ARMS OF THE UNIVERSITY

The principal elements incorporated in the arms of the University are the blue of the sea, the gold of the sand and the red of the Illawarra flame tree. The open book often used for educational institutions has also been included.

The blazon is: "Azure an open book proper bound gold on a chief wavy or three cinquefoils gules."
The University of Wollongong, Northfields Avenue,
Wollongong, N.S.W.
Postal Address: P.O. Box 1144, Wollongong, N.S.W. 2500
Telephone: (042) 297311
Telex: 29022
Cable: UNIOFWOL
All enquiries should be addressed to the University Secretary.

The University of Wollongong Calendar 1982

There are 5 volumes of the Calendar:

The University of Wollongong Calendar 1982 Volume I
Legislation

The University of Wollongong Calendar 1982 Volume II
Undergraduate Handbook

The University of Wollongong Calendar 1982 Volume III
Postgraduate Handbook

The University of Wollongong Calendar 1982 Volume IV
Annual Report - 1981

The University of Wollongong Calendar 1982 Volume V
Statistics
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INFORMATION IN THIS CALENDAR IS CURRENT AT THE TIME OF PRINTING, 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. Eleven years earlier, in 1961, 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 was realized when the University was established on 1st January, 1975. The University is situated on the northern approaches to the City of Wollongong about 3 kilometres from the city centre. The spectacular backdrop of Mt. Keira dominates the site. Sydney is approximately 80 kilometres to the north.

The first years of the new University have seen the completion of Stage II of the Library, the Social Sciences Building, the Pentagon Lecture Theatre complex, Stage III of the Union, an extension of the Science Building and a Sports Pavilion. Two new wings of the Social Sciences Building which were commenced in 1979 were completed in 1980. Kid's Uni, (a child care centre) and extensions to the Sports Pavilion were also completed in 1980.

Courses offered at present lead to undergraduate degrees in Arts, Commerce, Engineering, Mathematics, Mathematics/Engineering, Metallurgy and Science and to higher degrees in Arts, Commerce, Education, Engineering, Metallurgy and Science. Postgraduate diplomas in Accountancy, Applied Multicultural Studies, Coal Geology, Computing Science, Education, European Studies, Geography, History and Philosophy of Science, Industrial Relations, Management, Mathematics, Metallurgy, Philosophy, Public Works Engineering and Sociology are also offered.

Details of the University's undergraduate courses, degree requirements and admission and enrolment procedures are provided in this volume. Students and intending students are advised to contact the Student Enquiries Office of the University for any further information they may require.
## CALENDAR OF DATES

### SESSION 1

- **March 1** to **May 9**
- **May 10** to **May 16**
- **May 17** to **June 13**
- **June 14** to **June 20**
- **June 21** to **July 4**
- **July 5** to **July 18**

### MAY RECESS

- **May 10** to **May 16**

### STUDY RECESS

- **June 14** to **June 20**

### EXAMINATIONS

- **June 21** to **July 4**

### MID-YEAR RECESS

- **July 5** to **July 18**

### January

- **Friday 1**: New Year’s Day holiday

### February

- **Monday 1**: Australia Day holiday
- **Thursday 4, Friday 5**: Enrolment of new students
- **Monday 22, Thursday 25**: Re-enrolment
- **Monday 22**: Engineering, Metallurgy
- **Tuesday 23**: Commerce
- **Wednesday 24**: Arts A-O
- **Thursday 25**: Arts P-Z, Mathematics & Science

### March

- **Monday 1**: Session 1 lectures commence

### April

- **Friday 9**: Easter holidays commence
- **Monday 12**: Easter holidays end
- **Monday 26**: Anzac Day Holiday

### May

- **Monday 10**: May recess commences
- **Sunday 16**: May recess ends

### June

- **Sunday 13**: Session 1 ends
- **Monday 14**: Queen’s Birthday holiday
- **Monday 14**: Study recess commences
- **Sunday 20**: Study recess ends
- **Monday 21**: Examinations commence

### July

- **Monday 5**: Mid-year recess commences
## SESSION 2

July 19 to August 22

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# The Faculties and Their Departments

## Engineering
- Civil and Mining Engineering
- Electrical and Computer Engineering
- Mechanical Engineering
- Metallurgy

## Science
- Biology
- Chemistry
- Geology
- Physics

## Humanities
- English
- European Languages
- History
- History and Philosophy of Science
- Philosophy

## Social Sciences
- Accountancy
- Economics
- Education
- Geography
- Psychology
- Sociology

## Mathematics
- Computing Science
- Mathematics
THE DEGREES AND DIPLOMAS AWARDED

UNDERGRADUATE*

Bachelor of:

ARTS
ARTS (HONOURS)
COMMERCE
COMMERCE (HONOURS)
ENGINEERING
ENGINEERING (HONOURS)
MATHEMATICS
MATHEMATICS (HONOURS)
MATHEMATICS/ENGINEERING
MATHEMATICS/ENGINEERING (HONOURS)
METALLURGY
METALLURGY (HONOURS)
SCIENCE
SCIENCE (HONOURS)

POSTGRADUATE**

Diploma in:

ACCOUNTANCY
APPLIED MULTICULTURAL STUDIES
COAL GEOLOGY
COMPUTING SCIENCE
EDUCATION
EUROPEAN STUDIES
GEOGRAPHY
HISTORY AND PHILOSOPHY
OF SCIENCE
INDUSTRIAL RELATIONS
MANAGEMENT
MATHEMATICS
METALLURGY
PHILOSOPHY
PUBLIC WORKS ENGINEERING
SOCIOLOGY

Honours Master of:

ARTS
COMMERCE
EDUCATION
ENGINEERING
METALLURGY
SCIENCE

Master of Studies:

ACCOUNTANCY
EDUCATION
GEOGRAPHY
FRENCH
ITALIAN
FRENCH AND ITALIAN

Master of Management

Doctor of:

PHILOSOPHY
LETTERS
SCIENCE

NOTES: For approved abbreviations - see the Degree and Diploma Regulations.
* For details of courses see this volume.
** For details of courses see volume III.
6 THE UNIVERSITY

THE UNIVERSITY OF WOLLONGONG

VISITOR

His Excellency the Governor of New South Wales

CHANCELLOR

The Honourable Mr. Justice Robert Marsden Hope, CMG, LLB Syd.

DEPUTY CHANCELLOR

The Honourable Lawrence Borthwick Kelly, MP

VICE-CHANCELLOR

Dr. Kenneth Richard McKinnon, A.U.A. Adel., BA BEd Q'ld., EdD Harv., F.A.C.E.

DEPUTY VICE-CHANCELLOR

Professor Alexander Marshall Clarke, BA N.S.W., PhD A.N.U., ASTC, FAPsS
THE COUNCIL

ELECTED BY THE LEGISLATIVE COUNCIL
The Honourable Peter Francis Watkins, MLC

ELECTED BY THE LEGISLATIVE ASSEMBLY
The Honourable Lawrence Borthwick Kelly, MP

APPOINTED BY THE MINISTER FOR EDUCATION
To hold office until 1st February, 1982
Professor Peter Desmond Rousch, BA BEd Melb., PhD Wayne State, MACE.

Three vacancies.

EX OFFICIO
The Chancellor
The Vice-Chancellor

ELECTED BY THE STUDENTS OF THE UNIVERSITY
Shirley Anne Nixon (to hold office until 7th August, 1983)
James Whitehead, BSc (to hold office until 7th August, 1982)

ELECTED BY CONVOCATION
Colin Patrick Hollis, BA Open, BSc(Econ), DIA Lond. (to hold office until 7th August, 1984)
James Wilmot Dombroski, BSc Syd. (to hold office until 7th August, 1983)
Murray James Robinson, BE (to hold office until 7th August, 1982)
ELECTED BY THE FULL-TIME ACADEMIC STAFF OF THE UNIVERSITY

Three Professorial members

Professor Robert Barry Leal, MA Dip Ed Syd., PhD Qld. (to hold office until 7th August, 1981)
Professor Ron Johnston, BSc N.S.W., PhD Manc. (to hold office until 7th August, 1983)
Professor Brian Hartley Smith, BE PhD Adel. MIEE, FIEAust (to hold office until 7th August, 1982)

One member other than a Professor

Robert Gordon Castle, MEc Syd (to hold office until 7th August, 1984)

ELECTED BY THE FULL-TIME GENERAL STAFF OF THE UNIVERSITY

To hold office until 7th August, 1984

Elisabeth Ann Hilton

ELECTED BY MEMBERS OF THE COUNCIL

Three vacancies.
THE ACADEMIC SENATE

EX OFFICIO MEMBERS

The Honourable Justice Robert M. Hope, Chancellor
Dr. Kenneth R. McKinnon, Vice-Chancellor
Professor Alexander M. Clarke, Deputy Vice-Chancellor
Mr. Jeffrey C. Hazell, University Librarian
Professor Peter D. Rousch, Director, Institute of Education

CHAIRMEN OF DEPARTMENTS

Professor Geoffrey Brinson, Department of Metallurgy, CHAIRMAN OF SENATE
Professor John B. Ryan, Department of Accountancy, DEPUTY CHAIRMAN OF SENATE
Professor John R. Blake, Department of Mathematics
Professor A. Duncan Brown, Department of Biology
Professor J. Lauchlan C. Chipman, Department of Philosophy
Professor Allan C. Cook, Department of Geology
Professor Ross Duncan, Department of History
Dr. John Ellis, Department of Chemistry
Professor Peter Fisher, Department of Physics
Professor Steven C. Hill, Department of Sociology
Professor Ron Johnston, Department of History and Philosophy of Science
Dorothy L. M. Jones, Department of English
Professor Ronald C. King, Department of Education
Professor R. Barry Leal, Department of European Languages
Professor Samuel A. Marshall, Department of Mechanical Engineering
Professor Juris Reinfelds, Department of Computing Science
Professor Brian H. Smith, Department of Electrical Engineering
John C. Steinke, Department of Economics
Associate Professor R. William Upfold, Department of Civil Engineering
Associate Professor Linda L. Viney, Department of Psychology
Professor Murray G. A. Wilson, Department of Geography

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Dr. Winifred Mitchell, Faculty of Humanities
Dr. Rodney V. Nillsen, Faculty of Mathematics
Associate Professor R. William Upfold, Faculty of Engineering
Dr. Anthony J. Wright, Faculty of Science
ELECTED MEMBERS

ACADEMIC STAFF ELECTED BY AND FROM THE MEMBERS OF EACH FACULTY

Dr. Robert T. Wheway, Faculty of Engineering (to hold office until 16th May, 1983)

To hold office until 24th May, 1983

A. John Anderson, Faculty of Social Sciences
William D. McGaw, Faculty of Humanities
Dr. Maxwell J. Lowrey, Faculty of Engineering
Dr. A. Grahame Morris, Faculty of Mathematics

STUDENT MEMBERS

Garry J. Imisides, Faculty of Science (to hold office until 23rd March, 1982)
Aden J. Steinke, Faculty of Social Sciences (to hold office until 24th May, 1983)
James Whitehead, Faculty of Mathematics (to hold office until 23rd March, 1982)
FULL TIME STAFF

Vice-Chancellor
Dr. Kenneth R. McKinnon, A.U.A. Adel., BA BEd Qld., EdD Harv., FACE

Deputy Vice-Chancellor
Professor Alexander M. Clarke, BA N.S.W., PhD A.N.U., ASTC, FAPsS

FACULTY OF ENGINEERING

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Department of Civil and Mining Engineering

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Vacant

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Yew-Chaye Loo, BSc Cheng Kung, MEng A.I.T., PhD Dundee, CEng, MICE, MIstructE, MIEAust. (on secondment)
Maxwell J. Lowrey, ME N.S.W., PhD, ASTC, MIEAust, MACS
Denis G. Montgomery, BSc (Eng) PhD Belfast, MIEAust, MASCE
Donald Pearson-Kirk, BSc St. And., MSc PhD Leeds, CEng, MICE, FGS, MASCE, MIHE, MIEAust, M.R.E.A.A.A.

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Elmer B. Ramel, BSc (Surv.), BSc(Eng) Phill., MEng, A.I.T., PhD Dundee, MIE Aust, PACE, PSGE
Najdat I. Aziz, BSc PhD Wales

TUTOR
HONORARY VISITING PROFESSORS

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Allan J. Hargreaves, BME Melb., PhD Syd., MAusIMM

Department of Electrical and Computer Engineering

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READER

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Geoffrey W. Trott, BSc BE Adel., PhD Alta., MIEEE, MACS
Frank J. Paoloni, BSC PhD Syd., MIEEE, MAPS

LECTURER

Tony S. Ng, BSc H.K., MEngSc PhD N'c/e (N.S.W.), MIEEE, AMIEE

TUTOR

Vacant

PROFESSIONAL OFFICER

Natarajan Kandasamy, BSc BE Madr., MIEAust

Department of Mechanical Engineering

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LECTURERS

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Arnold G. McLean, BE N.S.W., PhD MIEAust
G. John Montagner, BE N.S.W., PhD, MIEAust, AACS, FAIEA, MIEEE
Wee-King Soh, BSc BE Syd., MEngSc PhD N.S.W., MIEAust
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Lorick Lachin, MSc Poly-Inst., N.Y.
Brian A. Moore, BE, GradIEAust
Peter Wypych, BE, GradIEAust

Department of Metallurgy

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Nicholas Standish, MSc N.S.W., PhD Otago, ASTC, AMAusIMM

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Druce P. Dunne, BSc PhD N.S.W., MIM, CEng

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Nony Salasoo, BSc N.S.W., MS Pitt., ASTC, AMAusIMM

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Department of English

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James M. Wieland, BA W.Aust., MA PhD Qu.

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William D. McGaw, BA Qld., and Macq.
Maurice B. Scott, BA N.S.W., MA N'cle (N.S.W.)

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Gary J. Hayes, BA DipEd N'cle (N.S.W.)
Department of European Languages

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SENIOR LECTURER

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Gary J. Ianziti, MA PhD Nth. Carol.
  Dip AEFMAV Besancon
Gino Moliterno, BA Syd.
Gaetano L. Rando, BA Syd., MA W.Aust., DipPerfStor Ling It Rome

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Department of History

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PROFESSOR

Ross Duncan, MA Adel.

ASSOCIATE PROFESSOR

Colm P. Kiernan, MA Camb. and Melb., PhD N.S.W.

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Allan M. Healy, BA Syd., PhD A.N.U.
Ian M. McLaine, BA Monash, DPhil Oxf.
Winifred J. Mitchell, MA NE., PhD N.S.W.
F. Stuart Piggin, BA Dip Ed Syd., PhD AKC Lond.

LECTURERS

E. Peter Johnston, BA Wales
F. Damaso Marengo, Dott Genoa, MSc Lond., MA PhD Chic.

SENIOR TUTOR

Josephine A. Castle, BA Syd.
Department of History and Philosophy of Science

DEPARTMENTAL CHAIRMAN AND PROFESSOR
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John R. Panter, BA Adel., PhD N.S.W.
Evelleen Richards, BSc Q'ld., PhD N.S.W.
John A. Schuster, BA Col., MA Camb., MA PhD Prin.

TUTOR
Margaret Campbell, BSc DipEd N.S.W.

Department of Philosophy

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J. Lauchlan C. Chipman, MA LLB Melb., BPhil Dphil Oxf., Dip Tertiary Ed NE

SENIOR LECTURER
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LECTURERS
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Laurance J. Splitter, BA Monash, BPhil Oxf.
Suzanne M. Uniacke, MA LaT.

SENIOR TUTOR
James D. Mackenzie, BA Monash, MA PhD N.S.W.

FACULTY OF MATHEMATICS

CHAIRMAN OF FACULTY
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Department of Computing Science

DEPARTMENTAL CHAIRMAN AND PROFESSOR
Juris Reinfelds, BSc PhD Adel.

SENIOR LECTURER
R. Geoffrey Dromey, Dip App Chem Swinburne, PhD LaT.
LECTURERS

Meng C. Er, BSc Nanyang, MSc Essex
Thomas F. Higginbotham, BSc Georgia, PhD MEd Auburn
R. Fritz Hille, DiplPhys T.U. (Braunschweig), PhD James Cook, DIC
Phillip J. McKerrow, BE N.S.W., ME
Ian G. Pirie, BSc MEd Syd., PhD Glas.

PROJECT OFFICER

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Raymond Markey, BA DipEd Syd.
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BURSAR

ESTATE MANAGER

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UNION
UNIVERSITY LIBRARY

All staff and students are encouraged to use the University Library and material can be borrowed by using a staff or student library card. Graduates of the University are also permitted to borrow. Borrowing rights are also available to the staff and students of the Wollongong College of T.A.F.E. and the Wollongong Institute of Education as part of a reciprocal borrowing scheme. 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, non-book and archival sources. It has a growing reference collection and endeavours to provide for needs outside curricular and research requirements.

Following the completion of Stage II of the Library complex in 1976, the Library has the capacity to accommodate 250,000 volumes and over 600 readers.

Hours of opening are usually 9.00 a.m. to 10.00 p.m. Monday to Friday, 9.00 a.m. to 5.00 p.m. on Saturday and 1.00 p.m. to 5.00 p.m. on Sunday. Variations in hours are displayed on notice boards in the Library.

The Library is presently used by many people from outside the University campus, particularly qualified personnel from local commerce and industry.

UNIVERSITY UNION

The Union, which provides opportunities for the development of social and intellectual intercourse between members, is housed in buildings at the south-east corner of the campus. It was opened in 1965, Stage II additions were added in 1970, Stage III in 1976 and Stage IV in 1978/9. The facilities include a hall, cafeteria, coffee bar, take-away bar, airconditioned licensed bar and bistro, four squash courts, sauna and table tennis room. There are also common rooms, administrative offices, a Union Shop, a branch of the Commercial Banking Company of Sydney Ltd., and the University Co-operative Bookshop Ltd.

All students and staff of the University and the Union are members of the Union. The affairs of the Union are controlled by the Board of Management and, in day to day matters, by the Secretary-Manager.

The following Clubs and Societies are affiliated to, and supported by, the Union:

- Amateur Radio Club
- Camera Club
- Drama Society
- French Club
- Film Group
- Geographical Society
- Geological Society
- Historical Society
- Il Circolo Italiano
- Metallurgical Society
- Musical Society
- Parents’ Club

STUDENTS’ REPRESENTATIVE COUNCIL

The Students’ Representative Council (S.R.C.) is a body of students elected by and from the Students. The S.R.C. is the executive organisation of the entire student body. The S.R.C. promotes student welfare and interests. It provides a channel through which students can express their views on any matter relevant to themselves, their courses, and the University.
The S.R.C. is involved with the politics and welfare of being a student. As well as taking an active interest in a wide variety of issues, the S.R.C. organises many social functions. The following clubs and societies are affiliated to and supported by the S.R.C.

- Psychology Society
- Overseas Students Association
- Economics Society
- Socialist Left Club
- Alternate Film Society
- Muslim Association
- Engineering Society
- Women’s Co-operative
- Simulation Gaming Society
- Philosophy Society
- International House Film Society

Part of the compulsory S.R.C. subscription is paid to the Australian Union of Students (A.U.S.), the national student organisation. As a constituent member of A.U.S. the S.R.C. offers travel and health and insurance schemes (at student rates).

Tertangala, the S.R.C. student Journal, and Tertlet, an occasional S.R.C. broadsheet are published throughout the year. Students are invited to submit articles and items for publication.

Most importantly, students are encouraged to participate in the running and activities of the S.R.C. Some present portfolios and interests are:

- Education
- Women
- Social Activities
- A.U.S.
- Student Publications

The S.R.C. belongs to the students; they are encouraged to use it.

**SPORTS ASSOCIATION**

All students pay a compulsory fee which automatically makes them members of the Sports Association. 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, through casual and class usage as well as intra-mural and inter-departmental sport. Learn to play activities and beginners coaching courses are held at various times throughout the year to cater for the novice as well as the expert. 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 intervarsity competitions, representative matches and championships organised by the Australian Universities Sports Association.

A sports pavilion (with licensed bar) and four squash courts have been provided and improvements to existing playing fields are being undertaken. An Indoor Sports Centre which was completed in 1980, is used by the Wollongong Institute of Education during the mornings, and by the sporting clubs at other times. Facilities exist for Basketball, Badminton, Volleyball, Table Tennis, and Tae Kwon Do.

The constituent clubs of the Sports Association are as follows. Enquiries in respect of them should be made at the Union Office:
Australian National Football  Rugby Union
Badminton  Sailing
Basketball  Ski
Cricket  Soccer
Men’s Hockey  Squash
Women’s Hockey  Sub Aqua
Judo  Surf Riders
Motor Cycle  Taekwondo
Netball  Tennis
Outdoors  Touch Bootball
Table Tennis  Volleyball

CHAPLAINCY SERVICE

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

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

Anglican:  Rev. Canon Dr. D. G. Peterson,
          The Rectory
          Market Street
          Wollongong. 2500
          Telephone 28 9132

Baptist:  Rev. J. E. Helm,
          216 Jacaranda Avenue,
          Figtree. 2525
          Tel. 28 3767 (office) 29 1671 (home).

Presbyterian:  Rev. I. Cox,
              St. Andrew’s Manse,
              25 Stanbrook Avenue,
              Mt. Ousley. 2519
              Tel. 29 1725 (office) 29 5358 (home).

Roman Catholic:  Rev. Father L. Stevens,
                 The Presbytery,
                 48 Princes Highway,
                 Unanderra. 2526
                 Telephone 71 1068

Uniting:  Rev. L. L. Arthur,
          75 Uralba Street,
          Figtree. 2525
          Tel. 29 2119 (office) 29 5291 (home).

COUNSELLING CENTRE

A vital university is a shifting mosaic of people, ideas, actions and events. Any person involved in university life, whether student or staff will experience many of its elements as challenges to change: Change in ways of living one’s life, forming relationships and simply experiencing. One may wish to renegotiate one’s role in the family as a result of a changing concept of self; to be more assertive in day to day interactions; to re-examine long held moral precepts; to explore the possibility of more co-operative ways of living; to re-assess one’s interest and...
commitment to one's chosen career, to cite but a few. Whilst some of these challenges can be exciting and inspiring most are, at some level, threatening and confusing. These challenges to change require constructive responses if we are to develop both individually as people and collectively as a community of learning.

Of course, just what constitutes a constructive response to a particular situation cannot be clearly defined nor prescribed. Ultimately each person must decide for him/herself. This, however, does not preclude the role of other people in arriving at that decision. In fact, other people usually play a most crucial part. As a trained and interested 'other' the University Counsellor is able to help you move more effectively towards defining and implementing the response which is constructive for you by assisting you to clarify and reconcile your interests and values, your responsibilities to self and to others. In some situations the participation of the Counsellor may simply be that of the perceptive and concerned listener; in others a deep understanding and the use of psychological techniques may be required; in others the Counsellor may organise and guide groups where people facing similar challenges may interact to stimulate and encourage one another. In all approaches the Counsellor strives to create a supportive environment where constructive responses to problematic situations can be pursued more safely and effectively than is frequently possible in the normal course of everyday life.

If you are grappling with change of any sort or merely pondering its possibilities or if for any other reason you would like to talk to the University Counsellor, please drop in for a chat (Building 12) or ring for an appointment on 28-2925. The service is completely confidential and free to both students and staff. As first year students are probably more vividly confronted with the problems of change than are most other university members, they are especially invited to talk things over with the Counsellor - preferably early in the year - so that he can help to ensure their successful transition to University.

