of economics and commerce. These subjects are discussed in relation to a general theory of education, problems of programming, lesson preparation and presentation.

REFERENCE BOOKS

SELECTED JOURNALS
*Economica*. London School of Economics.

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ENGLISH METHOD

This course deals with the aspects of language, expression and literature that concern the teacher in the secondary school. Language work examines contemporary theories and practice and the changing nature of linguistic studies. Expression themes include the fostering of responsive writing and aims and methods in oral practice. In the examination of literature the need is stressed to foster enjoyment and understanding at various levels. Some attention is given to testing, the programming of work and the interpretation of curricula.

REFERENCE BOOKS

SELECTED JOURNALS
English in Australia. Australian Association for the Teaching of English, Melbourne.
The Teaching of English. English Teachers' Association of N.S.W.

GEOGRAPHY METHOD

A survey of the principles and problems underlying the selection, organisation and presentation of geographical knowledge. Topics include: the place of geography in the secondary school, the nature and organisation of programmes, the inter-relationship of systematic and regional geography, and specific aspects of classroom practice and field studies.

REFERENCE BOOKS

SELECTED JOURNALS
Australian Geographer. Geographical Society of N.S.W.
HISTORY METHOD

Students are introduced to the theory and practice of the teaching of history at the secondary school level through a study of the principles and problems underlying the selection, organisation and presentation of historical information. Topics include the nature of history; the purposes behind its teaching; programming; practical aspects of classroom work.

REFERENCE BOOKS

SELECTED JOURNALS
*English-History Bulletin.* N.S.W. Department of Education.
*Teaching History.* Journal of the N.S.W. History Teachers' Association.

MATHEMATICS METHODS

Mathematics First Method seeks to develop in students an awareness of various methods possible in secondary school. Emphasis is placed on the development of concepts, use of discovery and grading of material. Aims for different age and ability groups are related to these. Students doing another subject method as well will take this course.

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

REFERENCE BOOKS

SELECTED JOURNALS
*Australian Mathematics Teacher.*
*Mathematics Teacher.* National Council of Teachers of Mathematics.
*N.S.W. Department of Education Mathematics Bulletin.*
SCIENCE METHOD

Science First Method seeks to prepare graduates to teach at all high school levels, especially in the areas of physics, chemistry, biology and geology. Topics include: science in the school curriculum; aims, procedures and programme planning; teaching aids; pupils' records and assessment; safety precautions. Where previous studies have covered some areas inadequately, students may be required to gain additional content knowledge. Students doing another subject method as well will take this course.

Science Second Method deals with the above topics and others from an advanced standpoint, and is for students taking science as a double method.

REFERENCE BOOKS

A Biology Course for Teachers. Correspondence course prepared in the School of Biological Sciences, University of Sydney.


McDonald, Massey & Tebbutt. Enquiring into the Earth.


Notes on Biology—Forms V and VI. Dept. Education, N.S.W., In-service Training Branch.


SELECTED JOURNALS


Science Education News. Science Teachers' Association of N.S.W.
SELECTED TOPICS

The selected topics are of two kinds: professional skills and academic electives.

(a) Lectures and exercises in certain professional skills given generally at the Wollongong Institute of Education include:

(i) Physical Education. The aim is to encourage personal physical fitness in the Diploma student, as well as to prepare him for the duties in this area that fall to the general teacher.

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

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

(b) Electives. Lectures and tutorials are offered in a variety of electives designed to provide opportunity for students to pursue some studies at greater depth. While the composition of the student group from year to year will partly determine which electives are offered, it is intended to provide a range representative of the main disciplines of education. Students are expected to choose electives that enable them to draw in some way on their previous studies.

SUPERVISED TEACHING PRACTICE

Students engage in the equivalent of eight weeks' full-time teaching practice in schools. They are expected to plan learning units, observe and take individual lessons, develop classroom routines and controls, test and evaluate pupil learnings, and become acquainted with the general school duties of a teacher. As the practice situation is meant to be the application in the field of principles studied and informal subjects already described, a detailed reference list is not appropriate, but a specific orientation to Teaching Practice is provided by the following books.

REFERENCE BOOKS