**ACCOMMODATION**

The Secretary in the Counselling Centre conducts a Student Accommodation Service for a range of private accommodation, e.g. board (both 7 and 5 day), single rooms, flats and houses made available by the local community in response to media advertisements.

In addition to the General Accommodation Service, the Secretary also conducts a University Leasing Service. The previously established system will continue to operate whereby the University leases a number of flats and cottages and subleases these to groups of students.

Individual students wishing to take private board, or groups of students wishing to lease a property from the University should contact the Secretary in the Counselling Centre which is located in Building 12, or telephone her on 28-2925 as early as possible in the year.

**International House**

Warden: Dr. T. S. Ng, BSc H.K., MEngSc PhD N'cle(N.S.W.).
Secretary Manager: Elisabeth Hilton.

International House is the University's only Hall of Residence. It is situated between the University and the North Wollongong beaches on the Princes Highway at its junction with the Wollongong by-pass.

The House is operated on a co-educational, non-denominational basis by the Board of Management. As indicated by its title, the House provides a place of living and studying for both overseas and local students, thus providing a meeting place of varying cultures.
The House has 203 single study bedrooms, which include 13 large study bedrooms, six of which have ensuites. The rooms are in five three-storey residential blocks.

Facilities include a large lounge room, dining room, students' kiosk, laundry, games room, and tutorial rooms.

Informal tutorials are run by the Warden and the Assistant Wardens.

For further information contact the Warden, International House, P. O. Box 1144, Wollongong, 2500. Telephone: (042) 299-711.

EMPLOYMENT

The Student Employment Service, run in conjunction with the Commonwealth Employment Service, is located in Building 12. The Service provides information about casual and part-time work throughout the year, plus vacation work. All positions available are displayed on two boards; one in Building 12, the other in the Union Foyer.

Students interested in tutoring in any subject at any level may register with the Counselling Centre Secretary. All positions available will be individually notified where possible.

All enquiries concerning casual, part-time, vacation work and tutoring should be directed to the Student Employment Service, telephone 28-2925.

MEDICAL SERVICE

A Student Medical Service has been established at the University and is located in Building 12. The names of the practitioners together with surgery times are available on campus notice-boards.

Disadvantaged students and eligible pensioners not privately insured sign Commonwealth Benefit forms for the practitioner and students registered with Private Funds pay a fee equal to the benefit paid for ordinary consultation by the Private Fund. A receipt will be issued to those students so that they can claim benefits.

It is preferable that appointments be made one hour prior to surgery hours.

For enquiries about the Service or to make an appointment contact the Counselling Centre Secretary, telephone 28-2925.

CHILD CARE CENTRE

Kids' Uni., a student co-operative child care centre on campus, offers child care facilities to both students and staff. The modern centre provides a happy and stimulating atmosphere where children can stay while their parents are at classes and/or work.

Fees are calculated on a sliding scale based on income but parent participation is also heavily relied upon. The centre is open from 8.30 a.m. - 5.30 p.m. Monday to Friday. The Centre opens until 6.30 p.m. on days when there is demand for this time slot, however children under 2 years of age will not be cared for after 5.30 p.m. Kids' Uni care for children in the 0-6 year old age group. After school care is also available for older children. The supervisor is a qualified Early Childhood Education teacher and nurses are in attendance for children under two years of age. Preference for enrolment goes to children who are enrolled at Kids' Uni in the previous calendar year. Only a limited number of places are available. Permanent booking must be made to include sessional weeks, May and August vacations, study break and one weeks hours during examinations. This totals 17 weeks in session 1 and 18 weeks in session 2.
For further information contact the Secretary, Child Care Committee, C/- The Union, or phone Kids' Uni., The Union extension 14. Information sheets will also be available from the Enquiries Office, Administration Building or from the Union Office.

N.S.W. TEACHER EDUCATION ADVISORY OFFICE (T.E.A.O.)

This office is located on the campus of the University to serve the needs of students who wish to be teachers. Holders of scholarships from the State Government must have their courses approved by the Senior Teacher Education Adviser before the academic year commences so that subjects relevant to their specific teaching subject(s) scholarships are chosen. Any private student or T.E.A.S. student who is thinking of teaching as a career is also wise to avail himself or herself of that advice.

Personal welfare is regarded as a prime function of the office. There is liaison therefore on the part of this office and the University academic and administrative staff, the N.S.W. Department of Education in addition to other agencies, for the benefit of students.
REGULATIONS FOR ADMISSION AND MATRICULATION

Being Regulations made by Council pursuant to clause 25 of the University of Wollongong By-Law.

GENERAL PROVISIONS

1.1 All candidates for a degree of the University shall:

1.1.1 either (a) have matriculated to the University and have lodged an Application for Admission form, or (b) applied for admission to the University under the special provisions in these Regulations;

1.1.2 have been selected for a degree course; and

1.1.3 have satisfied pre-requisites approved by the Council for a subject before enrolment in that subject.

1.2 Should the number of qualified persons seeking enrolment in any degree, or subject, exceed the number of places available, the Council may limit the number of students enrolling in a particular degree, or subject. In this event candidates would be required to be selected for the degree or subject for which limitations had been imposed.

MATRICULATION

2.1 A person who obtains at an examination approved by the Council a level of performance determined by the Council from time to time shall be matriculated to the University; provided that the Council may grant matriculation to a candidate who has:

2.1.1 matriculated to any Australian university; or

2.1.2 matriculated to any university outside Australia approved by the Council; or

2.1.3 graduated from any university approved by the Council; or

2.1.4 submitted evidence acceptable to the Council of a satisfactory level of performance in year 12 of a school in New South Wales, or its equivalent in other states of Australia; or

2.1.5 matriculated to the University under the provisions existing in 1975 and 1976.

EXAMINATIONS APPROVED BY THE COUNCIL

3.1 Examinations approved by the Council in accordance with 2.1 above are:

3.1.1 The New South Wales Higher School Certificate Examination, provided that the rules of the examination relating to the presentation of subjects as determined by the New South Wales Board of Senior School Studies have been complied with; and

3.1.2 The University of Sydney Matriculation Examination.

NEW SOUTH WALES HIGHER SCHOOL CERTIFICATE EXAMINATION

4.1 The following subjects, and any other subjects approved by the Council, shall be recognised subjects for the purpose of matriculation at the New South Wales Higher School Certificate Examination:
4.2 A candidate's performance shall be measured by the aggregate of marks gained in the examination, such marks being co-ordinated in a manner approved by the Council.

4.3 The aggregate of co-ordinated marks shall include the co-ordinated marks achieved in ten units in approved matriculation subjects.

4.4 When more than ten units from approved matriculation subjects are presented, the ten highest co-ordinated marks from among such other subjects shall be counted.

4.5 There shall be no restriction on the number of 4 Unit, 3 Unit, 2 Unit and 2 Unit A courses that may be included in the aggregate of co-ordinated marks.

SPECIAL PROVISIONS FOR ADMISSION

5.1 The Council may grant a candidate admission to the University where the candidate:

5.1.1 has, since leaving school, satisfactorily completed over a period of not less than two years full-time or three years part-time, a course of study acceptable to the Council for this purpose; or

5.1.2 is not less than twenty-one years of age on 1st March of the year for which admission is sought and the Council is satisfied that he has reasonable prospects of success in university studies; or

5.1.3 although not qualified for admission under clauses 5.1.1 and 5.1.2 above, nevertheless satisfies the Council that in the special circumstances of his case he has reasonable prospects of success in university studies.

5.2 The Council, before admitting a candidate under these special provisions, may prescribe certain requirements, including the taking of examinations.

NOTE: * Food and Textile Science cannot be offered together with Home Science and/or Textiles and Design.

** French 2 Unit Z, German 2 Unit Z, Italian 2 Unit Z, Latin 2 Unit Z, and Russian 2 Unit Z may be included in the determination of the aggregate.
5.3 A candidate admitted under these special provisions shall be subject to the Degree Regulations as if he had been a matriculated student.

5.4 A candidate admitted under these special provisions, after being credited with twenty-four credit points or equivalent in subjects passed at this University, may be granted matriculation by the Council.

5.5 The Council may impose quotas for the number of candidates to be granted admission under each, or any, of the clauses in 5.1 above.
Although there are no formal pre-requisites for the degree courses, some 100-level (First Year) subjects have N.S.W. Higher School Certificate pre-requisites. These pre-requisites, in many cases, affect the subjects which students may include in their courses. In this regard, attention is drawn to the notes listed under the following table. (Similar subjects passed at interstate matriculation examinations will be considered.) Intending Engineering and Metallurgy students should particularly take notice of “Note 1”.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Mandatory Pre-requisite</th>
<th>Recommended Pre-requisite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics IA</td>
<td>2 Unit Mathematics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(71-100 percentile range)</td>
<td></td>
</tr>
<tr>
<td>and</td>
<td>3 Unit Mathematics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(11-100 percentile range)</td>
<td></td>
</tr>
<tr>
<td>Mathematics IC</td>
<td>4 Unit Mathematics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1-100 percentile range)</td>
<td></td>
</tr>
<tr>
<td>Students who do not meet the pre-requisite for this subject may be permitted to enrol in this subject with the approval of the Chairman of the Department of Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology, Chemistry and Physics</td>
<td>Any 2 Unit Science Course</td>
<td></td>
</tr>
<tr>
<td>Economics and Quantitative Methods</td>
<td>2 Unit Mathematics</td>
<td></td>
</tr>
<tr>
<td>Accounting and Financial Management I and Introduction to Law</td>
<td>Any course in English, top 70% percentile bands</td>
<td></td>
</tr>
</tbody>
</table>

† Mandatory pre-requisite refers to the knowledge that you must have before you can enrol in a particular subject.

†† Recommended pre-requisite refers to the knowledge that would be useful to have before you undertake a particular subject. If you do not have the recommended pre-requisite for a subject you should consult an academic adviser for that subject and discuss the matter with him/her.

NOTES:

1. Mathematics IA is a compulsory subject in all 100-level Engineering and Metallurgy courses and, therefore, the pre-requisite for this subject must also be obtained.

2. Mathematics IA is a co-requisite for Mathematics IB and a pre-requisite for 100-level Physics subjects.
3. The assumed knowledge of Mathematics I A is that of the 3 Unit Mathematics Course at the N.S.W. H.S.C. examination.

4. 100-level Chemistry is a pre-requisite for later year courses in Chemistry and Biology.

5. Some of the proposed pre-requisites are recommended and not mandatory. However, any student wishing to take Biology, Chemistry or Physics without the recommended 2 Unit Science Course at the N.S.W. H.S.C. examination, would be advised to discuss the matter with the Departmental Chairman concerned.

CREDIT TOWARDS DEGREE

Students enrolled for degree courses may seek credit on the basis of studies completed prior to their enrolment at the University. Studies undertaken at Universities, Colleges of Advanced Education and Technical Colleges may be considered for the purposes of credit. Normally, credit is not granted for qualifications gained more than ten years previously.

It is the University’s policy to grant credit of up to 66 credit points to students who have completed a degree and up to 96 credit points to students who have partially completed a degree at another University. Holders of the Diploma in Teaching may be granted unspecified credit of up to 48 credit points in respect of 100-level (first year) subjects, and those with two year teaching qualifications may seek credit of up to 24 credit points in respect of specified subjects at the 100-level (first year).

Students enrolling in Engineering and Metallurgy degree courses who have completed approved Certificate courses offered by the Department of Technical and Further Education, may be granted exemptions in the Engineering and Metallurgy degree.

Those seeking credit should apply at the time of enrolment. Applications for credit are referred to Departmental Chairmen for recommendation on the basis of the student’s previous academic record and details of the subjects completed. Students seeking credit for previous studies must supply full documentation and, where required, details of the contents of the subjects undertaken. All recommendations must be considered by the Undergraduate Studies Committee and endorsed by the Academic Senate.
UNDERGRADUATE ENROLMENT AND RE-ENROLMENT

The enrolment procedure in 1982 for the different classes of undergraduate students is as follows:

First Enrolments

All applications for admission must be lodged with the University not later than 1st October, 1981 by all applicants. Applications received after this date will be considered if possible.

Students whose applications for enrolment are accepted will be required to complete their enrolment at a specified time before the start of Session 1. Charges 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 charge.

Re-Enrolments

All students enrolling other than for the first time should re-enrol by attending the University to complete re-enrolment, including the payment of charges, on days prescribed. Students will be informed by the end of 1981 of the dates and procedures for re-enrolment.

Students who are unable to attend the University to complete re-enrolment on the days prescribed should apply in writing to the University Secretary 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 and pay the requisite charges.

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

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

Course Transfers

Students who are currently enrolled at the University and who wish to transfer to another course at the University should submit an “Application for Admission” in the same manner as is required of new applicants.

Students whose applications to transfer are successful are required to comply with the enrolment procedures for 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 at the Student Enquiries Office.

Resumption of Courses

Students who have been granted leave of absence for 1981 should contact the University Secretary by 31st January, 1982, for information on enrolment procedures.
All other students seeking to resume their studies after an absence of twelve months or more are required to submit an “Application for Admission” in the same manner as is required of new applicants.

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

A person wishing to enrol in miscellaneous subjects (i.e., subjects not to be counted towards a degree) may be considered provided the Chairman of the Department offering the subject considers it will be of benefit to the student and there are facilities available. To be eligible for admission as miscellaneous students, applicants must meet the University’s normal entrance requirements. Applicants for miscellaneous subject enrolments are not considered until after all students proceeding to a degree have enrolled. Results of applications for miscellaneous enrolment will not be advised until the first week of lectures. 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 University Secretary or from the Enquiries Office, Ground Floor, Administration Building. Application forms should be received by the University Secretary by 31st January, 1982.

Final Dates for Completion of Enrolment

No enrolments will be accepted from new students after the end of the second week of Session 1 (12th March, 1982) except with the express approval of the University Secretary or the Assistant Registrar (Student Placement) and the Departmental Chairman concerned; no later year enrolments will be accepted after the end of the fourth week of Session 1 (26th March, 1982) without the express approval of the University Secretary or the Assistant Registrar (Student Placement) which will be given in exceptional circumstances only.

Variation of Enrolments

Students are advised of the importance of being familiar with the time limits, methods and procedures for varying and confirming their programmes of study.

Students’ attention is drawn to Bachelor Degree Regulation 10 for details of the Variation of Enrolment Regulations.

Leave of Absence

Students may apply for leave of absence from their studies for periods of one or two years. It is not normally possible to be granted leave for more than two years.

Applications for leave for the 1982 academic year must be made in writing to the University Secretary no later than 26th March, 1982. Applications received after this date cannot be considered.

Leave of absence will not be granted to any student required to “show cause” under Degree Regulations 14 until he has shown cause to the satisfaction of the Academic Senate.
Enrolment at Other Tertiary Institutions

Students wishing to enrol at another tertiary institution in 1982, either concurrently or otherwise, and who wish to have subjects successfully completed at that institution counted towards their degrees at the University of Wollongong must gain the prior approval of the Council (refer Regulations 7.1 and 15.5).

Applications for such enrolment must be made in writing to the University Secretary, no later than 31st January, 1982. Applications must contain full details of the course(s), including a photocopy of the Handbook entry for the course(s), for which approval is being sought.

Enrolment in Programmes Exceeding 48 Credit Points

Students wishing to enrol in programmes with a value exceeding 48 credit points (or equivalent in Engineering and Metallurgy) may apply for approval on the appropriate form which is available from the Enquiries Office, Ground Floor, Administration Building.

The previous academic record will be taken into consideration when assessing an application to exceed 48 points. Approval will not normally be granted for programmes with a value exceeding 60 credit points unless the applicant has an outstanding academic record.

Normally, students in their first year of enrolment will not be granted permission to exceed 48 credit points (or equivalent).
STUDENT CHARGES*

According to Government regulations, students, both undergraduate and postgraduate, are required to meet the following charges where applicable:

1. Penalty charges such as late charges, parking fines, etc.
2. Administrative charges such as "statement of record" charges, "review of result" charges 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. Charges associated with the development and operation of unions, student associations, students' representative councils and other student activities.
10. Deposits and refundable charges.

Compulsory Charges

All registered students will be required to pay:

University Union † - entrance charge ........................................... $25
Sports Association † - entrance charge ........................................ $ 6

Student Activities charges:

University Union † - annual subscription ................................. $62
Sports Association † - annual subscription ............................... $17
Students’ Representative Council - annual subscription ............... $19

Exemption from payment of fees will be granted in certain circumstances:

(a) From 1981, the Union will waive fees for enrolled students who have paid six or more annual fees to the Union from 1965 onwards.
(b) From 1981, the Sports Association will waive fees for enrolled students who have paid six or more annual fees to the Sports Association from 1962 onwards.

* All charges listed are current at time of printing.
† Life members of these bodies are exempt from the appropriate charge or charges.
Deferred examination $8 for each subject
Examinations conducted under special circumstances $11 for each subject
Review of examination result $11 for each subject

Late Charges

The rules relating to late charges are as follows:

New Students -
All new students shall be required to attend the enrolment centre and pay all charges on the date shown on their letter of offer.

Re-enrolling students -
Failure to attend the enrolment centre on the prescribed date - Charge $10

Where charges have not been paid prior to the commencement of Session 1, the following additional charges to apply:

Charges paid during the first two weeks of session 1 $20
Charges paid subsequent to the second week of session 1 $40

Note: Payment of charges subsequent to the second week of session 1 will only be accepted with the express approval of the University Secretary or the Assistant Registrar (Student Placement.)

Withdrawal

1. Students withdrawing from a course are required to notify the University Secretary in writing.
2. Where notice of withdrawal from a course is received by the University Secretary before 23rd February a refund of all charges paid will be made.
3. On notice of withdrawal on or after 23rd February and prior to 20th March, a full refund of student activities charges, other than entrance charges, will be made but thereafter no refund will be made, except as provided for in section 4 below. Student activities charges are listed on the previous page.
4. If a student's initial enrolment in any year is made at the commencement of Session 2 for Session 2 only and the student gives notice of withdrawal prior to 7th August, a full refund of student activities charges, other than entrance charges will be made but thereafter no refund will be made.
5. Late charges are not refundable.

Extension of Time

Any student who is unable to pay charges by the due date may apply in writing to the University Secretary for an extension of time. Such applications 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 payment of charges is until 20th 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 charges. A refund of charges will be made when the enrolment voucher or letter of authority is subsequently lodged with the Cashier.

Failure to Pay Charges

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 charges for the year is outstanding after 7th August.

In very special cases the University Secretary 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 charges from 9.30 a.m. to 4.30 p.m., Monday to Friday. The Cashier’s office may be open for additional periods during enrolment and re-enrolment. Details of these additional times may be obtained from notices posted at the Cashier’s office.

Research Degree - Special Note

A candidate who at the end of a year has completed all work for a postgraduate degree other than the writing up of the thesis and who anticipates submitting the thesis to the University Secretary for examination during the following year is required to re-enrol for that year and pay the appropriate student charges outlined above. However, when the student submits his thesis for examination he will receive a refund of the student charges on the same basis as if he had notified his withdrawal from the course (refer to the section under “Withdrawal” above).
SCHOLARSHIPS

UNDERGRADUATE SCHOLARSHIPS AND ASSISTANCE

Tertiary Education Assistance Scheme (TEAS)

The Commonwealth Government, through the Tertiary Education Assistance Scheme, provides means-tested financial aid to full-time students who are not bonded, are permanent residents of Australia and are studying in an approved tertiary course.

Allowances are available at the "dependent at home", "dependent away from home" and "independent" rates. Students who qualify for an allowance will also receive an incidentals allowance of $100.

A fares allowance may also be payable to students receiving the "dependent away from home" or "independent" rate to the extent of three return trips a year between the institution and the student's home.

Students who qualify for TEAS may also receive an allowance for a dependent spouse and/or child.

Re-enrolling students should lodge applications as soon as their results are available. New students should lodge applications as soon as possible after they have completed enrolment. Students should ensure that applications are lodged by 31st March, 1982 in order to receive their full year's entitlement.

Students should advise the TEAS office if at any time they change or discontinue their advised study programme as their eligibility to receive benefits could be affected. Forms for this purpose are available from the Student Enquiries Office.

Information and application forms are available from The Director, New South Wales State Office, Commonwealth Department of Education, 59 Goulburn Street, Sydney (Postal address: P. O. Box 596, Haymarket, N.S.W. 2000. Telephone: 218 880).

N.S.W. Teacher Education Scholarships

The N.S.W. Department of Education offers scholarships to enable students to undertake studies in teacher education with specialisation in the subject fields of secondary or primary. These scholarships are awarded on the basis of planned needs.

For 1981 there were no Teacher Education Scholarships available to students who enrolled in the first year of a degree course at a University. It is not known what the situation will be in subsequent years.

Further information is available from the Teacher Education Advisory Office on the campus of the University of Wollongong (P. O. Box 1741, Wollongong. 2500. Telephone: 28 4033).

Aboriginal Study Grants Scheme

The Aboriginal Study Grants Scheme is intended to assist Aboriginals who wish to further their education after leaving school.

Benefits include the payment of all compulsory course fees, book and equipment allowances, some travel costs and establishment and clothing allowance.
Full-time students receive a living allowance and may also qualify for a family allowance and a dependent's allowance.

Part-time students are also eligible for some financial assistance.

Further information may be obtained from the Director, New South Wales State Office, Commonwealth Department of Education, P. O. Box 596, Haymarket, N.S.W. 2000. (Telephone: 2 0920, ext. 8611).
GENERAL INFORMATION

STUDENT PROCEDURES

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.

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.

Indebtedness to the University includes the non-payment of charges, late charges, library fines, the non-payment of student loans and any arrears in rent or other financial obligations resulting from an accommodation agreement entered into with the University.

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

Change of Address

Students are requested to notify the University Secretary in writing of any change in their address as soon as possible. Forms for this purpose are available from the Enquiries Office, Ground Floor, Administration Building. Failure to do this could lead to important correspondence (e.g. confirmation of enrolment form, examination results, etc) 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 University Secretary 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 Enquiries Office, Ground Floor, 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.

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 Enquiries Office, Ground Floor, Administration Building.

Train:
Identification cards issued by the Railways of Australia are available to full-time students to enable them to travel at concession rates on railways within Australia. Application forms are available from the Enquiries Office, Ground Floor, Administration Building.

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

Student Identification Cards

All students are issued with a new Identification Card at the beginning of each year of enrolment. 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 varying enrolment, when collecting examination results, when applying for travel concessions and when notifying a change of address.

A student who loses his identification card must notify the University Secretary as soon as possible.

All students will be issued with an Identification Card 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 six weeks of enrolment the Enquiries Office should be advised.
Lost Property

Enquiries concerning lost property should be made to the Enquiries Office, Ground Floor, Administration Building, and the Union Office.

Application of Rules

Any student who requires information on the application of the rules or any service which the University offers, may make enquiries at the Enquiries Office.
EXAMINATIONS

Formal University 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 charge 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 charge no later than four weeks from the date of publication of the examination results.

Rules and Procedures 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) All answers must be in English unless otherwise directed. Foreign students who have the written approval of the Examinations Office may use standard translation dictionaries.

(j) 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 termin-
A terminating pass is awarded, is a pre-requisite. 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 must be made on the appropriate form. Students who complete the requirements for their degrees or diplomas at the end of session 2 should apply by 5th January in the following year. Students who complete their degrees at the end of session 1 and do not wish to wait until the next Graduation Ceremony may choose to have their degrees awarded by resolution of the Council, in which case the application must be submitted to the University Secretary by 1st September. All applicants should ensure that they have completed all requirements for the degree or diploma, including industrial training where necessary.
PRIZES

The following prizes are awarded to students of the University. Details of the conditions of the prizes are available from the Enquiries Office.

The Australasian Institute of Mining and Metallurgy (Illawarra Branch) Geology Prize

1980: Tonia Lisbeth Johansen

The Australasian Institute of Mining and Metallurgy (Illawarra Branch) Metallurgy Prize

1980: Lynann Clapham

The Australasian Institute of Mining and Metallurgy (Illawarra Branch) Mining Prize

1980: Mark Cutifani

The Australian Institute of Metals (Port Kembla Branch) Metallurgy Prize

1980: Ross McDowall Smith

The Australian Institute of Physics (N.S.W. Branch) Prize (Physics)

1980: No Award

The Australian Iron and Steel Prize (Metallurgy)

1980: No Award

The Australian Psychological Society Prize in Psychology

1980: No Award

The Australian Society of Accountants Prizes (Accountancy)

1980: (1) Robyn Jean Seymour  
(2) Margaret Ellen Berglund  
(3) Jane Alexa Baxter

Touche Ross and Co., Chartered Accounts Prize in Business Finance

1980: Thomas Gordon Parkinson

The Peter Beckmann Memorial Prize (Chemistry)

1980: Roslyn J. Atkins

The Biology Prize

1980: Sonja Van't Zelfde

The Blue Circle Southern Cement Limited Maldon Works Prize (Metallurgy)

1980: Paul Dawson

The B. P. Australia Ltd. Coal Geology Prize

1980: Linda L. Ingram
The Marjory Brown Prize (English - Women Students)
1980: Joy Holland

The Commonwealth Banking Corporation Prize (Metallurgy)
1980: Ross McDowall Smith

The Darryl Condon Memorial Prize (Metallurgy)
1980: Kevin McLeish

The Corporate Affairs Commission Prize (Accountancy)
1980: Kathleen Anne Cooper

The G. W. Daniels Memorial Prize (Chemistry)
1980: Russell John Fletcher

The Foundation Prize in Geology
1980: No Award

The Institution of Engineers, Australia, Prize for Engineering
1980: Eric Ralph De Rooy

The John Lysaght Australia Limited Prize (Metallurgy)
1980: Gregory Allan Smith

The Metal Manufactures Prize (Metallurgy)
1980: Ross McDowall Smith

The N.S.W. Department of Education Prize (Diploma in Education)
1980: Janet Ruth Morris

The Gina Savage Prize (Science - Women Students)
1980: Roslyn J. Atkins

The S. A. Senior Prize (Mathematics)
1980: Peter David Mcllquham

Staff Prize for the Fourth Year Electrical Engineering Thesis
1980: No Award

Staff Prizes in Physics
1980: (1) Shared: How Siang Yap and Raymond Alex Hayward
(2) No Award
(3) No Award
(4) No Award

The A. J. & I Waters Prize in Geology
1980: Colin Hall
Evan Phillips Prize in Geology
1980: John Michael Boddington

The Western Mining Corporation Prizes for Metallurgy (2)
1980: (1) Ross McDowall Smith
(2) Ross McDowall Smith

The Western Mining Corporation Prizes for Mining Engineering (2)
1980: (1) Robert Wayne Kirkwood
(2) Denis William Kent

Statistical Society of Australia Prize (Mathematics)
1980: No Award

Austin Keane Memorial Prize (Mathematics)
1980: Shared: Jagoda Cergovska and Joanna Goard
BACHELOR DEGREE REGULATIONS

Being Regulations made by Council pursuant to clauses 23 and 24 of the University of Wollongong By-Law.

PART I — PRELIMINARY

SHORT TITLE
1. These Regulations may be cited as the "Bachelor Degree Regulations."

COMMENCEMENT
2. These Regulations shall come into operation on 1st January, 1981.

PARTS
3. These Regulations are divided into parts, as follows:

PART I - Preliminary (Clause 1-6)
PART II - General (Clause 7-15)
PART III - Bachelor of Arts (Clause 16)
PART IV - Bachelor of Commerce (Clause 17)
PART V - Bachelor of Engineering (Clause 18)
PART VA - Bachelor of Mathematics/Bachelor of Engineering (Clause 18A)
PART VI - Bachelor of Metallurgy (Clause 19)
PART VII - Bachelor of Science (Clause 20)
PART VIIA - Bachelor of Mathematics (Clause 20A)
PART VIII - Honours Degrees (Clauses 21-28)
PART IX - Miscellaneous (Clause 29-31)
PART X - Schedules

ABBREVIATED TITLES
4. There shall be degrees of Bachelor as follows:

4.1 the degrees of

Bachelor of Arts (BA)
Bachelor of Commerce (BCom)
Bachelor of Engineering (BE)
Bachelor of Mathematics/Bachelor of Engineering (BMath/BE)
Bachelor of Metallurgy (BMet)
Bachelor of Science (BSc)
Bachelor of Mathematics (BMath)

4.2 the honours degrees of

Bachelor of Arts (BA(Hons))
Bachelor of Commerce (BCom(Hons))
Bachelor of Engineering (BE(Hons))
Bachelor of Mathematics/Bachelor of Engineering (BMath/BE(Hons))
Bachelor of Metallurgy (BMet(Hons))
Bachelor of Science (BSc(Hons))
Bachelor of Mathematics (BMath(Hons))
THE BACHELOR DEGREES - REGULATIONS 55

INTERPRETATION

5.1 In these Regulations, unless the contrary intention appears,

5.1.1 "Course" means both the combination of subjects taken in any one year, and the sequence of subjects taken over several years, leading to a degree of the University;

5.1.2 "Subject" means a unit of study of single or double session duration;

5.1.3 "100-level subject" means a subject at first year level, "200-level subject" means a subject at second year level, "300-level subject" means a subject at third year level, "400-level subject" means a subject at fourth year level;

5.1.4 "credit points" means the value attributed to a subject as a component in a degree;

5.1.5 "academic adviser" means a person designated by the Academic Senate to advise a candidate proposing a course of study on the conformity of that course to these Regulations;

5.1.6 "Candidate" means a candidate for a degree of the University;

5.1.7 "full-time" candidate means a full-time candidate who is enrolled in any year in a subject or subjects with a value of not less than 36 credit points in courses for the degree of Arts, Commerce, Mathematics or Science, or not less than the equivalent of three quarters of a year's programme in courses for the degrees of Engineering, Mathematics/Engineering or Metallurgy;

5.1.8 "part-time" candidate means a candidate who is not designated as a full-time candidate.

CONFERRING OF DEGREES

6.1 The degrees or honours degrees of Bachelor, as prescribed by Regulations 4.1 and 4.2 of these Regulations may be conferred by the Council on a candidate who has to the satisfaction of the Council, complied with these Regulations; provided that in no case shall any of the degrees referred to in Regulation 4 be conferred more than once on the same candidate.

6.2 The degree of Bachelor of Commerce may be conferred with merit where a candidate has demonstrated a standard of academic achievement approved by the Council.

6.3 Where a candidate has qualified more than once for the award of the same degree, the University Secretary shall issue a certificate certifying to the fact and setting out the subjects and the grades awarded.

PART II - GENERAL

ENROLMENT

7.1 A candidate qualified for candidature for the degree of Bachelor of Arts, Commerce, Engineering, Mathematics/Engineering, Mathematics, Metallurgy or Science shall apply to the University Secretary and be enrolled in the first and each subsequent year as a full-time or part-time student for one of the above degrees. Unless provided by these Regulations no candidate shall be enrolled for more than one degree in any one year except with the approval of the Council.
SCHEDULES OF SUBJECTS

8.1 The Council shall approve the subjects for the degrees in Arts, Commerce, Engineering, Mathematics/Engineering, Mathematics, Metallurgy and Science. The subjects so approved shall be set out in schedules to these Regulations which shall include where relevant the credit points, subject pre-requisites, co-requisites, when offered and any restrictions or recommendations for each subject. The Schedules of Subjects are:

- Arts and General Studies - Schedule A
- Commerce - Schedule B
- Engineering - Schedule C
- Metallurgy - Schedule D
- Mathematics - Schedule E
- Mathematics/Engineering - Schedule F

COURSE OF STUDY

9.1 Subject to these Regulations a candidate shall, in each year, enrol in a course of study (selected from the Schedules of Subjects) which he shall propose after consultation with an academic adviser.

9.2 Except with the approval of the Council, in any year of enrolment a candidate shall not enrol in a subject or subjects with a value less than 12 credit points selected from the Schedules for the degrees of Arts, Commerce, Mathematics and Science, or less than the equivalent of one quarter of the course for a full-time year in the degrees of Engineering, Mathematics/Engineering and Metallurgy. This requirement shall not apply when a candidate, in order to complete his degree, needs less than 12 credit points in subjects selected from the Schedules for the degrees of Arts, Commerce, Mathematics and Science, or less than one quarter of the course for a full-time year in the degrees of Engineering, Mathematics/Engineering and Metallurgy; such a candidate must enrol for the amount of his course needed to complete the degree.

9.3 Normally, in any year of enrolment a candidate shall not enrol in subjects with a value of more than 48 credit points in courses for the degrees of Arts, Commerce, Mathematics and Science or more than the equivalent of the programme for a full-time year in the courses for the degrees of Engineering, Mathematics/Engineering and Metallurgy, except with the approval of the Council.

9.4 Except with the approval of the Council, a candidate may not enrol in a subject unless he satisfies the conditions for enrolment specified in the Schedules of Subjects.

CHANGE OF COURSE

10.1 Where a candidate seeks to change his course of study, enrolled in pursuant to Regulation 9.1, he shall apply in writing to the University Secretary after consultation with an academic adviser.

10.2 Where the change of course referred to in Regulation 10.1 includes discontinuance of a subject or subjects, the candidate shall be deemed not to have been enrolled in the subject or subjects if he discontinues:

(a) in the case of a subject which terminates at the end of a single session, before the end of the eighth week of the session in which that subject is offered;

(b) in the case of a subject which terminates at the end of two sessions, before the end of the first week of the second session in which that subject is offered.
10.3 Where a candidate withdraws from a subject or subjects pursuant to Regulation 10.2 that subject or subjects shall be deleted from the candidate's enrolment record.

10.4 Where the change of course referred to in Regulation 10.1 includes a subject or subjects discontinued after the time limits specified in Regulation 10.2(a) or 10.2(b), the subject shall not be deleted from the candidate's enrolment record provided that:

(a) where the Council determines that the failure to discontinue within the time limits specified in Regulation 10.2(a) and (b) is due to medical, compassionate or other acceptable reason, the candidate's enrolment record shall note the discontinuation and the date.;

(b) where the Council is not satisfied that failure to discontinue within the time limits specified in Regulation 10.2(a) and (b) is due to reasons specified in (a) above, the candidate shall be deemed to have failed the subject or subjects and his enrolment record shall note the date of the discontinuation and the Fail grade.

10.5 Where a date of discontinuance is recorded it shall be the date on which a notice of discontinuance on the prescribed form is lodged with the University Secretary.

LEAVE OF ABSENCE

11. Subject to these Regulations a candidate may be granted leave of absence for up to one year by the University Secretary on receipt of an application in writing; applications for leave of absence in excess of one year shall be determined by the Council.

ASSESSMENT

12.1 Subject to these Regulations, the declaration whether a candidate has completed satisfactorily a subject forming part of his course for the degree of Bachelor so as to gain the number of credit points specified in the Schedules of Subjects for the degrees of Arts, Commerce, Mathematics and Science, or standing in the subject for the degrees of Engineering, Mathematics/Engineering and Metallurgy, shall be made by the Council.

12.2 In order to complete a subject satisfactorily and to gain the number of credit points specified for the subject in the Schedules for the degrees of Arts, Commerce, Mathematics and Science or standing in a subject prescribed for a degree in Engineering, Mathematics/Engineering or Metallurgy, a candidate shall

12.2.1 attend such classes; and

12.2.2 complete such essays, exercises and practical work and present himself for such tests and examinations; and

12.2.3 reach a satisfactory standard in such completed work as may be determined by the relevant Departmental Chairman. Provided that a candidate whose performance was affected or was prevented by illness or other cause beyond his control from satisfying the requirements of this Regulation shall report the circumstances in writing (supported by evidence) to the University Secretary who shall inform the Departmental Chairman; and the Departmental Chairman may take into account such illness or other cause when assessing the candidate's performance. The candidate shall submit such a report to the University Secretary not later than seven days following the illness or other cause referred to above, except that it may be submitted by some other person if circumstances prevent the candidate from taking the required action.
12.3 The Council shall determine a period at the end of each session when examinations may be scheduled.

12.4 The Council shall determine the grades to be used for recording the level of achievement in a subject. The grade of achievement of a candidate in a subject shall be declared by the Council after advice from the relevant Departmental Chairman whose assessment shall be based on the candidate's level of performance with respect to Regulation 12.2.

MINIMUM RATE OF PROGRESS

13.1 The required minimum rate of progress in the degrees of Arts, Commerce, Mathematics and Science shall be the attainment of a number of credit points (excluding credit points granted pursuant to Regulation 15) aggregated as follows, provided that this Regulation shall not apply to a subject or subjects withdrawn pursuant to Regulations 10.2 or 10.4(a):

13.1.1 during the first two years of candidature, 48 credit points for full-time candidates and 24 credit points for part-time candidates, and

13.1.2 thereafter 32 credit points for each year of full-time candidature and 16 credit points for each year of part-time candidature.

13.2 The required minimum rate of progress in the degrees of Engineering, Mathematics/Engineering or Metallurgy shall be the successful completion of subjects (excluding standing granted pursuant to Regulation 15) aggregated as follows:

13.2.1 during the first two years of candidature the first year of the course prescribed for full-time candidates, and the equivalent of half of the first year of the course prescribed for part-time candidates;

13.2.2 thereafter two thirds of the course prescribed for each year of candidature.

RESTRICTIONS ON ENROLMENT

14.1 Subject to these Regulations, a candidate who has failed to complete a subject satisfactorily after having enrolled therein twice may not enrol again in that subject except with permission of the Council, provided that this Regulation shall not apply in the case of a subject or subjects withdrawn pursuant to Regulations 10.2 or 10.4(a).

14.2 Subject to these Regulations, a candidate who fails to maintain the required minimum rate of progress in a course of study set out in Regulation 13 may not enrol in any subject without showing cause to the satisfaction of the Council why enrolment should be permitted.

14.3 A candidate who, in the opinion of the Council has an unsatisfactory academic record in any other university or tertiary institution, shall not be permitted to enrol in any subject without the approval of the Council.

14.4 A candidate not permitted to enrol pursuant to this Regulation in a particular year may apply to the Council for permission to enrol in the following year.

14.5 Where a candidate required to show cause or to obtain the approval of the Council under this Regulation is permitted to enrol in any subject or subjects in the University, such enrolment shall be subject to any condition imposed by the Council.

CREDIT TOWARDS DEGREE

15.1 A candidate who has completed in a university or other tertiary institution approved by the Council one or more subjects approved for the purpose of this Regulation by the Council may, subject to this Regulation, be granted such credit therefor as may be determined by the Council.
15.2 A candidate enrolled for a degree of Arts, Commerce, Mathematics or Science and granted credit pursuant to this Regulation shall in no case be eligible by reason thereof to be credited with more than 96 credit points, and shall in any case

15.2.1 complete such subjects as shall permit the obtaining of at least 24 credit points in 300-level subjects (selected from the Schedules of Subjects referred to in Regulation 8 of these Regulations) determined by the Council as providing a substantial and coherent study at the 300-level, and

15.2.2 complete such other subject or subjects as may be determined by the Council.

15.3 A candidate enrolled for a degree of Engineering, Mathematics/Engineering or Metallurgy and granted credit pursuant to this Regulation shall in no case be eligible by reason thereof to be credited with more than two-thirds of the course and shall in any case

15.3.1 complete such subjects as shall permit the attaining of a satisfactory performance in at least three-quarters of the final year, or its part-time equivalent if a part-time candidate, of the prescribed course determined by the Council, and

15.3.2 complete such other subject or subjects as may be determined by the Council.

15.4 A candidate shall not be granted credit pursuant to this Regulation for subjects completed more than 10 years previously, except with the approval of the Council.

15.5 A candidate may, with the prior approval of the Council, be permitted to enrol for subjects at another university or tertiary institution and on successful completion of the subjects to have them credited towards a degree of the University.

15.6 Notwithstanding anything to the contrary contained in this Regulation a candidate who is a graduate or who has satisfied the requirements for a degree or other award of a university or other tertiary institution approved by Council shall not be credited pursuant to this Regulation with more than 66 credit points in the case of degrees in Arts, Commerce, Mathematics and Science, except that appropriate subjects passed but not included in the previous degree may extend the maximum to 96 credit points; or one half of the prescribed course in the case of degrees in Engineering, Mathematics/Engineering and Metallurgy, except that appropriate subjects passed but not included in the previous degree may extend the maximum of two-thirds of the prescribed course.

15.7 Save with the approval of the Council a candidate who has satisfactorily completed, either at the university or elsewhere, a subject which, in the opinion of the Council is a similar subject and for which credit has been obtained for a particular degree shall not be permitted to enrol in that subject for credit towards that particular degree.

PART III — BACHELOR OF ARTS

DEGREE REQUIREMENTS

16. In order to complete a course of study which qualifies for the award of the degree of Bachelor of Arts, a candidate shall, subject to these Regulations, obtain from the successful completion of subjects listed in Schedule A, an aggregate of not less than 144 credit points of which

16.1 not less than 72 shall be obtained in respect of subjects other than 100-level subjects; and
THE BACHELOR DEGREES - REGULATIONS

PART IV - BACHELOR OF COMMERCE *

DEGREE REQUIREMENTS

17.1 In order to complete a course of study which qualifies for the award of the degree of Bachelor of Commerce, a candidate shall, subject to these Regulations, obtain an aggregate of not less than 144 credit points by the successful completion of subjects listed in Schedule A of which

17.1.1 not less than 72 shall be obtained in respect of subjects other than 100-level subjects.

17.2 Subject to these Regulations and any conditions specified in the Schedules, candidates enrolled for the specialisation in Accountancy shall successfully complete the subjects set out in Schedules B1 and B2.

17.3 Subject to these Regulations and any conditions specified in the Schedules, candidates enrolled for the specialisation in Economics shall successfully complete the subjects set out in Schedules B1 and B3.

17.4 Subject to these Regulations and any conditions specified in the Schedule, candidates enrolled for the combined specialisation in Accountancy and Economics shall successfully complete the subjects set out in Schedule B4.

17.5 Subject to these Regulations and any conditions specified in the Schedules, candidates enrolled for the specialisation in Industrial Relations shall successfully complete the subjects set out in Schedules B1 and B5.

17.6 Subject to these Regulations and any conditions specified in the Schedules, candidates enrolled for the specialisation in Management Studies shall successfully complete the subjects set out in Schedules B1 and B6.

17.7 Subject to these Regulations and any conditions specified in the Schedule, candidates enrolled for the combined specialisation in Economics and Computing Science shall successfully complete the subjects set out in Schedule B7.

17.8 Subject to these Regulations and any conditions specified in the Schedule, candidates enrolled for the combined specialisation in Economics and Geography shall successfully complete the subjects set out in Schedule B8.

17.9 Subject to these Regulations and any conditions specified in the Schedule, candidates enrolled for the combined specialisation in Economics and Geology shall successfully complete the subjects set out in Schedule B9.

17.10 Subject to these regulations and any conditions specified in the Schedule, candidates enrolled for the combined specialisation in Accountancy and Management Studies shall successfully complete the subjects set out in Schedule B-10.

17.11 Subject to these regulations and any conditions specified in the Schedule, candidates enrolled for the combined specialisation in Accountancy and Industrial Relations shall successfully complete the subjects set out in Schedule B-11.

17.12 Subject to these regulations and any conditions specified in the Schedule, candidates enrolled for the combined specialisation in Accountancy and Computing Science shall successfully complete the subjects set out in Schedule B-12.

* Criteria for the award of the Bachelor of Commerce degree with Merit are set out on page 65.
PART V – BACHELOR OF ENGINEERING

DEGREE REQUIREMENTS

18. In order to complete a course of study which qualifies for the award of the degree of Bachelor of Engineering, a candidate shall, subject to these Regulations, successfully complete the subjects prescribed in one of the courses set out in Schedule C.

PART VA – BACHELOR OF MATHEMATICS/BACHELOR OF ENGINEERING

DEGREE REQUIREMENTS

18A In order to complete a course of study which qualifies for the award of the joint degree of Bachelor of Mathematics/Bachelor of Engineering, a candidate shall, subject to these Regulations, successfully complete the subjects prescribed in the course set out in Schedule G.

PART VI – BACHELOR OF METALLURGY

DEGREE REQUIREMENTS

19. In order to complete a course of study which qualifies for the award of the degree of Bachelor of Metallurgy, a candidate shall, subject to these Regulations, successfully complete the subjects set out in Schedule D.

PART VII – BACHELOR OF SCIENCE

DEGREE REQUIREMENTS

20. In order to complete a course of study which qualifies for the award of the degree of Bachelor of Science, a candidate shall obtain an aggregate of not less than 144 credit points by the successful completion of subjects listed in Schedule A, and shall fulfil Regulation 20.1.

20.1.

20.1.1 Not less than 90 credit points shall be in respect of subjects offered by member departments of the Faculty of Science (i.e. Biology, Chemistry, Geology and Physics), of which

20.1.2 not less than 60 credit points shall be in respect of subjects offered by one member department of the Faculty of Science, of which

20.1.3 not less than 24 credit points shall be in respect of subjects approved by the Academic Senate as providing a substantial and coherent study at the 300-level.

20.1.4 Of the 144 credit points not more than 60 credit points shall be in respect of 100-level subjects.

PART VIIIA – BACHELOR OF MATHEMATICS

DEGREE REQUIREMENTS

20A In order to complete a course of study which qualifies for the award of the degree of Bachelor of Mathematics, a candidate shall, subject to these Regulations, obtain an aggregate of not less than 144 credit points by the successful completion of subjects listed in Schedule A, of which

20A.1 not more than 60 credit points shall be in respect of 100-level subjects; and
62 THE BACHELOR DEGREES - REGULATIONS

20A.2.1 not less than 84 credit points shall be in respect of subjects selected from Schedule F; and

20A.2.2 not less than 36 credit points shall be in respect of 300-level subjects, of which at least 24 from Schedule F shall be approved by the Council as providing a substantial and coherent study at the 300-level;

or

20A.3.1 not less than 72 credit points shall be in respect of subjects selected from Schedule F, of which at least 24 credit points shall be approved by the Council as providing a substantial and coherent study at the 300-level; and

20A.3.2 not less than 48 credit points shall be in respect of subjects, other than those in Schedule F, offered by, or on behalf of, any one department of the University; of these 48 credit points at least 24 credit points shall be approved by the Council as providing a substantial and coherent study at the 300-level.

PART VIII - THE HONOURS DEGREE OF BACHELOR

PRELIMINARY

21. Subject to the succeeding Regulations, Regulations 1 to 20 inclusive of these Regulations shall, unless the context or subject matter indicate a contrary intention, have equal application to candidates for the honours degree of Bachelor as to candidates for the degree of Bachelor.

ADMISSION TO HONOURS DEGREE COURSES IN ARTS, COMMERCE, MATHEMATICS AND SCIENCE

22. In order to be admitted as a candidate for the degree of Bachelor with Honours in Arts, Commerce, Mathematics or Science a candidate shall

22.1 have (save as determined by the Council in exceptional cases) qualified for the award of a degree of Bachelor of Arts, Commerce, Mathematics or Science of the University; and

22.2 have attained in the subjects completed for his degree a standard of achievement approved by the Council;

22.3 have completed satisfactorily such subjects as may have been determined by the Council.

or

22.4 hold from another University qualifications or academic attainments approved by the Council as equivalent to those set out in Regulations 22.1 and 22.2. Provided that the Council may require an applicant, before being admitted as a candidate for the honours degree of Bachelor, to complete such work and sit for such examinations as the Council may determine.

COURSE OF STUDY FOR THE HONOURS DEGREE COURSE IN ARTS, COMMERCE, MATHEMATICS AND SCIENCE.

23.1 A candidate for the degree of Bachelor with Honours in Arts, Commerce, Mathematics or Science shall obtain an aggregate of not less than 48 credit points from the successful completion of subjects approved by the Council from those listed in the Schedules of Subjects at a standard of achievement approved by the Council.
23.2 A candidate may be enrolled for

either

23.2.1 a single honours degree where subjects are taken from one department,

or

23.2.2 a joint honours degree where subjects are taken from more than one department.

LENGTH OF CANDIDATURE FOR HONOURS DEGREE COURSE IN ARTS, COMMERCE, MATHEMATICS AND SCIENCE

24. Unless otherwise determined by the Council a full-time candidate shall pursue the course of study approved under Regulation 23 for two successive half-years and a part-time candidate shall pursue the course of study for four successive half-years. Provided that a candidate admitted pursuant to Regulation 22.4 may be required by the Council to pursue a course of study for more than two successive half-years if a full-time candidate and for more than four successive half-years if a part-time candidate.

ADMISSION, COURSE OF STUDY AND LENGTH OF CANDIDATURE FOR HONOURS DEGREE COURSES IN ENGINEERING, MATHEMATICS/ENGINEERING AND METALLURGY

25. In order to complete a course of study which qualifies for the award of the degree of Bachelor with Honours in Engineering, Mathematics/Engineering or Metallurgy, a candidate must complete the course for the degree of Bachelor of Engineering, Mathematics/Engineering or Metallurgy at a standard of achievement determined by the Council.

ADDITIONAL HONOURS COURSE

26.1 A candidate who has qualified for the honours degree of Bachelor and who has fulfilled such requirements for admission to a second honours course as may be determined by the Council may be permitted by the Council to enrol for the second honours course provided that this course is, in the opinion of the Council, sufficiently different from the first honours course completed.

26.2 Unless otherwise determined by the Council a candidate permitted to undertake a second honours course pursuant to Regulation 26.1 shall comply with Regulations 23, 24 and 25 where relevant.

CLASSES OF HONOURS

27. A candidate who has satisfactorily fulfilled the Regulations prescribed may be awarded an honours degree in one of the following classes:

- Honours Class I
- Honours Class II Division 1
- Honours Class II Division 2
- Honours Class III

TERMINATION OF CANDIDATURE

28. Unless otherwise determined by the Council a candidate who, pursuant to these Regulations, fails to qualify for the award of any class of honours referred to in Regulation 27 may not continue as a candidate for the honours degree of Bachelor.
29. Notwithstanding anything to the contrary herein contained the Council may, in any case in which it may deem it appropriate to do so, dispense with or suspend any requirement of or prescription by these Regulations.

APPLICATION OF AMENDING REGULATIONS

30. Where, after the commencement of these Regulations an amendment relating to the courses of study that may be taken by candidates for the pass degrees of Bachelor or the degrees with honours is made to these Regulations, the amendment shall not apply to such a candidate who, before the making of the amendment, completed 12 credit points or the equivalent of one quarter of the course for a full-time year in the degrees of Engineering, Mathematics/Engineering or Metallurgy, unless

30.1 the candidate elects that the amendment apply to him and submits to the Council proposed alterations to his course that are in accordance with these Regulations as amended by the amendment and the Council approved those alterations or

30.2 the Council otherwise determines.

APPEAL

31. A candidate may appeal against any decision made pursuant to these Regulations to the Council which may determine the matter as it sees fit.

PART X – THE SCHEDULES

SCHEDULE A – ARTS AND GENERAL STUDIES
SCHEDULE B – COMMERCE
SCHEDULE C – ENGINEERING
SCHEDULE D – METALLURGY
SCHEDULE F – MATHEMATICS
SCHEDULE G – MATHEMATICS/ENGINEERING

All the subjects set out in the Schedules of Subjects are offered contingent upon the availability of staff and the level of student enrolments.
CRITERIA FOR THE AWARD OF BCOM DEGREE WITH MERIT

To be eligible for the award of a Bachelor of Commerce Degree with Merit a candidate must:

1. have passed at credit level or better in subjects aggregating not less than 60 credit points;
2. have not failed in any subjects;
3A. Accountancy

have passed at credit level or better 50% of the subjects taken from those offered by the Department of Accountancy above 100-level, but in no case shall the subjects passed at credit level or better under this clause be less than 30 credit points, and provided further that

(i) the subjects passed under this clause at credit level or better must include two subjects from Accounting & Financial Management IIA, IIB, IIIA and IIB, and

(ii) either Accounting & Financial Management IIIA or IIB must be passed at credit level or better.

3B. Economics

have passed at credit level or better 50% of subjects above 100-level taken from the Department of Economics, provided that subjects passed at credit level or better to which the clause refers:

(i) have a credit point value of 30 or more;

(ii) include at least one subject at 300-level from the Schedule of Subjects for Economics.
A GUIDE TO THE SCHEDULES

Intending students are strongly urged to read the details of each subject in which they are interested. 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).

Pre-requisites and Co-requisites

The information in the columns headed "Pre-requisites" and "Co-requisites" indicates the minimum requirements to be met by students wishing to enrol in the various subjects. A pre-requisite subject is one which must be completed successfully prior to undertaking the subject for which it is prescribed. A co-requisite subject is one which must either be completed successfully before or be studied concurrently with the subject for which it is prescribed.

The pre- and co-requisites listed for subjects in the Schedules are described in terms of the current subject titles. Students who have completed similar subjects in previous years are advised to contact the appropriate Departmental Chairman to determine whether these subjects are acceptable as pre- and co-requisites for subjects in their present courses.

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

Under the Regulations a Departmental Chairman may dispense with the need to comply with a pre-requisite or co-requisite. However, pre-requisites and co-requisites have been carefully determined and waiver will be allowed only in cases where the Departmental Chairman and the Academic Senate are satisfied that the student has a background of study sufficient to take the subject profitably.

Session Offered

In the column headed "Session Offered" the following coding is 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.
## SCHEDULE A

### ARTS AND GENERAL STUDIES

<table>
<thead>
<tr>
<th>Level</th>
<th>Subject</th>
<th>Credit</th>
<th>Session</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
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### DEPARTMENT OF ACCOUNTANCY

- **ACCY101** Accounting & Financial Management 1 (Recommended pre-requisite: ENGLISH at N.S.W. H.S.C. - top 70% percentile bands)
- **ACCY163** Introduction to Law
- **ACCY211** Accounting & Financial Management II A
- **ACCY201** Accounting & Financial Management II B
- **ACCY212** Business Organisation and Policy (Recommended pre-requisite: ECON122 Quantitative Methods II)
- **ACCY213** Marketing Policy (Recommended pre-requisite: MATH102 Mathematics IB)
- **ACCY215** Small Business Management (Recommended pre-requisite: ECON122 Quantitative Methods II)
- **ACCY216** Operations Management (Recommended pre-requisite: MATH102 Mathematics IB)
- **ACCY221** Business Finance
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**400-Level**

**Compulsory Subjects for Honours Degree**

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**Optional Subjects for Honours Degree**

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<td>ACCY415</td>
<td>Capital Investment</td>
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<td>ACCY416</td>
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Entry to the Honours course or Honours subjects requires the approval of the Academic Senate on recommendation of the Chairman of the Department: normally the equivalent of a BCom degree with Merit is required for entry.

The offering of Honours subjects is dependent on availability of staff and sufficient student enrolments. The session a particular subject will be offered depends on the full time and part time composition of the enrolments and availability of staff.
<table>
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<tr>
<th>Number</th>
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**DEPARTMENT OF BIOLOGY**

2 Unit Science Course of N.S.W. H.S.C. recommended

The following four 200-level subjects are required for a major sequence in Biology

- Not to count with BIOL211
- Not to count with BIOL281/381
- PHYS131, 132 recommended. Not to count with BIOL202/302
- Not to count with BIOL312. PHYS131, 132 recommended
- BIOL210, PHYS131, 132 recommended. Not to count with BIOL203/303
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<td>A 24-credit Joint Honours programme in</td>
<td>Joint honours projects must receive the specific approval of Chairman of the Department of Biology</td>
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### DEPARTMENT OF CHEMISTRY

Completion of at least a 2 Unit Science course at N.S.W. H.S.C. recommended

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<td>CHEM212</td>
<td>Organic Chemistry II</td>
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<td>Physical Chemistry II</td>
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<td>Organic Stereochemistry and Heterocyclics III</td>
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<td>CHEM322</td>
<td>Organic Spectroscopy and Natural Products III</td>
<td>300</td>
<td>8</td>
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<td>CHEM323</td>
<td>Physical Chemistry III</td>
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<td>Theoretical Chemistry</td>
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<td>CHEM327</td>
<td>Chemistry and The Environment</td>
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### 400-Level

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<td>24 credit points gained from 300-level Chemistry subjects</td>
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<td>Entry to the Honours year shall be determined by the Academic Senate on the advice of the Departmental Chairman</td>
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<td>CHEM420</td>
<td>Chemistry Honours Project for Full-time Students</td>
<td>400 32 3</td>
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<td></td>
<td>Must have graduated or be eligible for graduation with at least 24 credit points of 300-level Chemistry subjects</td>
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<td>Entry to this course is subject to the approval of the Chairman, Department of Chemistry. Not to count with CHEM421, 422</td>
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<td>CHEM421</td>
<td>Chemistry Honours Project Part I for Part-time Students</td>
<td>400 8 3</td>
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<td>Must have graduated or be eligible for graduation with at least 24 credit points of 300-level Chemistry subjects</td>
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<td>CHEM422</td>
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<td>Must have graduated or be eligible for graduation with at least 24 credit</td>
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<td>CHEM425</td>
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**DEPARTMENT OF CIVIL AND MINING ENGINEERING**

†100-Level

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<th>Level</th>
<th>Credit Points</th>
<th>Session</th>
<th>Co-Requisite</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>CIVL112</td>
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<td>CIVL113</td>
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<td>CIVL114</td>
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<td>CIVL115</td>
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† These subjects will only be offered if a sufficient number of students are available. Entry to the subjects is subject to the approval of the Chairman of the Department of Civil Engineering.
### 100-Level

<table>
<thead>
<tr>
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<th>Credits</th>
<th>Elective</th>
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<tbody>
<tr>
<td>CSCI101</td>
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### 200-Level

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<td>CSCI201</td>
<td>Computing Science II</td>
<td>200</td>
<td>12</td>
<td>3 CSCI101</td>
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<tr>
<td>CSCI222</td>
<td>Software Engineering</td>
<td>200</td>
<td>6</td>
<td>1 or 2 CSCI101</td>
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<tr>
<td>CSCI233</td>
<td>Fundamentals of Computing</td>
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**Note:** Not to count with any other 100-level or 200-level Computing Science subjects or CSCI233.

### 300-Level

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<td>Software Project</td>
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<tr>
<td>CSCI312</td>
<td>Operating Systems</td>
<td>300</td>
<td>6</td>
<td>1 or 2 CSCI201</td>
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**Compulsory for students majoring in Computing Science**

**Compulsory for students majoring in Computing Science. (Previously CSCI322 Operating Systems)**

Students who have already completed 300-level courses in Computing Science require the approval of the Chairman of the Department of Computing Science before enrolling in these subjects.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CSCI313</td>
<td>Business Data Processing</td>
<td>300</td>
<td>6</td>
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<tr>
<td>CSCI331</td>
<td>Advanced Data Structures</td>
<td>300</td>
<td>6</td>
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**Compulsory for students majoring in Computing Science**
<table>
<thead>
<tr>
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<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
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<td>CSCI333</td>
<td>Compiler Basics</td>
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<tr>
<td>CSCI334</td>
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It is recommended that units at any level should be attempted only after completion of corresponding units at the previous level.

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* 400-Level

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* These subjects will not be offered in 1982.

DEPARTMENT OF EDUCATION
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<tr>
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<td>8  1 EDUC215 and one of EDUC213, 214, 216 or 217</td>
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*These subjects will not be offered in 1982

EDUC319 is either a pre-requisite or a co-requisite.
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300-Level

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ELEC394 Computer Engineering 3B  300  6  2  ELEC299

* Offered subject to enrolment numbers

100-Level

ENGL101 Introduction to Modern Literature  100  12  3
ENGL103 Introduction to English Language Studies A  100  6  1
ENGL104 Introduction to English Language Studies B  100  6  2  ENGL103
ENGL106 Introduction to Drama Studies  100  12  3

200-Level

ENGL217 Renaissance Poetry and Prose A  200  6  1  ENGL101 or ENGL103 and 104

DEPARTMENT OF ENGLISH

A comprehensive course of study in English comprises not less than 54 credit points of which not less than 12 must be taken from 100-level subjects and not less than 24 from 300-level subjects.

Students without English 100-level subjects may be admitted to subjects in English Literature 200-level subject to the approval by the Departmental Chairman. Not to count with ENGL320.
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300-Level

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Students without ENGL101 or 103 and 104 or 106 or English 200-level pre-requisites may be admitted to subjects in English 300-level subject to approval by the Departmental Chairman.
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**Spanish**

**100-Level**

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* This will be determined by the Chairman of the Department; normally an acceptable level will be French 2 Unit top 30% percentile bands at N.S.W. H.S.C.

** This will be determined by the Chairman of the Department; normally an acceptable level will be Italian 2 Unit top 30% percentile bands at N.S.W. H.S.C. or education in Italy.

† Will not be offered in 1982.

**GENERAL STUDIES**

**100-Level**

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### 300-Level

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### 400-Level

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Admission to an approved 400-level programme, plus permission from the Chairman of the Department(s) in which that programme is undertaken.

* May not be offered in 1982.

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### DEPARTMENT OF GEOGRAPHY

#### 100-Level

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Not to count with GOEG193

Not to count with GEOG192

Not to count with GEOG112
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<td>GEOG315</td>
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*Not offered in 1982.

**DEPARTMENT OF GEOLOGY**

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Not to count with GEOL208/308 or GEOL309

Not to count with GEOL201 or GEOL221

This joint Honours subject would normally be taken with 24 credit points at 400-level from another department (commonly any Science department)
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<td>Not to count with HIST223, HIST226, HIST313</td>
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<td>Russia, the Soviet Union and International Communism, 1885 - 1962 B</td>
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<td>Not to count with HIST220, HIST231, HIST232, HIST233, HIST309, HIST326, HIST333</td>
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<td>Eurocommunism B</td>
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<td>Italy from Unification to World Power, 1871-1914 B</td>
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<td>HIST401</td>
<td>History IV Honours</td>
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<td>48</td>
<td>3</td>
<td>Normally HIST325 Theory and Method of History (Advanced) in 1980 and following years</td>
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<td>Entry to the Honours year shall be determined by the Academic Senate on the advice of the Departmental Chairman</td>
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**DEPARTMENT OF HISTORY AND PHILOSOPHY OF SCIENCE**

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<td>HPS120</td>
<td>Technology and the Modern Industrial State A</td>
<td>100</td>
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<td>HPS130</td>
<td>The Origins of Modern European Science 1500 - 1700 A</td>
<td>100</td>
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<td>The Darwinian Revolution A</td>
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<td>Credits</td>
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<td>Greek Science</td>
<td>200 16 3</td>
<td>12 credit points at 100-level in relevant subject determined by Chairman of Department</td>
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<tr>
<td>HPS214</td>
<td>Methodology of the Natural and Social Sciences</td>
<td>200 8 1</td>
<td>100-level HPS subject or other relevant 100-level subject determined by Chairman of Department</td>
<td>It is desirable that students have completed successfully METL121</td>
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<td>HPS217</td>
<td>Materials in the Twentieth Century</td>
<td>200 12 3</td>
<td>100-level HPS subject or other relevant 100-level subject determined by Chairman of Department</td>
<td>Not to be counted with HPS233 The Integration of Biology and Chemistry in the Twentieth Century OR with HPS237 The Integration of Biology and Chemistry in the Twentieth Century</td>
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<td>HPS234</td>
<td>Scientific Change in the Twentieth Century</td>
<td>200 12 3</td>
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<td>HPS228</td>
<td>Computers in Society</td>
<td>200 8 2</td>
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<td>Genetics: Its History and Social Implications</td>
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<td>Aristotelian Thought in the Middle Ages</td>
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<td>Medieval Science</td>
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<td>MATH101</td>
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*N.S.W. H.S.C. Examination

2 unit Mathematics (71-100 percentile range)

3 unit Mathematics (11-100 percentile range)

4 unit Mathematics (1-100 percentile range)
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<td>MATH131</td>
<td>Mathematics IC</td>
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*Students who do not meet the prerequisite for this subject may be permitted to enrol in this subject on approval of the Chairman of the Department of Mathematics.

MATH102 Mathematics IB 100 12 3

MATH131 Mathematics IC 100 12 3

*N.S.W. H.S.C. Examination
2 unit Mathematics (71-100 percentile range)
3 unit Mathematics (11-100 percentile range)
4 Unit Mathematics (1-100 percentile range)

*Students who do not meet the prerequisite for this subject may be permitted to enrol in this subject on approval of the Chairman of the Department of Mathematics.

Not to count with MATH131, MATH132, MATH233, MATH202 or MATH234

Assumed knowledge is the 3 Unit H.S.C. Mathematics course.

Not to count with MATH101, MATH 102, MATH132, MATH233, MATH234, ECON121 or ECON122
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<td>Assumed knowledge is the 2 Unit H.S.C. Mathematics course. Not to count with MATH101, MATH102, MATH131, MATH234, ECON121, ECON122 or PSYC222</td>
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MATH286 Mathematics IIIZ  200  8  3  MATH201  

Not to count with MATH211 or MATH281

### 300-Level

The following subjects will be on offer every year.*

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<td>Mathematical Methods: Differential Equations and Special Functions</td>
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<tr>
<td>MATH313</td>
<td>Numerical Analysis B</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
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<tr>
<td>MATH314</td>
<td>Ocean Dynamics</td>
<td>300</td>
<td>6</td>
<td>2</td>
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<tr>
<td>MATH315</td>
<td>Variational Calculus and Asymptotic Analysis</td>
<td>300</td>
<td>6</td>
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<tr>
<td>MATH321</td>
<td>Functional Analysis</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
</tr>
<tr>
<td>MATH322</td>
<td>Abstract Algebra</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
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*At least one of MATH312 and MATH313 will be on offer every year.
<table>
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<tr>
<th>Number</th>
<th>Subject</th>
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<th>Credit Points</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
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<tr>
<td>MATH323</td>
<td>Logic and Set Theory</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
<td>Either MATH102 and any 12 credit points of 200-level Schedule F Mathematics subjects or PHIL231</td>
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<td>Not to count with PHIL222 PHIL371 or PHIL381</td>
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<td>MATH324</td>
<td>Topology and Complex Analysis</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
<td>MATH201 and MATH221</td>
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<tr>
<td>MATH331</td>
<td>Time Series</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
<td>MATH231</td>
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<tr>
<td>MATH332</td>
<td>Multiple Regression and Analysis of Variance</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
<td>MATH231</td>
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<td>Not to count with MATH334 or ECON321</td>
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<tr>
<td>MATH335</td>
<td>Statistical Inference</td>
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<td>6</td>
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<td>MATH336</td>
<td>Applied Probability Models</td>
<td>300</td>
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<tr>
<td>MATH337</td>
<td>Operations Research</td>
<td>300</td>
<td>6</td>
<td>1 or 2</td>
<td>Any 12 credit points of 200-level Mathematics subjects together with MATH102</td>
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</table>

The following subjects will be on offer from time to time.

- MATH361 Differential Equations  
  Level 300, Credit Points 6, Session Offered 1 or 2, Pre-Requisite MATH201
- MATH362 Viscous Fluids  
  Level 300, Credit Points 6, Session Offered 2, Pre-Requisite MATH211
- MATH363 Mathematical Modelling  
  Level 300, Credit Points 6, Session Offered 1 or 2, Pre-Requisite MATH211, MATH311
MATH364 Continuum Mechanics 300 6 1 or 2 MATH211
MATH365 Decision Theory 300 6 1 or 2 MATH231
MATH366 Population Dynamics 300 6 1 or 2 Either MATH102 or any 12 credit points of 200-level Schedule F Mathematics subjects

The following advanced subjects will be on offer from time to time.

MATH371 Advanced Topics in Applied Mathematics 300 6 1 or 2 MATH211

MATH372 Advanced Topics in Pure Mathematics. 300 6 1 or 2 MATH221

MATH373 Advanced Topics in Statistics 300 6 1 or 2 MATH231

The following subject will be on offer every year, and is not in Schedule F.

MATH334 Design and Analysis 300 6 3 Either PSYC232 Research Methods and Statistics, MATH234 Statistical Methods

Not to count with MATH332 or ECON321
<table>
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<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
<th>Session</th>
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<th>Co-Requisite</th>
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<td>400-Level</td>
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<tr>
<td>MATH401</td>
<td>Mathematics IV (Honours)</td>
<td>400</td>
<td>48</td>
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<td>Entry to Honours year or Honours subject shall be determined by the Academic Senate on the advice of the Departmental Chairman</td>
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<tr>
<td>MATH411</td>
<td>Mathematics Honours Seminar</td>
<td>400</td>
<td>12</td>
<td>3</td>
<td>Candidature for MSc or DipMath</td>
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DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering does not offer subjects for inclusion in Schedule A.

DEPARTMENT OF METALLURGY


DEPARTMENT OF PHILOSOPHY

Not to count with PHIL133, or PHIL173, or PHIL203, or PHIL223, or PHIL273
<table>
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<th>Course Code</th>
<th>Course Title</th>
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<td>PHIL143</td>
<td>Political Theory</td>
<td>100</td>
<td>12</td>
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</tr>
<tr>
<td>PHIL153</td>
<td>Clear Thinking and Arguments</td>
<td>100</td>
<td>12</td>
<td>3</td>
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<tr>
<td>PHIL173</td>
<td>Philosophy 173</td>
<td>100</td>
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<td>3</td>
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<td>PHIL193</td>
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<td>Philosophy 203</td>
<td>200</td>
<td>16</td>
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<td>PHIL211</td>
<td>Classical Philosophy</td>
<td>200</td>
<td>8</td>
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<td>PHIL216</td>
<td>Logic B</td>
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<td>PHIL222</td>
<td>Set Theory 222</td>
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Not to count with PHIL113 or PHIL153 or PHIL173 or PHIL216 or PHIL253 or PHIL273

Not to count with PHIL243

Not to count with PHIL112 or PHIL113 or PHIL173 or PHIL216 or PHIL253 or PHIL273

Not to count with PHIL103 or PHIL112 or PHIL113 or PHIL153 or PHIL203 or PHIL216 or PHIL253 or PHIL273

Not to count with PHIL293

Not to count with PHIL103 or PHIL123 or PHIL133 or PHIL173 or PHIL273

Not to count with PHIL112 or PHIL113 or PHIL153 or PHIL173 or PHIL253 or PHIL273

At least 18 credit points

At least 18 credit points

At least 18 credit points
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<th>Co-Requisite</th>
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<tr>
<td>PHIL231</td>
<td>Formal Logic A</td>
<td>200</td>
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<td>PHIL232</td>
<td>Political Philosophy A</td>
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<td>PHIL242</td>
<td>Modal Logic A</td>
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<td>16</td>
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<td>At least 18 credit points</td>
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<td>PHIL251</td>
<td>Ethics A</td>
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<td>8</td>
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<td>PHIL231 or PHIL361</td>
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<td>PHIL252</td>
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<td>8</td>
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THE BACHELOR DEGREES - SCHEDULE A 125
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<tr>
<th>Course Code</th>
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<th>Elective Hours</th>
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<td>Philosophy of Value A</td>
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<td>Moral and Political Philosophy A</td>
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<td>16</td>
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<td>PHIL271</td>
<td>Special Philosophical Questions I A</td>
<td>200</td>
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<td>PHIL272</td>
<td>Special Philosophical Questions IIA</td>
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<td>PHIL273</td>
<td>Philosophy 273</td>
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<td>PHIL281</td>
<td>History of Traditional Logic A</td>
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<td>PHIL282</td>
<td>History of Modern Logic A</td>
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<td>PHIL292</td>
<td>Social Philosophy A</td>
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<td>Credit Points</td>
<td>Required Hours</td>
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<td>PHIL293</td>
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<td>16</td>
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<td>Ethics B</td>
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<td>Immanuel Kant's Critique of Pure Reason</td>
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<td>PHIL315</td>
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<td>Empiricism B</td>
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THE BACHELOR DEGREES - SCHEDULE A 129
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Hours</th>
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<tr>
<td>PHIL323</td>
<td>Contemporary Analytical Philosophy</td>
<td>300</td>
<td>24</td>
<td>At least 16 credit points at 200-level of which at least 8 are in Philosophy</td>
<td>PHIL233 or PHIL321</td>
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<tr>
<td>PHIL332</td>
<td>Political Philosophy B</td>
<td>300</td>
<td>12</td>
<td>At least 16 credit points at 200-level of which at least 8 are in Philosophy</td>
<td>PHIL232 or PHIL259 or PHIL359</td>
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<tr>
<td>PHIL342</td>
<td>Probability and Induction</td>
<td>300</td>
<td>12</td>
<td>At least 16 credit points at 200-level of which at least 8 are in Philosophy</td>
<td>Students with a suitable background in H.P.S. and who do not otherwise meet the pre-requisites may be admitted on the recommendation of the Chairman of Philosophy</td>
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<td>Philosophy of Value B</td>
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<td>PHIL357</td>
<td>Moral and Social Philosophy B</td>
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<td>Subject</td>
<td>Level</td>
<td>Credit Points</td>
<td>Session Offered</td>
<td>Pre-Requisite</td>
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<td>PHIL359</td>
<td>Moral and Political Philosophy B</td>
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<td>24</td>
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<td>At least 16 credit points at 200-level of which at least 8 are in Philosophy</td>
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<td>PHIL361</td>
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<td>PHIL231 or 361</td>
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<td>PHIL371</td>
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<td>Course Title</td>
<td>Level</td>
<td>Units</td>
<td>Credits</td>
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<td>400-Level</td>
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<td>PHIL403</td>
<td>Philosophy Honours</td>
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<td>Combined Philosophy Honours</td>
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<td>24</td>
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</table>

PHIL201 or
PHIL232 or
PHIL251 or
PHIL254 or
PHIL259 or
PHIL301 or
PHIL332 or
PHIL354 or
PHIL359

Not to count with PHIL257 or
PHIL292 or PHIL357

Entry to the Honours year or Honours subjects shall be determined by the Academic Senate on the advice of the Departmental Chairman.

Guidelines for prospective Honours candidates are set out in the general Preamble to the detailed descriptions of Philosophy subjects.

Entry to combined Honours shall be determined by the Academic Senate on the advice of the Departments concerned.

Guidelines for prospective combined Honours candidates are set out in the general Preamble to the detailed descriptions of Philosophy subjects.
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit</th>
<th>Session</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
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<td>100-Level</td>
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<td>DEPARTMENT OF PHYSICS</td>
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<td>PHYS141</td>
<td>Fundamentals of Physics A</td>
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<td>Excludes PHYS131 and 151, and GENE151</td>
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<td>Fundamentals of Physics B</td>
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<td>Quantum and Statistical Mechanics</td>
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<td>Not to count with PSYC232 Research Methods and Statistics</td>
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</tr>
<tr>
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<td>300</td>
<td>6</td>
<td>1 PSYC231 and PSYC235</td>
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140 THE BACHELOR DEGREES: SCHEDULE A
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
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<th>Credit Points</th>
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<td>PSYC315</td>
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<td>PSYC323</td>
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<td>Desirable: PSYC322</td>
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<td>Not to count with PSYC317</td>
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<td>PSYC331</td>
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<td>PSYC335</td>
<td>Humanistic Psychology</td>
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<td>PSYC231</td>
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<td>PSYC336</td>
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<td>PSYC232</td>
<td>Desirable: PSYC324</td>
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<tr>
<td>PSYC338</td>
<td>Behaviour Modification</td>
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<td>PSYC234</td>
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<tr>
<td>MATH334</td>
<td>Design and Analysis</td>
<td>300</td>
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<td>3</td>
<td>PSYC232</td>
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<td>PSYC340</td>
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<td>PSYC234 or PSYC238</td>
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<td>PSYC343</td>
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<td>PSYC231 and PSYC237</td>
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<td><strong>400-Level</strong></td>
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<tr>
<td>PSYC499</td>
<td>Psychology IV Honours</td>
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<td>tSee Note</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
<td>Level</td>
<td>Credit</td>
<td>Units</td>
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<tr>
<td>PSYC450</td>
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<tr>
<td>PSYC460</td>
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<td>48</td>
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</tr>
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</table>

Entry into the Honours subject will be determined by the Academic Senate on the advice of the Chairmen of the Departments of Psychology and Sociology.

Entry into this Honours programme will be determined by the Academic Senate on the advice of the Chairmen of the Departments of Psychology and Geography.

Students who have completed Psychology subjects prior to 1977 should contact the Department regarding pre-requisites.

Will not be offered in 1982.

For students wishing to enrol for the 400-level psychology course leading to the bachelor degree with honours in psychology. Note: Entry to the Honours year or Honours subjects shall be determined by the Academic Senate on the advice of the Departmental Chairperson. At 100-level, students are required to take 12 credit points of psychology. PSYC111 and PSYC112 must be completed before entering 200-level subjects. Students are required to take at least 24 credit points of psychology at 200-level and at least 36 credit points of psychology at 300-level, with a total of at least 72 credit points of 200- and 300-level psychology. In the event that a student wishes to take a double major; i.e. major in another subject as well as psychology, and still proceed to take Honours in Psychology, the minimum number of credit points accumulated over 200- and 300-levels of psychology will be 60: PROVIDED THAT at least 12 credit points of 200- and 300-level non-psychology subjects being taken are recognised as appropriate and closely related to psychology, in which case the credit points for these subjects may be added to the 60 of psychology to make the necessary 72. In addition to the above credit point requirements, specific subjects must be taken. These are: (i) PSYC232 Research Methods and Statistics; (ii) at least one of PSYC231 Personality and PSYC234 Psychology of Learning; and (iii) MATH334 Design and Analysis is recommended for formal enrolment, and must at least be audited. A further requirement is that intending honours students should have gained a minimum credit average in psychology subjects at 100-, 200- and 300-levels.
++ The four year programme for students intending to do Joint Honours in Psychology and Geography must include the following:

<table>
<thead>
<tr>
<th></th>
<th>Psychology**</th>
<th>Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Points</td>
<td>Credit Points</td>
<td></td>
</tr>
<tr>
<td>100-level</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>200-level</td>
<td>at least 18</td>
<td>at least 16</td>
</tr>
<tr>
<td>300-level</td>
<td>at least 30+</td>
<td>24</td>
</tr>
</tbody>
</table>

MATH334 Design and Analysis must be included in this 30 points.

**NOTE:** Students who contemplate the joint honours programme should examine the total credit point load for Psychology, since accreditation for membership in the Australian Psychological Society may require more than the minimum number of credit points required by this programme.

For students planning to make a substantial and coherent (that is, a major) study of Psychology, for example, to satisfy the Bachelor Degree Regulations towards future associate membership of the Australian Psychological Society, students are required to take 12 credit points of psychology at 100-level, 18 credit points of psychology at 200-level, and 24 credit points of psychology at 300-level. **Note:** No more than 18 credit points at 300-level psychology can be taken until a minimum of 18 credit points of 200-level psychology have been completed.

The pre-requisite for all 200-level subjects is normally 12 credit points of 100-level psychology. The pre-requisite for all 300-level subjects is normally 12 credit points of 200-level psychology.
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC100</td>
<td>Sociology I</td>
<td>100</td>
<td>12</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200-Level</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SOC203</td>
<td>Central Themes in Sociological Theory</td>
<td>200</td>
<td>6</td>
<td>1</td>
<td>SOC100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC231</td>
<td>A Practical Introduction to Social Research</td>
<td>200</td>
<td>6</td>
<td>1</td>
<td>SOC100</td>
<td></td>
<td>Not to count with SOC331</td>
</tr>
<tr>
<td>SOC218</td>
<td>Class, Power and Social Issues</td>
<td>200</td>
<td>6</td>
<td>2</td>
<td>SOC203</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC219</td>
<td>Time, Work and Leisure</td>
<td>200</td>
<td>6</td>
<td>2</td>
<td>SOC203</td>
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</tr>
<tr>
<td>SOC232</td>
<td>Social Research Statistics</td>
<td>200</td>
<td>6</td>
<td>2</td>
<td>SOC100</td>
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<td>Not to count with SOC332</td>
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<tr>
<td>Minor Programme</td>
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<tr>
<td>SOC241</td>
<td>The Nature of Culture</td>
<td>200</td>
<td>6</td>
<td>2</td>
<td>SOC100</td>
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<tr>
<td>SOC242</td>
<td>Contemporary Issues in Society</td>
<td>200</td>
<td>6</td>
<td>1</td>
<td>SOC100</td>
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<td>300-Level</td>
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<tr>
<td>SOC302</td>
<td>Religion and Society</td>
<td>300</td>
<td>8</td>
<td>1</td>
<td></td>
<td></td>
<td>Normally SOC218 or SOC219 and</td>
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</tbody>
</table>
SOC303 The Individual in Society 300 8 2 As for SOC302
SOC304 Military Sociology 300 8 2 As for SOC302
SOC305 Sociology of Migration 300 8 1 As for SOC302
SOC306 Sociological Measurement 300 8 1 As for SOC302
SOC307 Urban Sociology 300 8 2 As for SOC302
SOC308 Social Policy 300 8 1 As for SOC302
SOC312 Science, Technology and Society 300 8 2 As for SOC302
SOC313 The Individual in the Organisation 300 8 1 As for SOC302
SOC316 Research Techniques of Social Enquiry 300 8 2 As for SOC302
SOC317 Interaction and Small Group Theory 300 8 2 As for SOC302
SOC318 Sociology of Development and Underdevelopment 300 8 2 As for SOC302
SOC319 Belief Systems, Ideologies 300 8 2 As for SOC302
SOC320 Contemporary European Sociology 300 8 2 As for SOC302
SOC322 Sociology of Knowledge 300 8 1 As for SOC302

* See note at the end of Sociology entry.
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
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<tbody>
<tr>
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<td>8</td>
<td>1</td>
<td>Normally</td>
<td>[SOC218] or [SOC219 and SOC232]</td>
<td>Not to count with SOC218</td>
</tr>
<tr>
<td>SOC332</td>
<td>Social Research Statistics</td>
<td>300</td>
<td>8</td>
<td>2</td>
<td>Normally</td>
<td>[SOC218] or [SOC219 and SOC231]</td>
<td>Not to count with SOC219</td>
</tr>
<tr>
<td>400-Level</td>
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<tr>
<td>SOC400</td>
<td>Sociology IV Honours</td>
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<td>48</td>
<td>3</td>
<td>Normally</td>
<td>[credit within courses totalling at least 24 credit points at Sociology 300-level]</td>
<td>Entry into the 400-level programme will be determined by the Academic Senate on the advice of the Departmental Chairman.</td>
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<tr>
<td>SOC410</td>
<td>Sociology IV Honours (Part-time I)</td>
<td>400</td>
<td>24</td>
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<td>As for</td>
<td>[SOC400]</td>
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<tr>
<td>SOC420</td>
<td>Sociology IV Honours (Part-time II)</td>
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<td>24</td>
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<td>Credit in [SOC410] and approval by the Departmental Chairman</td>
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<tr>
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<td>48</td>
<td>3</td>
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<td></td>
<td>Entry into the 400-level programme will be determined by the Academic Senate on the advice</td>
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</table>
Substantial and coherent study in Sociology consists of 24 credit points at 300-level provided that, from 1981, the subjects Practical Introduction to Social Research and Social Research Statistics must be included unless they have previously been completed at 200-level.

Therefore, students who entered 200-level Sociology in 1980, and who intend to complete a comprehensive course of study in Sociology, must include SOC231 or 331 and SOC232 or 332 in their degree programmes.
SCHEDULE B

COMMERCE

Set out below are the subjects that may be taken in the Commerce course. Additional details relating to the subjects listed - such as co- and pre-requisites - are set out in Schedule A.

### Schedule B - 1

**PRESCRIBED SUBJECTS FOR ALL B.COM CANDIDATES**

<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
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<tbody>
<tr>
<td>ACCY101</td>
<td>Accounting and Financial Management I</td>
<td>100</td>
<td>12</td>
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<tr>
<td>ECON101</td>
<td>Economics I</td>
<td>100</td>
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<tr>
<td>ECON111</td>
<td>Economics II</td>
<td>100</td>
<td>6</td>
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<td>ECON121</td>
<td>Quantitative Methods I*</td>
<td>100</td>
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<tr>
<td>ECON122</td>
<td>Quantitative Methods II*</td>
<td>100</td>
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</tbody>
</table>

*Accountancy students may substitute a mathematics course approved by the Chairman of the Department of Accountancy for Quantitative Methods I and II. Subjects approved for this purpose: MATH102 Mathematics IB or MATH131 Mathematics IC or MATH132 Mathematics ID.

### Schedule B - 2

**FURTHER SUBJECTS REQUIRED FOR THE SPECIALISATION IN ACCOUNTANCY**

<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
<th>Session Offered</th>
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</thead>
<tbody>
<tr>
<td>ACCY163</td>
<td>Introduction to Law</td>
<td>100</td>
<td>12</td>
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<tr>
<td>ACCY211</td>
<td>Accounting and Financial Management IIA</td>
<td>200</td>
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<tr>
<td>ACCY201</td>
<td>Accounting and Financial Management IIB</td>
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<tr>
<td>ACCY221</td>
<td>Business Finance</td>
<td>200</td>
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<tr>
<td>ACCY231</td>
<td>Information Systems in Accounting</td>
<td>200</td>
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<tr>
<td>ACCY302</td>
<td>Accounting and Financial Management IIIA</td>
<td>300</td>
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<tr>
<td>ACCY312</td>
<td>Accounting and Financial Management IIIB</td>
<td>300</td>
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### Schedule B - 3

**FURTHER SUBJECTS REQUIRED FOR THE SPECIALISATION IN ECONOMICS**

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<td>ECON205</td>
<td>Macroeconomics</td>
<td>200</td>
<td>8</td>
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<td>Number</td>
<td>Subject</td>
<td>Level</td>
<td>Credit Points</td>
<td>Session Offered</td>
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<tr>
<td>ECON215</td>
<td>Microeconomics</td>
<td>200</td>
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<tr>
<td>ECON206</td>
<td>Public Finance</td>
<td>200</td>
<td>8</td>
<td>2</td>
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<tr>
<td>ECON216</td>
<td>International Economics</td>
<td>200</td>
<td>8</td>
<td>2</td>
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<tr>
<td>ECON225</td>
<td>Quantitative Analysis for Decision Making - A</td>
<td>200</td>
<td>8</td>
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</tr>
<tr>
<td>ECON226</td>
<td>Quantitative Analysis for Decision Making - B</td>
<td>200</td>
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<tr>
<td>ECON227</td>
<td>Measurement of Economic Variables and Input/Output Analysis</td>
<td>200</td>
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<tr>
<td></td>
<td><strong>Plus three of the following options:</strong></td>
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<tr>
<td>ECON302</td>
<td>Comparative Economic Systems</td>
<td>300</td>
<td>8</td>
<td>1</td>
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<tr>
<td>ECON303</td>
<td>Economic Development Issues***</td>
<td>300</td>
<td>8</td>
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<tr>
<td>ECON304</td>
<td>Economic Policy</td>
<td>300</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>ECON305</td>
<td>Economic Development Planning</td>
<td>300</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>ECON306</td>
<td>International Trade***</td>
<td>300</td>
<td>8</td>
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<tr>
<td>ECON307</td>
<td>International Monetary Economics***</td>
<td>300</td>
<td>8</td>
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<tr>
<td>ECON308</td>
<td>Labour Economics</td>
<td>300</td>
<td>8</td>
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</tr>
<tr>
<td>ECON311</td>
<td>Natural Resource Economics</td>
<td>300</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>ECON312</td>
<td>Industrial Economics</td>
<td>300</td>
<td>8</td>
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</tr>
<tr>
<td>ECON313</td>
<td>Transport Economics</td>
<td>300</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>ECON314</td>
<td>Urban and Regional Economics***</td>
<td>300</td>
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<tr>
<td>ECON315</td>
<td>Applied Microeconomics</td>
<td>300</td>
<td>8</td>
<td>1</td>
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<tr>
<td>ECON316</td>
<td>History of Economic Thought</td>
<td>300</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>ECON321</td>
<td>Econometrics</td>
<td>300</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>ECON322</td>
<td>Mathematical Economics***</td>
<td>300</td>
<td>8</td>
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</tr>
<tr>
<td>ECON323</td>
<td>Econometric Models</td>
<td>300</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>ECON331</td>
<td>Labour Managed Systems</td>
<td>300</td>
<td>8</td>
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</tbody>
</table>

**The Chairman of the Department of Accountancy, in the case of Schedule B-2, or the Chairman of the Department of Economics, in the case of Schedule B-3, may approve a candidate enrolling for a subject with a value of at least 6 credit points from Schedule A in place of one of the subjects listed in the relevant Schedule B-2 or B-3.**

***These subjects will not be offered in 1982.
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
<th>Session Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCY101</td>
<td>Accounting and Financial Management I</td>
<td>100</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>ACCY163</td>
<td>Introduction to Law</td>
<td>100</td>
<td>12</td>
<td>3</td>
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<tr>
<td>ECON215</td>
<td>Microeconomics</td>
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<tr>
<td>and</td>
<td>either</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ACCY221 Business Finance</td>
<td>200</td>
<td>6</td>
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<tr>
<td>or</td>
<td>ACCY231 Information Systems in Accounting</td>
<td>200</td>
<td>6</td>
<td>2</td>
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<tr>
<td>and</td>
<td>one of the following Economics 200-level subjects:</td>
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<tr>
<td>ECON206</td>
<td>Public Finance</td>
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<tr>
<td>ECON216</td>
<td>International Economics</td>
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<td>ECON225</td>
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<tr>
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<td>Measurement of Economics Variables and Input/Output Analysis</td>
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and three of the Economics 300-level options in Schedule B - 3.
### FURTHER SUBJECTS REQUIRED FOR THE SPECIALISATION IN INDUSTRIAL RELATIONS

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<th>Session Offered</th>
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<tr>
<td>ECON140</td>
<td>Industrial Relations A: Wage Determination in Australia</td>
<td>100</td>
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<tr>
<td>ACCY265</td>
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<td>200</td>
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<td>1</td>
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<tr>
<td>ECON215</td>
<td>Microeconomics</td>
<td>200</td>
<td>8</td>
<td>1</td>
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<tr>
<td>ECON242</td>
<td>Trade Unions, Employer Organisations and their Environment</td>
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<tr>
<td>ACCY365</td>
<td>Labour Relations Law</td>
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<td>6</td>
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<td>ECON308</td>
<td>Labour Economics</td>
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<tr>
<td>ECON342</td>
<td>Comparative Labour Studies</td>
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Plus at least one additional subject selected from the following 300-level subjects:

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<td>ECON312</td>
<td>Industrial Economics</td>
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<td>PSYC322</td>
<td>Social Psychology *</td>
<td>300</td>
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<tr>
<td>PSYC323</td>
<td>Industrial and Organisational Psychology</td>
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<td>SOC312</td>
<td>Science, Technology and Society</td>
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<td>8</td>
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<tr>
<td>SOC313</td>
<td>The Individual in the Organisation</td>
<td>300</td>
<td>8</td>
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<td>Knowledge and Power: The Politics of Science and Technology</td>
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* Not offered in 1982.

### FURTHER SUBJECTS REQUIRED FOR THE SPECIALISATION IN MANAGEMENT STUDIES

**Further compulsory 100-level**

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</thead>
<tbody>
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**200-level**

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<td>ACCY213</td>
<td>Marketing Policy</td>
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Plus two subjects selected from:
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<th>Session Offered</th>
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<td>Small Business Management</td>
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<td>ACCY216</td>
<td>Operations Management</td>
<td>200</td>
<td>6</td>
<td>1 or 2</td>
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<tr>
<td>ACCY221</td>
<td>Business Finance</td>
<td>200</td>
<td>6</td>
<td>1</td>
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<td>ACCY231</td>
<td>Information Systems in Accounting</td>
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<td>ACCY251</td>
<td>Taxation Law</td>
<td>200</td>
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<td>2</td>
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<td>ACCY261</td>
<td>Law of Business Organisations</td>
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<td>ACCY281</td>
<td>Government Accounting and Financial Management</td>
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<td>ECON215</td>
<td>Microeconomics</td>
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<td>ECON225</td>
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<td>ECON226</td>
<td>Quantitative Analysis for Decision Making - B</td>
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<tr>
<td>ECON140</td>
<td>Industrial Relations A: Wage Determination in Australia</td>
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<td>The Industrial Revolution: Technology and Social Change B</td>
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<td>Technology and the Modern Industrial State B</td>
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<td>PSYC237</td>
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300-level

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<td>ACCY315</td>
<td>Marketing Strategy</td>
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Plus subjects aggregating not less than 12 credit points selected from the following:

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<td>Advanced Business Finance</td>
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<td>ACCY362</td>
<td>Industrial Property Law</td>
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<td>Number</td>
<td>Subject</td>
<td>Level</td>
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<td>Administrative Law</td>
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<td>ACCY364</td>
<td>Consumer Protection and Business Regulation</td>
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<td>International Trade</td>
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<td>SOC313</td>
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**FURTHER SUBJECTS REQUIRED FOR THE COMBINED SPECIALISATION IN ECONOMICS AND COMPUTING SCIENCE**

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Plus two of the following:

- ECON205 Macroeconomics 200 8 1
- ECON215 Microeconomics 200 8 1
- ECON206 Public Finance 200 8 2
- ECON216 International Economics 200 8 2

Plus two of the following:

- ECON225 Quantitative Analysis for Decision Making - A 200 8 1
- ECON226 Quantitative Analysis for Decision Making - B 200 8 2
- ECON227 Measurement of Economic Variables and Input/Output Analysis 200 8 1

Plus the following:

- ECON321 Econometrics 300 8 1

Plus sixteen additional credit points of Economics at 300-level.
Plus twelve credit points of Computing Science at 300-level.
### Schedule B - 8

**FURTHER SUBJECTS REQUIRED FOR THE COMBINED SPECIALISATION IN ECONOMICS AND GEOGRAPHY**

<table>
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<th>Session Offered</th>
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<td>GEOG102</td>
<td>Man-Made Environments: Problems and Processes</td>
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<td>GEOG202</td>
<td>Urban Environments: Structure and Developments</td>
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Plus eight additional credit points of Geography at 200-level.
Plus sixteen additional credit points of Economics at 200-level.
Plus twenty-four credit points of Economics at 300-level.
Plus twelve credit points of Geography at 300-level.

### Schedule B - 9

**FURTHER SUBJECTS REQUIRED FOR THE COMBINED SPECIALISATION IN ECONOMICS AND GEOLOGY**

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<td>Mineralogy</td>
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<td>GEOL222</td>
<td>Petrology</td>
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Plus sixteen additional credit points of Economics at 200-level.
Plus twenty-four credit points of Economics at 300-level.

and both of the following:

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<td>GEOL335</td>
<td>Resource Geology II</td>
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### Schedule B - 10

**COMBINED STUDIES: SPECIALISATION: ACCOUNTANCY AND MANAGEMENT**

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<td>ACCY163</td>
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<td>ACCY231</td>
<td>Information Systems in Accounting</td>
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<td>2</td>
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<td>*See note to Schedule B-1</td>
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</table>

Schedule B - 11

**COMBINED SPECIALISATION: ACCOUNTANCY AND INDUSTRIAL RELATIONS**

<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
<th>Session Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCY101</td>
<td>Accounting and Financial Management I</td>
<td>100</td>
<td>12</td>
<td>3</td>
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<tr>
<td>ACCY163</td>
<td>Introduction to Law</td>
<td>100</td>
<td>12</td>
<td>3</td>
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<tr>
<td>ECON101</td>
<td>Economics I</td>
<td>100</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>ECON111</td>
<td>Economics II</td>
<td>100</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>ECON121</td>
<td>Quantitative Methods I*</td>
<td>100</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>ECON122</td>
<td>Quantitative Methods II*</td>
<td>100</td>
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<tr>
<td>ECON140</td>
<td>Industrial Relations A: Wage Determination in Australia</td>
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<tr>
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<td>Level</td>
<td>Credit Points</td>
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<td><em>or</em></td>
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<td>ACCY265</td>
<td>Law of Employment</td>
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<td>ECON215</td>
<td>Microeconomics</td>
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<tr>
<td>ECON242</td>
<td>Trade Unions, Employer Organisations and their Environment</td>
<td>200</td>
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<td>ACCY302</td>
<td>Accounting and Financial Management IIIA</td>
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<tr>
<td>ACCY312</td>
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<td>ACCY365</td>
<td>Labour Relations Law</td>
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<tr>
<td>ECON308</td>
<td>Labour Economics</td>
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<td>ECON342</td>
<td>Comparative Labour Studies</td>
<td>300</td>
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plus one additional subject selected from the 300-level subjects in Schedule B-5

*See note to Schedule B-1

**COMBINED SPECIALISATION: ACCOUNTANCY AND COMPUTING SCIENCE**

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<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Credit Points</th>
<th>Session Offered</th>
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<td>ACCY163</td>
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<td>ECON111</td>
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<td>2</td>
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<td>ECON121</td>
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<td>6</td>
<td>1</td>
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<tr>
<td>ECON122</td>
<td>Quantitative Methods II*</td>
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<td>6</td>
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<td>Level</td>
<td>Credit Points</td>
<td>Session Offered</td>
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<td>ACCY231</td>
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<td>CSCI201</td>
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plus additional subjects aggregating 24 credit points at 300-level in Computing Science

*See note to Schedule B-1*
1. **BACHELOR OF ENGINEERING - CIVIL ENGINEERING**

The course offered by the Department of Civil and Mining Engineering is designed to give a general academic training for the professional Civil Engineer. The course normally extends from a minimum 8 sessions to a maximum of 16 sessions extending over a period of from 4 to 8 years.

In the earlier sessions of the course students are given further training in the basic sciences - Mathematics, Chemistry, Physics - together with an introduction to Civil Engineering, including practice areas of surveying, construction and design. Subsequent sessions of the course are increasingly devoted to Civil Engineering subjects and the design of Engineering structures, while the final sessions of the course are professionally oriented including Construction, Management, Town Planning and Public Health Engineering. Each student, whether completing the course in minimum time (8 sessions) or longer, is required to prepare a thesis within some area of specialization. A feature of the course is the optional areas of study available and students can include various areas of specialization depending upon their interests and abilities. Professional experience is a necessary part of the course. All students must complete twelve weeks of professional experience during the vacation one year before the completion of their course unless exempted by the Department due to the student's full-time professional employment.

The course offers a number of units each of one session duration which are classified either as core subjects or electives. The study of the core subjects, which are shown in Schedule C, is mandatory.

Generally the course requires the satisfactory completion of 54 units of study, identified in the schedule by a disparate number, the selection of the units being constrained by the pre- and co-requisite requirements. Two patterns of study which meet these requirements are shown, but, as progression within the course is by subject, variation of these programmes may occur subject to approval by the Chairman of the Department.

Full recognition of the course for the pre- and post- 1980 periods has been granted by the Institution of Engineers, Australia.

The Wollongong course may be taken at various rates to suit the individual student. In general, most students with full-time professional employment may complete their course within 12 sessions.

All students must take particular notice of the Bachelor Degree Regulations regarding minimum rate of progress: Regulation 13.2 and Restriction on Enrolment; Regulation 14. For the purposes of Regulation 13.2 a prescribed course in Civil Engineering is that course which has been prescribed for a particular student by the Chairman of the Department.
Honours are awarded at the end of the course on the basis of overall performance throughout the course.

NOTE:  
(1) Attendance is mandatory at lectures, tutorials, laboratory classes and excursions unless given specific exemption by the Departmental Chairman.  
(2) For subjects listed below, pre-requisites and co-requisites are indicated where applicable.

<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Session</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>METL106</td>
<td>Materials for Engineers</td>
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<tr>
<td>CIVL111</td>
<td>Introduction to Design</td>
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<tr>
<td>CIVL122</td>
<td>Mechanics and Structures</td>
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<tr>
<td>CIVL123</td>
<td>Dynamics</td>
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<tr>
<td>CIVL142</td>
<td>Materials I</td>
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<tr>
<td>CIVL171</td>
<td>Surveying I</td>
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<tr>
<td>CIVL172</td>
<td>Survey Camp</td>
<td>100</td>
<td>1</td>
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<td>CIVL171</td>
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<td>CIVL191</td>
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<td>CIVL192</td>
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<tr>
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<td>Excursions I</td>
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<td>See Schedule A - Chemistry</td>
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<tr>
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<td>Subject</td>
<td>Level</td>
<td>Session</td>
<td>Pre-Requisite</td>
<td>Co-Requisite</td>
<td>Remarks</td>
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<td>MATH187</td>
<td>Mathematics IA Part I</td>
<td>100</td>
<td>1</td>
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<td>Assumed knowledge is the 3 unit Mathematics course at the NSW HSC</td>
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<td>2 unit Mathematics (71-100 percentile range)</td>
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<td>3 unit Mathematics (11-100 percentile range)</td>
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<td>4 unit Mathematics (1-100 percentile range)</td>
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<td>*Students who do not meet the pre-requirement for this subject may be permitted to enrol in this subject on approval of the Chairman of the Department of Mathematics</td>
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<tr>
<td>MATH188</td>
<td>Mathematics IA Part 2</td>
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<td>MATH187</td>
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<tr>
<td>PHYS120</td>
<td>Fundamentals of Electricity and Magnetism</td>
<td>100</td>
<td>1 or 2</td>
<td>PHYS120</td>
<td></td>
<td>Not to count with PHYS142</td>
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<tr>
<td>PHYS121</td>
<td>The Physics of Waves and Particles</td>
<td>100</td>
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<td>Not to count with PHYS142</td>
</tr>
</tbody>
</table>

*100-Level Elective Subject*

<p>| ECON111| Economics II                  | 100   | 2       |                                            |              |                                                                         |</p>
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL213</td>
<td>Structural Design I</td>
<td>200</td>
<td>CIVL111 or MECH122</td>
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<tr>
<td>CIVL225</td>
<td>Mechanics I</td>
<td>200</td>
<td>CIVL123</td>
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<tr>
<td>CIVL226</td>
<td>Mechanics 2</td>
<td>200</td>
<td>CIVL281 or MATH281</td>
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<td>Hydraulics I</td>
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<td>CIVL243</td>
<td>Materials 2</td>
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<td>Strength of Materials I</td>
<td>200</td>
<td>CIVL122 or MECH101</td>
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<tr>
<td>CIVL252</td>
<td>Strength of Materials 2</td>
<td>200</td>
<td>CIVL251 or CIVL295 or MECH251</td>
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<tr>
<td>CIVL273</td>
<td>Surveying 2</td>
<td>200</td>
<td>CIVL171</td>
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<tr>
<td>CIVL281</td>
<td>Computational Techniques I</td>
<td>200</td>
<td>MATH188</td>
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<tr>
<td>CIVL282</td>
<td>Computational Techniques 2</td>
<td>200</td>
<td>CIVL281</td>
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<td>Construction 2</td>
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<td>CIVL192</td>
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<tr>
<td>CIVL295</td>
<td>Experimental Engineering</td>
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<td>CIVL111, CIVL122</td>
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Depending upon resources, students may be required to enrol in MATH281 in lieu of CIVL281 and CIVL282.
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>CIVL296</td>
<td>Excursions 2</td>
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<td>200-level subjects</td>
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<td>PHYS142 or PHYS120 and PHYS121</td>
<td>Not to count with ELEC291 Applied Electricity I</td>
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<td>ELEC296</td>
<td>Not to count with ELEC291 Applied Electricity I</td>
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</table>

### 200-Level Elective Subjects

- **MECH241** Thermodynamics I
  - Level: 200
  - Session: 1
  - Co-Requisite: MATH281

- **ECON215** Microeconomics
  - Level: 200
  - Session: 1

- **ELEC296** Applied Electricity IA
  - Level: 200
  - Session: 1
  - Co-Requisite: PHYS142 or PHYS120 and PHYS121

- **ELEC297** Applied Electricity IB
  - Level: 200
  - Session: 2
  - Co-Requisite: ELEC296

- **GEOG202** Urban Location and Structure
  - Level: 200
  - Session: 1

### 300-Level Core Subjects

- **CIVL312** Civil Engineering Design
  - Level: 300
  - Session: 1
  - Co-Requisite: CIVL252, 326

- **CIVL326** Mechanics 3
  - Level: 300
  - Session: 1
  - Co-Requisite: CIVL251

- **CIVL332** Hydraulics 2
  - Level: 300
  - Session: 1
  - Co-Requisite: CIVL231

- **CIVL334** Hydraulics 3
  - Level: 300
  - Session: 2
  - Co-Requisite: CIVL332

- **CIVL344** Materials 3
  - Level: 300
  - Session: 2
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<th>Course Code</th>
<th>Course Title</th>
<th>Level</th>
<th>Credits</th>
<th>Core Subject</th>
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<td>CIVL353</td>
<td>Structures I</td>
<td>300</td>
<td>1</td>
<td>CIVL251</td>
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<tr>
<td>CIVL362</td>
<td>Soil Mechanics I</td>
<td>300</td>
<td>1</td>
<td>CIVL251</td>
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<tr>
<td>CIVL374</td>
<td>Surveying 3</td>
<td>300</td>
<td>2</td>
<td>CIVL273</td>
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<tr>
<td>CIVL397</td>
<td>Construction 3</td>
<td>300</td>
<td>1</td>
<td>CIVL294</td>
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<td>CIVL398</td>
<td>Excursions 3</td>
<td>300</td>
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**300-Level Elective Subjects**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Level</th>
<th>Credits</th>
<th>Core Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL314</td>
<td>Structural Design 2*</td>
<td>300</td>
<td>2</td>
<td>CIVL312</td>
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<tr>
<td>CIVL327</td>
<td>Mechanics 4*</td>
<td>300</td>
<td>2</td>
<td>CIVL226, 282 or MATH281</td>
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<tr>
<td>CIVL354</td>
<td>Structures 2*</td>
<td>300</td>
<td>2</td>
<td>CIVL353</td>
</tr>
<tr>
<td>CIVL363</td>
<td>Soil Mechanics 2*</td>
<td>300</td>
<td>2</td>
<td>CIVL362</td>
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<tr>
<td>ECON312</td>
<td>Industrial Economics</td>
<td>300</td>
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<td>MECH391</td>
<td>Heat Transfer for Civil Engineers</td>
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**400-Level Core Subjects**

<table>
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<th>Course Title</th>
<th>Level</th>
<th>Credits</th>
<th>Core Subject</th>
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<tbody>
<tr>
<td>CIVL401</td>
<td>Thesis</td>
<td>400</td>
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<td>Completed 90% of 300-level subjects</td>
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<tr>
<td>CIVL481</td>
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<td>Number</td>
<td>Subject</td>
<td>Level</td>
<td>Session Offered</td>
<td>Pre-Requisite</td>
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<tr>
<td>MECH491</td>
<td>Professional Orientation</td>
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<td>CIVL490</td>
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<td>400</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIVL499</td>
<td>Professional Experience</td>
<td>400</td>
<td>1</td>
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</tr>
<tr>
<td></td>
<td><strong>400-Level Elective Subjects</strong>*</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CIVL411</td>
<td>Professional Practice 1</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIVL412</td>
<td>Professional Practice 2</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIVL413</td>
<td>Professional Practice 3</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIVL414</td>
<td>Professional Practice 4</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIVL415</td>
<td>Professional Practice 5</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CIVL416</td>
<td>Professional Practice 6</td>
<td></td>
<td>3</td>
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<tr>
<td>CIVL434</td>
<td>Hydraulic Engineering</td>
<td>400</td>
<td>2</td>
<td>CIVL334</td>
</tr>
<tr>
<td>CIVL445</td>
<td>Materials 4</td>
<td>400</td>
<td>1</td>
<td>CIVL344</td>
</tr>
<tr>
<td>CIVL455</td>
<td>Structures 3</td>
<td>400</td>
<td>2</td>
<td>CIVL353</td>
</tr>
<tr>
<td>CIVL456</td>
<td>Structures 4</td>
<td>400</td>
<td>2</td>
<td>CIVL353</td>
</tr>
<tr>
<td>CIVL464</td>
<td>Soil Mechanics 3</td>
<td>400</td>
<td>1</td>
<td>CIVL363</td>
</tr>
<tr>
<td>CIVL486</td>
<td>The Civil Engineer and the Environment</td>
<td>400</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*Not all electives will be offered in any one year.

For CIVL411 through CIVL416, each elective completed will be credited at either 100-, 200-, 300- or 400-level, the credit being determined by the Chairman of the Department and will be from the following list: CIVL111, 142, 171, 172, 191, 192, 193, 273, 294, 296, 312, 344, 397, 398, 487, 490, 493, 496.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL487</td>
<td>Town Planning</td>
<td>400</td>
<td>1</td>
<td>Enrolled in predominantly 400-level subjects</td>
</tr>
<tr>
<td>CIVL488</td>
<td>Traffic and Transport Systems</td>
<td>400</td>
<td>2</td>
<td>Enrolled in predominantly 400-level subjects</td>
</tr>
<tr>
<td>CIVL491</td>
<td>Computer Applications</td>
<td>400</td>
<td>2</td>
<td>CIVL282, CIVL488, or MATH281</td>
</tr>
<tr>
<td>CIVL493</td>
<td>Public Health Engineering</td>
<td>300/400</td>
<td>1</td>
<td>Attending predominantly 400-level subjects</td>
</tr>
<tr>
<td>CIVL495</td>
<td>Geology for Civil Engineers</td>
<td>400</td>
<td>2</td>
<td>Attending predominantly 300-level subjects</td>
</tr>
<tr>
<td>CIVL496</td>
<td>Roads Engineering</td>
<td>400</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CIVL497</td>
<td>Introductory Modern Languages</td>
<td>400</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
The ever-increasing number of applications of computers arising in primary and secondary industry, commerce, medicine, government, education and transport requires ever-increasing numbers of personnel who are knowledgeable in both the hardware and software fields.

In order to provide an opportunity for those Electrical Engineering students who have a particular interest in the structure, design, programming and application of computers and digital systems generally, to undertake studies rather more specifically directed to these fields than the normal Electrical Engineering Course allows, the Department of Electrical and Computer Engineering offers a course leading to a Bachelor of Engineering in Computer Engineering. This may be completed by four years of full-time study or by an equivalent amount of part-time study.

The programme for the first year of the course is identical with that for Electrical Engineering but in each of the subsequent three years appropriate subjects offered by the Department of Computing Science to the value of 12 credit points are taken in lieu of subjects (approved by the Chairman of Department of Electrical and Computer Engineering) having an equivalent credit point value in the normal Electrical Engineering programme. Choice of final year elective topics will normally be restricted to those which are deemed by the Department to be relevant.

The Degree of Bachelor of Engineering (Honours) is awarded for meritorious performance over the course and particularly in the final year thesis projects. The classes of honours awarded are defined in the Bachelor Degree Regulations.

Details of the recommended programme for a full-time four year minimum course are set out in Section (i) and Section (ii) shows details of the preferred programme for students in approved, full-time industrial employment.

(i) **RECOMMENDED FULL-TIME PROGRAMME**

As for YEAR 1 of the Recommended Full-time Programme for the Bachelor of Engineering - Electrical Engineering Course.  

As for YEAR 2 of the Recommended Full-time Programme for the Bachelor of Engineering - Electrical Engineering Course but with choice of 12 credit points of

Computing Science 100
in lieu of subjects having an equivalent credit point value.

As for YEAR 3 of the Recommended Full-time Programme for the Bachelor of Engineering - Electrical Engineering Course but with choice of 12 credit points of

Computing Science 200

in lieu of subjects having an equivalent credit point value.

Year 3

As for YEAR 4 of the Recommended Full-time Programme for the Bachelor of Engineering - Electrical Engineering Course but with choice of 6 or 12 credit points of

Computing Science 300

in lieu of subjects having an equivalent credit point value.

Year 4

(ii) RECOMMENDED PART-TIME PROGRAMME FOR STUDENTS IN APPROVED INDUSTRIAL EMPLOYMENT

Students wishing to undertake the course by part-time study and who also are in approved, full-time, industrial employment become eligible to include within their course two Industrial Option subjects (see Section (ii) of the Bachelor of Engineering - Electrical Engineering Course).

Stage 1

As for STAGE 1 of the Recommended Part-time Programme for the Bachelor of Engineering - Electrical Engineering Course.

Stage 2

As for STAGE 2 of the Recommended Part-time Programme for the Bachelor of Engineering - Electrical Engineering Course.

Stage 3

As for STAGE 3 of the Recommended Part-time Programme for the Bachelor of Engineering - Electrical Engineering Course but with choice of 12 credit points of
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Computing Science</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in lieu of:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHYS205</td>
<td>Modern Physics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELEC282</td>
<td>Industrial Option 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Stage 4

As for STAGE 4 of the Recommended Part-time Programme for the Bachelor of Engineering - Electrical Engineering Course.

Stage 5

As for STAGE 5 of the Recommended Part-time Programme for the Bachelor of Engineering - Electrical Engineering Course but with choice of 12 credit points of:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computing Science</td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>

in lieu of subjects with an equivalent credit point value.

At this stage, students may transfer to YEAR 4 of the full-time programme, excluding the General Elective, or complete STAGES 6 and 7 below.

Stage 6

As for STAGE 6 (excluding Industrial Option 5) of the Recommended Part-time Programme for the Bachelor of Engineering - Electrical Engineering Course but with choice of 6 or 12 credit points of:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computing Science</td>
<td>300</td>
<td></td>
</tr>
</tbody>
</table>

in lieu of subjects with an equivalent credit point value.
3. **BACHELOR OF ENGINEERING - ELECTRICAL ENGINEERING**

The Department offers a course leading to a Bachelor of Engineering in Electrical Engineering which may be completed in a minimum of four years of full-time study. Subjects are so scheduled that it may also be undertaken on a part-time basis, in which case the duration will depend upon the particular circumstances of the student. Progression is by subject but the various subject pre- and co-requisites must be satisfied. The degree of Bachelor of Engineering (Honours) is awarded for meritorious performance over the course and particularly in the final year thesis projects. The classes of honours awarded are defined in the Bachelor Degree Regulations.

Details of the recommended programme for a full-time four year minimum course are set out in Section (i); Section (ii) shows details of the preferred programme for students in approved, full-time industrial employment, while Section (iii) sets out a recommended programme for students holding appropriate Technical College Certificates.

(i) **RECOMMENDED FULL-TIME PROGRAMME**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM101</td>
<td>Chemistry 1A</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>ELEC131</td>
<td>Computers 1</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>ELEC152</td>
<td>Laboratory 1A</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>MATH101</td>
<td>Mathematics 1A</td>
<td>100</td>
<td>3</td>
</tr>
<tr>
<td>PHYS141</td>
<td>Fundamentals of Physics A</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>PHYS142</td>
<td>Fundamentals of Physics B</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>ELEC101</td>
<td>Electrical Engineering 1</td>
<td>100</td>
<td>2</td>
</tr>
</tbody>
</table>

See Schedule A - Chemistry
See Schedule A - Mathematics
See Schedule A - Physics
See Schedule A - Physics

*See "Notes" at the end of B.E.- Elec Eng. full-time programme.*
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engineering Option 1A*</td>
<td>100</td>
<td>1</td>
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</tr>
<tr>
<td></td>
<td>Engineering Option 1B*</td>
<td>100</td>
<td>1 or 2</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engineering Option 2A*</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Engineering Option 2B*</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELEC201 Circuit Theory 1</td>
<td>200</td>
<td>1 or 3</td>
<td>ELEC101</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELEC211 Electronics 1</td>
<td>200</td>
<td>2</td>
<td>ELEC101</td>
<td>ELEC203</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELEC221 E. C. &amp; D. 1</td>
<td>200</td>
<td>3</td>
<td>ELEC101</td>
<td>MATH201, 286, ELEC201</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELEC231 Computers 2</td>
<td>200</td>
<td>1</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ELEC251 Laboratory 2A</td>
<td>200</td>
<td>3 &amp; 1 or 2</td>
<td>ELEC101</td>
<td>ELEC231, 221</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELEC252 Laboratory 2B</td>
<td>200</td>
<td>3 &amp; 1 or 2</td>
<td>ELEC101</td>
<td>ELEC211, 221</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MATH201 Mathematics 2A</td>
<td>200</td>
<td>3</td>
<td>MATH101</td>
<td></td>
<td>See Schedule A - Mathematics</td>
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<tr>
<td></td>
<td>MATH286 Mathematics 2Z</td>
<td>200</td>
<td>3</td>
<td>MATH201</td>
<td></td>
<td>See Schedule A - Mathematics</td>
</tr>
<tr>
<td></td>
<td>PHYS220 Inter. Physics for Engineering</td>
<td>200</td>
<td>3</td>
<td>PHYS141, 142, 286</td>
<td>MATH201, 286</td>
<td>See Schedule A - Physics</td>
</tr>
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*See "Notes" at the End of full-time programme

Year 2
<table>
<thead>
<tr>
<th>Code</th>
<th>Course</th>
<th>Credits</th>
<th>Units</th>
<th>Code</th>
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<tbody>
<tr>
<td>ELEC311</td>
<td>Electronics 3A</td>
<td>300</td>
<td>3</td>
<td>ELEC211, 201</td>
</tr>
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<td></td>
<td></td>
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<td></td>
<td>ELEC332 Computers 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300</td>
<td>2†</td>
<td>ELEC231</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>ELEC343 Control Systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300</td>
<td>3</td>
<td>MATH201, 286, ELEC322</td>
</tr>
<tr>
<td>ELEC352</td>
<td>Laboratory 3A</td>
<td>300</td>
<td>3</td>
<td>ELEC211, 201</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ELEC332</td>
</tr>
<tr>
<td>ELEC353</td>
<td>Laboratory 3B</td>
<td>300</td>
<td>3</td>
<td>ELEC231</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ELEC343</td>
</tr>
<tr>
<td>ELEC354</td>
<td>E. C. &amp; D. 2</td>
<td>300</td>
<td>3</td>
<td>ELEC211, 201</td>
</tr>
<tr>
<td>ELEC302</td>
<td>Circuit Theory 2</td>
<td>300</td>
<td>3</td>
<td>ELEC211, 201</td>
</tr>
<tr>
<td>ELEC354</td>
<td>Laboratory 3C</td>
<td>300</td>
<td>3</td>
<td>ELEC211, 201</td>
</tr>
<tr>
<td>ELEC355</td>
<td>Laboratory 3D</td>
<td>300</td>
<td>3 &amp; 1 or 2</td>
<td>ELEC211, 201</td>
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<td></td>
<td>Mathematics - 12 credit points</td>
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<td></td>
<td>300-level choice</td>
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</tr>
<tr>
<td>ELEC393</td>
<td>Engineering Design Methods</td>
<td>300</td>
<td>3</td>
<td>MATH201 and MATH211 or MATH286</td>
</tr>
</tbody>
</table>

* † For 1982 only, this subject is offered in both first and second sessions.*
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engineering Option 3A*</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td>Engineering Option 3B*</td>
<td>2</td>
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</tr>
<tr>
<td></td>
<td>3 Final Year Electives*</td>
<td>400</td>
<td>1</td>
<td>300-level subjects</td>
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<td></td>
</tr>
<tr>
<td>ELEC461</td>
<td>Communications 1</td>
<td>400</td>
<td>1</td>
<td>300-level subjects</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>4 Final Year Electives*</td>
<td>400</td>
<td>2</td>
<td>300-level subjects</td>
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<td></td>
</tr>
<tr>
<td>ELEC457</td>
<td>Thesis</td>
<td>400</td>
<td>3</td>
<td>300-level subjects</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Elective*</td>
<td>1, 2 or 3</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Notes:*

**Engineering Options**

For 1982 the Engineering Options subjects for the various years (of the course) are as follows:

**YEAR 1: Stage 2, Part-time**

<table>
<thead>
<tr>
<th>Course</th>
<th>Subject</th>
<th>Level</th>
<th>Session</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>MECH103</td>
<td>Statics</td>
<td>100</td>
<td>2</td>
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</tr>
<tr>
<td>MECH121</td>
<td>Eng. Drawing and Graphics</td>
<td>100</td>
<td>1</td>
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</table>

**YEAR 2: Stage 3, Part-time**
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Year</th>
<th>Credits</th>
<th>Type of Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL254</td>
<td>Strength of Materials</td>
<td>200</td>
<td>1 or 2</td>
<td>100-level subjects</td>
<td>200-level subjects</td>
</tr>
<tr>
<td>METL106</td>
<td>Engineering Materials 1</td>
<td>100</td>
<td>1 or 2</td>
<td>100-level subjects</td>
<td>200-level subjects</td>
</tr>
<tr>
<td>YEAR 3: Stage 5, Part-time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MECH392</td>
<td>Introd. Thermofluid Dynamics</td>
<td>300</td>
<td>1</td>
<td>MATH201, 286 or 281</td>
<td></td>
</tr>
<tr>
<td>MECH344</td>
<td>Heat Transfer</td>
<td>300</td>
<td>2</td>
<td>MECH392</td>
<td></td>
</tr>
</tbody>
</table>

Changes in Mathematics Transition Programme.

Part-time Students:


Final Year Electives

These will be selected from the following list of subjects. Unless class numbers warrant, only seven electives will be offered in any year.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Year</th>
<th>Credits</th>
<th>Type of Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC401</td>
<td>Circuit Theory 3</td>
<td>400</td>
<td>1 or 2</td>
<td>300-level subjects</td>
<td>300-level subjects</td>
</tr>
<tr>
<td>ELEC404</td>
<td>Circuit Theory 4</td>
<td>400</td>
<td>1 or 2</td>
<td>300-level subjects</td>
<td>300-level subjects</td>
</tr>
<tr>
<td>ELEC423</td>
<td>E. C. &amp; D. 3</td>
<td>400</td>
<td>1 or 2</td>
<td>300-level subjects</td>
<td>300-level subjects</td>
</tr>
<tr>
<td>ELEC424</td>
<td>Electrical Energy Syst.</td>
<td>400</td>
<td>1 or 2</td>
<td>300-level subjects</td>
<td>300-level subjects</td>
</tr>
<tr>
<td>ELEC425</td>
<td>Generalised Mach. Thy.</td>
<td>400</td>
<td>1 or 2</td>
<td>300-level subjects</td>
<td>300-level subjects</td>
</tr>
<tr>
<td>Number</td>
<td>Subject</td>
<td>Level</td>
<td>Session Offered</td>
<td>Pre-Requisite</td>
<td>Co-Requisite</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------</td>
<td>-------</td>
<td>-----------------</td>
<td>---------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>ELEC426</td>
<td>Electromechanical Dyn.</td>
<td>400</td>
<td>1 or 2</td>
<td>300-level</td>
<td>subjects</td>
</tr>
<tr>
<td>ELEC427</td>
<td>Static Converters</td>
<td>400</td>
<td>1 or 2</td>
<td>300-level</td>
<td>subjects</td>
</tr>
<tr>
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<td>subjects</td>
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</table>
ELEC481 Probab. and Rand. Proc. 400  1 or 2  300-level subjects
ELEC482 System Reliability 400  1 or 2  300-level subjects

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

General Electives

With the approval of the Departmental Chairman, subjects to the value of not less than 6 credit points may be selected from any Schedule.

Industrial Experience

Full-time BE students must accumulate at least 12 weeks of approved industrial experience, documented in the form of employment reports and preferably in the period between third and fourth year.

(ii) RECOMMENDED PART-TIME PROGRAMME FOR STUDENTS IN FULL-TIME APPROVED INDUSTRIAL EMPLOYMENT

Students in approved, full-time industrial employment become eligible to include Industrial Options in their programme in place of selected subjects.

Each Option is worth 6 weight units and with the approval of the Departmental Chairman, a student may include Industrial Option 1 in his programme after he has completed at least one full year of suitable industrial experience. Similarly, Industrial Options 2, 3, 4 and 5 may be included after 2, 3, 4 and 5 years respectively of approved experience.

Thus a student completing his course after five years of part-time study and one year of full-time study could have included in his course, Industrial Options to the value of 24 weight units.

Industrial Options are related to the student's current full-time employment and a student enrolled in an Industrial Option subject is required to submit written reports to his University Departmental Supervisors and to participate in seminars as scheduled from time to time.

In addition to the University Supervisor, the student's employer will be asked to nominate an Industrial Supervisor to advise the student in report and seminar preparation and to ensure that company policy on confidentiality is observed.
The written submissions and seminars will deal with a critical analysis and reporting of general (or nominated specific) aspects of the student's employment. Subject to confidentiality requirements these may cover technical, organisational and management aspects of the employer's industry.

<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
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See Schedule A - Mathematics

See Schedule A - Physics

Stage 4
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**Stage 5**

At this stage, students may transfer to YEAR 4 of the full-time programme, excluding the General Elective, or complete STAGES 6 and 7 below.

**Stage 6**

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<th>Number</th>
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(iii) RECOMMENDED PROGRAMME FOR PART-TIME STUDENTS HOLDING N.S.W. DEPARTMENT OF TECHNICAL EDUCATION ELECTRICAL OR ELECTRONICS AND COMMUNICATIONS CERTIFICATES

Year 1
(Replacing Stages 1 and 2)

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<td>MATH101 See Schedule A - Physics</td>
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<td>ELEC201</td>
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<td>ELEC231</td>
<td>Computers 2</td>
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<td>ELEC251</td>
<td>Laboratory 2A</td>
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<td>3 &amp; 1 or 2</td>
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<td>MATH201</td>
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<td>PHYS205</td>
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* See "Notes" at the end of Full-time programme

**With the approval of the Departmental Chairman, Industrial Option 5 may be substituted for 84 hours of 400-level electives.

NOTE: Engineering Option subjects and Electives are as for Full-time course except that one of the second year Engineering Options and the General Electives have been replaced by Industrial Options.
4. BACHELOR OF ENGINEERING - MECHANICAL ENGINEERING

The aim of the course offered by the Department of Mechanical Engineering is to give high academic training in Mechanical Engineering over a minimum period of 4 years (8 sessions). The course can also be taken on a part-time basis.

Introductory subjects from the first year of the course after which the course is divided into streams consisting of the following Mechanical Engineering subjects: Fluid Mechanics, Thermodynamics, Design, Dynamics, Mechanics of Solids, Materials, Control and Systems, Environmental Engineering and Experimental Engineering. The final year of the course consists of a selection of electives allowing students to choose subjects within their own areas of specialisation. These electives include the subjects mentioned above, together with subjects of an applications nature including Materials Handling Systems, Refrigeration and Air Conditioning, Lubrication etc. The range of electives in any one year is subject to review in the light of the funding situation for the Department in that year.

During the final year each student is required to prepare a thesis on a topic approved by the Chairman of the Department.

The course has been fully recognised by The Institution of Engineers, Australia, which is the professional accrediting body. This recognition exempts graduates from examinations for admission to the grade of Member of the Institution.

Industrial training and experience is an essential part of the course at Wollongong. Full-time students are required to obtain an aggregate of at least 12 weeks of practical experience during the summer recesses. For part-time students, each year of appropriate full-time industrial employment will be credited as one elective up to a maximum of six electives.

On the following pages three programmes of study are presented: a full-time programme; a part-time programme; and a further part-time programme for those students entering the University with a Mechanical Engineering Certificate qualification from the N.S.W. Department of Technical and Further Education or an approved equivalent. The sessional sequence of subjects is arranged to satisfy the pre- and co-requisite requirements.
However, since progression within the course is by subject, individual variations to these programmes may be necessary. All study programmes are subject to approval by the Chairman of Department.

All students must take particular notice of the Bachelor Degree Regulations regarding Minimum Rate of Progress: Regulation 13.2 and Restriction on Enrolment: Regulation 14. For the purposes of Regulation 13.2 a prescribed course in Mechanical Engineering is interpreted as that course which has been prescribed for a particular student by the Chairman of Department.

In addition to the stipulations of Regulation 12, 13 and 14 a student's performance in the course is assessed by a grade point system. For this purpose the final grades in each subject are assigned the following numerical grade values: High Distinction - 5, Distinction - 4, Cred t - 3, Pass - 2, Pass - Conceded - 1, Fail - 0. Also, the relative content of each subject of the course, i.e. its weighting, is expressed as a credit point rating. The grade point score in a given subject is determined by multiplying its credit point rating by the grade value corresponding to the grade obtained. A cumulative grade point average is computed by dividing the total grade point score by the sum of the credit points of all subjects attempted. For graduation a final CGPA of 2.0 is mandatory, i.e. an overall grade average of a Pass for the course. A student who fails to achieve a 2.0 overall score will be required to make up the deficiency by completing additional 400-level elective subjects. Further details of the grade point system are available from the Chairman of the Department.

Honours are awarded at the end of the course on the basis of overall performance throughout the course.

Note: Attendance in all classes including lectures, tutorials and laboratory classes is mandatory unless given specific exemption by the Departmental Chairman.

**FULL-TIME PROGRAMME**

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<td>MECH101</td>
<td>Statics</td>
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<td>MECH121</td>
<td>Eng. Drawing &amp; Graphics</td>
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<td>ELEC131</td>
<td>Computers I</td>
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<td>METL106</td>
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See Schedule A - Chemistry
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<td>*Students who do not meet the pre-requisite for this subject may be permitted to enrol in this subject on approval of the Chairman of the Department of Mathematics</td>
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Plus at least 8 electives (spread over two sessions) selected from the following electives subject to the approval of the Chairman of the Department.

*List of Electives which may be taken in Third or Fourth Year*

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**List of Electives which may be taken in Fourth Year**

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*NSW HSC Examination
2 unit Mathematics
(71-100 percentile range)
3 unit Mathematics
(11-100 percentile range)
4 unit Mathematics
(1-100 percentile range)

*Students who do not meet the prerequisite for this subject may be permitted to enrol in this subject on approval of the Chairman of the Department of Mathematics

Assumed knowledge is the 3 unit Mathematics course at the NSW HSC
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**Stage 4**

**Stage 5**

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Plus at least thirteen electives (spread over two sessions) selected from the following electives subject to the approval of the Chairman of the Department.

Note that part-time students will be allowed a maximum of six electives exemptions for satisfactory completion of MECH198, 199, 298, 299, 398 and 399.

List of Electives

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PART-TIME PROGRAMME FOR STUDENTS ENTERING THE UNIVERSITY WITH A MECHANICAL ENGINEERING CERTIFICATE QUALIFICATION FROM THE N.S.W. DEPARTMENT OF TECHNICAL AND FURTHER EDUCATION OR AN APPROVED EQUIVALENT.

Stage 1

(To replace Stages 1 and 2 of the normal Part-time Programme)
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*NSW HSC Examination
2 unit Mathematics
(71-100 percentile range)
3 unit Mathematics
(11-100 percentile range)
4 unit Mathematics
(1-100 percentile range)

*Students who do not meet the pre-requisite for this subject may be permitted to enrol in this subject on approval of the Chairman of the Department of Mathematics.

Assumed knowledge is the 3 unit Mathematics course at the NSW HSC.

Stages 3, 4 and 5, and Year 6 will be identical to the normal part-time programme (listed above), except that in Year 6, twelve subjects are to be chosen from the list of electives instead of thirteen subjects.
5. BACHELOR OF ENGINEERING - MINING ENGINEERING

The Mining Engineering course offered is designed to give a general academic training for the professional Mining Engineer and to meet all statutory requirements. The course normally extends from a minimum of 8 sessions to a maximum of 16 sessions over a period of from 4 to 8 years.

In the earlier sessions of the course students are given further training in the basic sciences - Mathematics, Chemistry, Physics - together with an introduction to Civil Engineering, including practice areas of surveying, construction and design. Subsequent sessions are increasingly devoted to Mining Engineering subjects and the design of Engineering structures, while the final sessions are completely professionally oriented. Each student, whether completing the course in minimum time (8 sessions) or longer, is required to prepare a thesis within some area of specialization. A feature of the course is the optional areas of study available and students can include various areas of specialization depending upon their interests and abilities. Professional experience is a necessary part of the course.

The course offers a number of units each of 1 session duration which are classified either as core subjects or electives. The study of the core subjects is mandatory.

Generally the course requires the satisfactory completion of 53 units of study, identified in the schedule by a disparate number, the selection of the units being constrained by the pre- and co-requisite requirements. Two patterns of study which meet these requirements shown, but, as progression within the course is by subject, variation of these programmes occur subject to approval by the Chairman of the Department.

All students must take particular notice of the Bachelor Degree Regulations regarding Minimum Rate of Progress: Regulation 13.2 and Restriction on Enrolment: Regulation 14. For the purposes of Regulation 13.2 a prescribed course in Mining Engineering is that course which has been prescribed for a particular student by the Chairman of the Department.

Honours are awarded at the end of the course on the basis of overall performance throughout the course.

NOTE: (1) Attendance is mandatory at lectures, tutorials, laboratory classes and excursions unless given specific exemption from the Departmental chairman.

(2) For subjects listed below, pre-requisites and co-requisites are indicated where applicable.

100-Level Core Subjects

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<tr>
<th>Number</th>
<th>Subject</th>
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<th>Session Offered</th>
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*NSW HSC Examination
2 unit Mathematics (71-100 percentile range)
3 unit Mathematics (11-100 percentile range)
4 unit Mathematics (1-100 percentile range)

*Students who do not meet the prerequisite for this subject may be permitted to enrol

Assumed knowledge is the 3 unit Mathematics course at the NSW HSC

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Depending upon available resources students may be required to enrol in MATH281 in lieu.

Attending predominantly 200-level subjects.

Not to count with ELEC291.

Mandatory for students undertaking full-time course of study, may be counted as an elective by students in full-time employment.
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**Enrolled in Predominantly 400-Level Subjects**

For MINE111, 112, 213, 314, 415, 416, each elective completed at either 100, 200, 300 or 400 level, the credit being determined by the Chairman of the Depart-
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*Remarks: MINE415 and MINE416 will be from the following list: CIVL111, 142, 171, 172, 191, 192, 193, 294, 296, 312, 397.*
SCHEDULE D

METALLURGY

BACHELOR OF METALLURGY

The course offered by the Department of Metallurgy leads to the honours degree of Bachelor of Metallurgy, normally after four years of full-time study, but a longer period with part-time study is possible. After completion of the first three years of the four year course a qualified candidate may graduate with the degree of Bachelor of Metallurgy.

To be qualified, a candidate shall satisfactorily complete the prescribed subjects in the course and in addition have a weighted average of at least 50% for all metallurgy (METL) subjects. The weighted average is determined as

$$\frac{\sum (mw)}{\sum w}$$

where \( m \) is the subject mark (best mark gained in multiple attempts), and \( w \) is the subject weighting factor.

Progression to qualification is monitored by the value of the weighted average at the end of each academic session. A candidate with a weighted average of at least 50% progresses normally; a candidate with a weighted average of less than 50% may not progress and must repeat subjects recommended by the Chairman of Department.

A candidate who satisfactorily completes the course and attains a weighted average of at least 50% for the year 4 subjects graduates with honours, the class of which is determined by the performance in all subjects in the course.

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General Option Subjects (b)

Three 300-level (c)

Metallurgy option subjects

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Six 300-level (c) or appropriate 400-level (d) Metallurgy option subjects

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**Year 3**

MATH201 or MATH282

**Year 4**

CHEM101

METL131

**Year 5**

METL105

METL231

METL245

METL255

PHYS142
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In consultation with the Chairman of Department a student wishing to take full Mathematics II may be permitted to do so as part of the option requirements.
Selected after consultation with the Chairman of Department, for example, HPS217 Materials in the Twentieth Century.

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(e) Selected after consultation with the Chairman of Department, for example, PHYS205 Modern Physics; minor adjustment of programme is possible depending upon option selected.
SCHEDULE F

MATHEMATICS

Set out below in Schedule F are the subjects that may be taken in the Mathematics course. Additional details relating to the subjects listed, such as co- and pre-requisites, are set out in Schedule A.

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SCHEDULE G

BACHELOR OF MATHEMATICS/BACHELOR OF ENGINEERING - ELECTRICAL ENGINEERING

Students who have completed, at Honours level or better, the recommended first year programme of the course leading to the degree of Bachelor of Engineering in Electrical Engineering may, with the approval of the Chairmen of the Department of Electrical & Computer Engineering and of the Department of Mathematics or of the Department of Computing Science as the case may be, undertake a programme of study leading to the joint degree B Math/BE.

The programme, which may be completed in five years of full-time study, offers the opportunity for students to combine additional mathematics or computing science with their studies in electrical engineering. It is likely to be of particular interest to those students who wish to undertake a career in research. The Degree with Honours is awarded for meritorious performance over the course and particularly in the final year thesis projects. The classes of honours awarded are defined in the Bachelor Degree Regulations.

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As for YEAR 1 of the Recommended Full-time Programme for the Bachelor of Engineering - Electrical Engineering Course.

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<td></td>
<td>ELEC332</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engineering Option 3A*</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engineering Option 3B*</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Choice of 24 credit points</td>
<td>200/300</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematics or Computing Science**</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ELEC311</td>
<td>Electronics 3A</td>
<td>300</td>
<td>3</td>
<td>ELEC211, 201</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Notes</td>
<td></td>
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<tr>
<td>ELEC322</td>
<td>E.C. &amp; D.2</td>
<td>300</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELEC343</td>
<td>Control Systems</td>
<td>300</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELEC353</td>
<td>Laboratory 3B</td>
<td>300</td>
<td>3 &amp; 1 or 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELEC354</td>
<td>Laboratory 3C</td>
<td>300</td>
<td>3 &amp; 1 or 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELEC355</td>
<td>Laboratory 3D</td>
<td>300</td>
<td>3 &amp; 1 or 2</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Choice of 24 credit points
Mathematics or Computing Science**

*See "Notes" at the end of B.E. - Elec. Eng. full-time programme.
**See "Note" at the end of Year 5

As for Year 4 of the Recommended Full-time Programme for the Bachelor of Engineering - Electrical Engineering Course.

**Note:
The choice of subjects will be constrained by the regulations for a Bachelor of Mathematics Degree as set out in Part VIIA of the degree regulations and is subject to the approval of the Chairmen of the Department of Electrical and Computer Engineering and of the Departments of Mathematics or of Computing Science as the case may be.

A (non-exhaustive) list of sample programmes for the Mathematics/Computing Science strands follows. Before students vary from these programmes, they should consult with an appropriate academic adviser.

Sample Programmes for Mathematics/Computing Science Options:
<table>
<thead>
<tr>
<th>Number</th>
<th>Subject</th>
<th>Level</th>
<th>Session Offered</th>
<th>Pre-Requisite</th>
<th>Co-Requisite</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROG. 1</td>
<td>Year 2: either MATH211 or MATH286</td>
<td>Year 3: 24 cp of 300-level Mathematics</td>
<td></td>
<td></td>
<td></td>
<td>Year 4: 24 cp of 300-level Mathematics</td>
</tr>
<tr>
<td>PROG. 2</td>
<td>Year 2: CSCI101</td>
<td>Year 3: either MATH211 or MATH286 together with CSCI201</td>
<td></td>
<td></td>
<td></td>
<td>Year 4: either 24 cp of 300-level Mathematics or 24 cp of 300-level Computing Science</td>
</tr>
<tr>
<td>PROG. 3</td>
<td>Year 2: MATH102</td>
<td>Year 3: either MATH211 or MATH286 together with either MATH221 or MATH231</td>
<td></td>
<td></td>
<td></td>
<td>Year 4: 24 cp of 300-level Mathematics</td>
</tr>
<tr>
<td>PROG. 4</td>
<td>Year 2: either MATH211 or MATH286</td>
<td>Year 3: 12 cp of 300-level Mathematics together with CSCI101</td>
<td></td>
<td></td>
<td></td>
<td>Year 4: either 24 cp of 300-level Mathematics or 12 cp of 300-level Mathematics together with CSCI201</td>
</tr>
<tr>
<td>PROG. 5</td>
<td>Year 2: either MATH211 or MATH286</td>
<td>Year 3: 12 cp of 300-level Mathematics together with MATH102</td>
<td></td>
<td></td>
<td></td>
<td>Year 4: either 24 cp of 300-level Mathematics or 12 cp of 300-level Mathematics together with either MATH211 or MATH231</td>
</tr>
</tbody>
</table>
DEFINITIONS

The terms used to categorize publications listed in the Description of Subjects section have been defined as follows:

TEXTBOOK

A textbook is a publication considered an essential aid in the study of a subject. A student is required to have a textbook available for regular reference in class and during private study. The University reserves the right to change textbooks where difficulties of supply occur.

(The textbooks listed in this Calendar may be purchased from the University Co-operative Bookshop.)

PRELIMINARY READING

Publications listed under the heading - PRELIMINARY READING - supply the background knowledge required by a student before he can properly understand and participate in the classes conducted in a subject or in certain parts of a subject.

NOTE: Publications additional to those listed in this Calendar under PRELIMINARY READING or TEXTBOOKS may be recommended by tutors and lecturers during the year. Students are advised to check with the relevant Department whether a list of RECOMMENDED READING is available for each subject being studied.

Students are not required to purchase publications listed as PRELIMINARY READING but may be advised, in some cases, to own major references. These publications are available for borrowing and/or for consultation in the University Library.
DESCRIPTION OF SUBJECTS

ACCOUNTANCY

BCom Degree

The Department of Accountancy offers three year full-time, and part-time courses, leading to the BCom degree. Students may specialise in Accountancy, Economics, Industrial Relations or Management Studies, or take combined specialisations. The Accountancy Department is responsible for the specialisations in Accountancy and Management Studies, and contributes to the specialisations in Economics and Industrial Relations offered by the Economics Department. Accountancy subjects may also be studied for the BMath degree. The part-time course normally takes six years but good students, particularly if supported by their employer with generous provision for time off and encouragement, may complete the degree in a shorter period.

The courses provide a sequence of accounting and management subjects from 100- to 300-level which is designed to provide a comprehensive understanding of the conceptual basis of accounting and management. These ideas are then applied to the financial management and public accountability of enterprises, and in management information systems. Concurrent studies in law provide a broad introduction to the legal environment. First year subjects in economics and statistics are included. A range of options presents an opportunity to develop special areas of interest in accounting and associated fields. Combined specialisations, particularly with other disciplines such as Computing Science, Economics, Mathematics and Psychology are encouraged. Students wishing to undertake a combined specialisation in Accountancy with disciplines other than Economics, would need to postpone two of the compulsory economics subjects to second or later years.

Emphasis is upon mastery of ideas and stimulation of critical ability to provide a foundation for personal and professional development. The accountancy specialisation provides an appropriate preparation for entry into the accountancy profession. However, the scope and orientation are much broader than for this purpose alone, providing a particularly suitable education for careers in business and administration generally.

Students with a good academic record, particularly in third year, are encouraged to enrol for the Honours degree on completion of requirements for the BCom degree. The additional requirement in order to qualify for the BCom (Hons) degree in Accounting and Financial Management is a further year of full-time study, or two years' part-time. The Honours course, using seminar discussion, provides a more extensive exposure to recent developments in accounting thought and practice.

BA Degree

In order to specialise in Accountancy for the BA degree the following subjects must be included in the degree course:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credit Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting &amp; Financial Management I</td>
<td>12</td>
</tr>
<tr>
<td>Accounting &amp; Financial Management II A &amp; II B</td>
<td>12</td>
</tr>
<tr>
<td>Accounting &amp; Financial Management III A &amp; III B</td>
<td>24</td>
</tr>
<tr>
<td>(or other approved &quot;substantial and coherent study&quot; of 24 credit points at 300-level).</td>
<td></td>
</tr>
</tbody>
</table>

The Academic Senate has approved the following combinations of subjects as providing a "substantial and coherent study" at 300-level for the BA degree:
DESCRIPTION OF SUBJECTS - ACCOUNTANCY

(a) Either Accounting & Financial Management IIIA or IIIB plus any other 300-level subjects offered by the Accountancy Department aggregating not less than 12 credit points.

(b) Either Accounting & Financial Management IIIA or IIIB plus any subject at 300-level aggregating not less than 12 credit points offered by either the Economics Department or the Mathematics Department.

(c) Either Accounting & Financial Management IIIA or IIIB together with other subjects at 300-level offered by the Department aggregating not less than 18 credit points PLUS subjects aggregating not less than 6 credit points selected from any other subjects at 300-level approved by the Chairman, Department of Accountancy.

100-LEVEL

ACCY101 ACCOUNTING AND FINANCIAL MANAGEMENT I

Double session; 12 credit points (2 lectures, 1 tutorial per week, 1 workshop per week)

Assessment: Assignment(s), essay(s) and examination(s)

An introduction to financial and management accounting, including the double entry recording system, the accounting cycle, profit measurement, financial reporting, cost accounting and management accounting.

TEXTBOOKS

Thacker, R. J., Accounting Principles. Prentice Hall.
Horngren, C. T., Cost Accounting. Prentice Hall.

ACCY163 INTRODUCTION TO LAW

Double Session; 12 credit points (2 lectures, 2 tutorials per week)

Assessment: Assignment(s), essay(s) and examination(s)

A study of the overall framework of law in Australia, the sources, classifications and terminology of law, the judicial process, legal reasoning, materials and methodology; an introduction to the law of property including trusts; a detailed examination of the common law governing contractual relationships together with an outline of relevant statutory modifications, including an introduction to the sale of goods and consumer law; the special contract of insurance and the law of principal and agent.

TEXTBOOKS

Lane, P.H., An Introduction to the Australian Constitution. 2nd ed. Law Book Co., 1977.

200-LEVEL

ACCY211 ACCOUNTING AND FINANCIAL MANAGEMENT IIA

First session; 6 credit points (2 lectures, 2 tutorials per week)

Assessment: assignments, essay(s) and examination(s)
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**


**ACCY201 ACCOUNTING AND FINANCIAL MANAGEMENT IIB**

*Second session; 6 credit points (2 lectures, 2 tutorials per week)*  
*Assessment:* assignments, essay(s) and examination(s)

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**

Clift, R. *Corporate Accounting in Australia*. Prentice-Hall.  
Australian National Companies and Securities Legislation, CCH, 1981.  

**ACCY212 BUSINESS ORGANISATION AND POLICY**

*Second session; 6 credit points (2 lectures, 1 tutorial per week)*  
*Assessment:* assignments, essay(s) and examination(s)

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**

Lawless, D.J. *Organisational Behaviour*. Prentice-Hall.

**ACCY213 MARKETING POLICY**

*First session; 6 credit points (2 lectures, 1 tutorial per week)*  
*Assessment:* Assignments, essay(s), case studies, and examination(s)

Marketing as an integrated strategy including re-examination of existing products; opportunities and problems of new products; sales organisation, and sales promotion, packaging and pricing.

**TEXTBOOKS**

To be advised.

**ACCY215 SMALL BUSINESS MANAGEMENT**

*Second session; 6 credit points (2 seminars per week)*
Assessment: assignments, case studies, examination(s)

An examination of the determinants of performance levels in small business including functional skills, personal characteristics of owner/managers, key problem areas and corrective strategies; steps to be taken in setting up a small business; and the provision of assistance to small business managers.

TEXTBOOKS


ACCY216 OPERATIONS MANAGEMENT

First or second session; 6 credit points
Assessment: Assignments, essay(s) and examination(s)

A study of the different types of production and operations and their implications for management - including an overview of capacity, facility and layout planning, problems of job design and work measurement, production scheduling, inventory and quality control and management of the conversion process in a time of change.

TEXTBOOK


ACCY221 BUSINESS FINANCE

First session; 6 credit points (2 lectures, 2 tutorials per week)
Assessment: assignments, essay(s) and examination(s)

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


ACCY231 INFORMATION SYSTEMS IN ACCOUNTING

Second session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

Management information systems, including data collection and processing, internal control and internal reporting. System design and computer applications.

TEXTBOOKS


ACCY251 TAXATION LAW

Second session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

Income tax law and practice.
TEXTBOOKS


**ACCY261 LAW OF BUSINESS ORGANISATIONS**

*First session; 6 credit points (2 lectures, 1 tutorial per week)*
*Assessment: assignments, essay(s) and examination(s)*

Business Law of Partnerships and Companies.

**TEXTBOOKS**

Refer to Department.

**ACCY265 LAW OF EMPLOYMENT**

*First session; 6 credit points (2 lectures, 1 tutorial per week)*
*Assessment: assignments, essay(s) and examination(s)*

Formation, content and termination of employment contract; common law duties of employees and employers including their liability to third parties. Workers compensation legislation. Annual, sick and long service leave.

**TEXTBOOKS**


**ACCY281 GOVERNMENT ACCOUNTING AND FINANCIAL MANAGEMENT**

*First session; 6 credit points (2 lectures, 1 tutorial per week)*
*Assessment: assignments, essay(s) and examination(s)*

An introduction to federal, state, regional and local government accounting and financial management including the accounts of government trading corporations and statutory bodies.

**TEXTBOOKS**

The *Audit Act 1901 (as amended)*. The Australian Government Printer, Canberra.

**ACCY282 ACCOUNTING FOR SELECTED ENTITIES**

*First session; 6 credit points (2 lectures, 1 tutorial per week)*
*Assessment: assignments, essay(s) and examination(s)*

Accounting for certain entities to be selected by Chairman of Department. (N.B. The selection would be made from entities such as building societies, finance companies, governmental units, primary producers, trusts, etc. on the basis of staff available).

**TEXTBOOKS**

To be advised by the Departmental Chairman.
300-LEVEL

ACCY302 ACCOUNTING AND FINANCIAL MANAGEMENT IIIA

First session: 12 credit points (2 lectures, 2 tutorials per week)
Assessment: assignments, essay(s) and examination(s)

Financial Accounting: Advanced aspects of financial accounting and reporting with particular reference to development in accounting theory and professional standards, including the financial and accounting aspects of mergers and group companies.

TEXTBOOKS


Note: Reading is required from a wide range of references, including books and journal articles. Details will be provided in the subject programme.

ACCY303 SELECTED ISSUES IN FINANCIAL ACCOUNTING

First session: 6 credit points (2 seminars, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

Selected issues in external reporting, including issues in international accounting and comparative accounting standards.

TEXTBOOKS

As for Accounting & Financial Management IIIA

plus


ACCY312 ACCOUNTING AND FINANCIAL MANAGEMENT IIIB

Second session: 12 credit points (2 lectures, 2 tutorials per week)
Assessment: assignments, essay(s) and examination(s)

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

Fatseas, V.A. *Operations Research in Business - An Introduction*. School of Accountancy, University of N.S.W.


ACCY313 SELECTED ISSUES IN MANAGEMENT ACCOUNTING

Second session: 6 credit points (2 seminars, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

Selected issues in management accounting, including international management accounting.
DESCRIPTION OF SUBJECTS - ACCOUNTANCY

TEXTBOOKS

As for Accounting and Financial Management IIIB
plus

ACCY 314 ORGANISATION PLANNING AND STRATEGY

First session; 6 credit points
Assessment: assignments, essay(s) and examinations

Policy formulation and planning functions in business enterprise.

TEXTBOOKS

Christensen, R.C., Berg, N. and Salter, M.S. Policy Formulation and Administration. Irwin.

ACCY 315 MARKETING STRATEGY

Second session; 6 credit points (2 seminars per week)
Assessment: Seminar papers, case studies, examination(s)

In depth studies of several diverse marketing problems covering a variety of markets, such as capital goods, services, consumable products and household durables.

TEXTBOOKS

To be advised.

ACCY 322 ADVANCED BUSINESS FINANCE

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

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.

ACCY 332 ADVANCED INFORMATION SYSTEMS IN ACCOUNTING

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

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

TEXTBOOKS

DESCRIPTION OF SUBJECTS - ACCOUNTANCY 223

ACCY342 ADVANCED AUDITING

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

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

Fraser, D.J. & Aiken, M.E. Stettler’s Systems Based Audits. Prentice—Hall.

ACCY352 ADVANCED TAXATION LAW

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

Advanced aspects of taxation law and an examination of other taxes including sales tax, stamp duty, payroll tax, death duty and estate duty.

TEXTBOOKS

Income Tax (International Agreements) Act 1953 (as amended). Irving, H.R. The Value on which Sales Tax is Payable. Taxation Institute of Australia.

ACCY362 INDUSTRIAL PROPERTY LAW

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

Copyright, patents, trademarks, industrial design, trade secrets.

TEXTBOOKS

Copyright Act 1968 (Commonwealth). Australian Government Printer, Canberra.

ACCY363 ADMINISTRATIVE LAW

Second session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: assignments, essay(s) and examination(s)

The role of administration in controlling relationships between individuals, the state and public authorities, including the constitutional setting; legislation and delegated legislation; "Henry VIII" clauses, privative clauses; rules of natural justice, judicial review of administrative action, prerogative writs; injunctions and declaratory judgments; administrative tribunals; public authorities; legal position of the Crown; privilege; Ombudsmen, etc.
TEXTBOOKS


**ACCY364 CONSUMER PROTECTION & BUSINESS REGULATION**

*Second session; 6 credit points (2 lectures, 1 tutorial per week)*

*Assessment*: assignments, essay(s) and examination(s)

The law controlling the sale and distribution of products and services, credit, restrictive trade practices and other aspects of the commercial environment.

**TEXTBOOKS**


**ACCY365 LABOUR RELATIONS LAW**

*Second session; 6 credit points (2 lectures, 1 tutorial per week)*

*Assessment*: assignments, essay(s) and examination(s)


**TEXTBOOKS**


*Trade Union Act 1881 (N.S.W.)*. Government Printer, Sydney.

**ACCY366 SELECTED ISSUES IN LEGAL STUDIES**

*First and/or second session; 6 credit points (3 tutorials/seminars per week)*

*Assessment*: assignments, essay(s) and examination(s)

Topics for in-depth study may be selected from legal subjects appearing in the Calendar. (N.B. The selection would be made by the Departmental Chairman, taking into account the expertise of academic staff, including visiting staff, and the interests of students).

**TEXTBOOKS**

References will be provided for individual students according to the area of study selected.
DESCRIPTION OF SUBJECTS - ACCOUNTANCY 225

ACCY368 INSOLVENCIES

First or second session; 6 credit points (2 seminars, 1 tutorial per week)
Assessment: seminars, essay (s) and examinations.

Accounting and legal aspects of corporate and non-corporate insolvencies including bankruptcies, liquidations, receiverships, alteration of capital, reconstruction, amalgamation and takeovers.

TEXTBOOKS

No prescribed textbooks.

ACCY372 TOPICS IN ACCOUNTING HISTORY

First or second session; 6 credit points
Assessment: Assignments, essay (s) and examination (s)

Topics in the history and development of accounting thought.

TEXTBOOKS

No prescribed textbooks.

400-LEVEL*

ACCY403 ACCOUNTING THEORY

6 credit points (1 seminar per week)
Assessment: seminars, essay (s) and examinations


ACCY404 FINANCIAL ACCOUNTING

6 credit points (1 seminar per week)
Assessment: seminars, essay (s) and examinations

The objectives and functions of external financial reporting, including periodic profit measurement. Evaluation of accounting measurement methods including historical cost, general price level, current value and relative price change models. Communication in accounting reports.

ACCY405 INTERNATIONAL ACCOUNTING

6 credit points (1 seminar per week)
Assessment: seminars, essay (s) and examinations


* There are 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.
ACCY406 ISSUES IN FINANCIAL ACCOUNTING

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

Contemporary issues in financial reporting to external parties, including accounting for different classes of assets, liabilities and equities. Legal, institutional and professional reporting requirements including proposals for improvement in accounting principles applied in practice.

ACCY413 MANAGEMENT ACCOUNTING

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

The conceptual basis of management accounting and information systems. Management systems and the management process. Business objectives: multiple and conflicting goals. Qualification of objectives. Information theory and communication within organisation. Developments in decision models, project and period planning, budgetary models and control systems, and measurement of performance, including motivation and behavioural considerations.

ACCY414 MANAGEMENT PLANNING AND CONTROL

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations


ACCY415 CAPITAL INVESTMENT

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

An in-depth study of capital investment decision analysis. The theoretical bases of net present value and internal rate of return selection criteria. The application of investment selection criteria under diverse conditions such as capital rationing, mutually exclusive choice situations, buy/lease decisions, fluctuating rates of capital and inflation. The incorporation of risk into capital investment decision analysis, including the application of capital asset pricing models to investment evaluation.

ACCY416 STUDIES IN CONTROLLERSHIP

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

The role and functions of the Chief Accounting Officer. Designing, installing and managing accounting systems - both financial and managerial. Specific problem areas in controllership, as depicted in selected case studies.

ACCY423 SECURITY EVALUATION AND PORTFOLIO MANAGEMENT

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

The theory of optimal investment decisions. Cost of capital. Introduction to portfolio theory and capital markets. Portfolio analysis. Sources of investment

**ACCY424 CORPORATE FINANCIAL INFORMATION ANALYSIS**

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A survey of methods for the appraisal and prediction of corporate financial performance from such publicly available information as accounting numbers, industry and economic statistics, and stock market data. Equal emphasis is placed upon the development of theoretical constructs, and appraisal of the results of empirical research, especially Australian studies.

**ACCY433 STUDIES IN INFORMATION SYSTEMS IN ACCOUNTING**

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

Studies of particular computer applications in accounting. Specific problem areas as depicted in selected case studies.

**ACCY443 AUDITING AND ACCOUNTING INFORMATION SYSTEMS**

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

The general principles of auditing applied to the audit of computer-based accounting systems and the use of computers as an auditing tool.

Particular emphasis on the positive aspects of auditing and internal control, including their contribution towards improvements in:

(a) management functions such as planning, and

(b) the quality (both real and perceived) of information flows within an entity and between it and external parties.

**ACCY453 STUDIES IN TAXATION**

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

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 - 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.

**ACCY463 JURISPRUDENCE**

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A study of theories on the nature and purpose of law.
ACCY464 STUDIES IN BUSINESS LAW

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A detailed examination of the law relating to selected aspects of business organisation, including the law relating to the nature and formation of partnership, mergers and takeovers, insider trading, and securities.

ACCY465 STUDIES IN ADMINISTRATIVE LAW

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations.

A detailed examination of the legal problems raised for individual citizens in the exercise of Governmental or other public powers. Particular topics include delegated legislation, ministerial responsibility, statutory corporations and administrative tribunals, Crown proceedings; and the statutory and common law procedures which may be invoked to counter allegations of maladministration or illegality including the Administrative Appeals Tribunals, judicial review and ombudsmen.

ACCY466 STUDIES IN INDUSTRIAL LAW

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A detailed examination of the law (including some comparative law) relating to selected aspects of employment relationships including industrial accidents, job security, registration and control of trade unions, picketing, the right to work and closed shop agreements, and conciliation and arbitration and collective bargaining.

ACCY467 STUDIES IN TRADE PRACTICES AND CONSUMER LAW

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A detailed examination of restrictive trade practices and the development of the law to counter them including the role of the Commonwealth and New South Wales agencies which administer the relevant Acts.

ACCY473 HISTORY OF ACCOUNTING THOUGHT

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations


ACCY483 STUDIES IN GOVERNMENT ACCOUNTING

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A detailed examination of selected areas in federal, state, regional or local government accounting.
ACCY485 SPECIAL TOPIC IN ACCOUNTING — A

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A special topic to be selected from any area of financial accounting, management accounting, business finance, information systems or government accounting. (N.B. The selection would be made by the Departmental Chairman, taking into account the expertise of academic staff, including visiting staff, and the interest of students.)

ACCY486 SPECIAL TOPIC IN ACCOUNTING — B

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A special topic to be selected from any area of financial accounting, management accounting, business finance, information systems or government accounting. (N.B. The selection would be made by the Departmental Chairman, taking into account the expertise of academic staff, including visiting staff, and the interest of students.)

ACCY487 SPECIAL TOPIC IN LAW — A

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A special topic to be selected from any area of commercial law. (N.B. The selection would be made by the Departmental Chairman taking into account the expertise of academic staff, including visiting staff, and the interest of students.)

ACCY488 SPECIAL TOPIC IN LAW — B

6 credit points (1 seminar per week)
Assessment: seminars, essay(s) and examinations

A special topic to be selected from any area of commercial law. (N.B. The selection would be made by the Departmental Chairman taking into account the expertise of academic staff, including visiting staff, and the interest of students.)

ACCY493 RESEARCH ESSAY

12 credit points

Information may be obtained from the Departmental Chairman regarding the research essay.
The Biology Department syllabus, which has been revised for 1982, has significantly different requirements for students "majoring" in Biology and those taking incidental Biology subjects. Students majoring in Biology must take, at 100-level, General Biology (BIOL102) and Chemistry 1A and 1B (CHEM101 and 102). They are strongly recommended to take Physics for the Life Sciences PHYS131 and 132 (or, if they prefer, PHYS141 and 142). They must take all four 200-level Biology subjects and should seek advice from the Biology Department on suitable subject combinations at 300-level. Students intending to take less than a major sequence in Biology should consult Schedule A for specific pre-requisites of subjects, especially those at 300-level.

General Biology (BIOL102) assumes no previous experience in Biology and is intended to provide a general self-contained introduction to the subject as well as a background to more advanced levels. The second year provides additional basic material leading to third year where a student may concentrate his attention on cell biology/microbial physiology, animal physiology, plant physiology or ecology. Opportunities exist for proceeding to honours level and to higher degrees in each of these areas.

The completion of a major sequence in Biology will allow access to career opportunities in most of the major outlets for graduates in the Biological Sciences.

General Statement of Assessment Methods

All Biology subjects are assessed on work done during session and a final written examination. Work during session includes laboratory or field work (except for BIOL250) and may include essays, short written tests and tutorials. The weighting of the various components of assessment is stated in the laboratory manual, or other written material, issued for each subject at the beginning of session.

Schedule Entries

Refer to Biology entries in Schedule A for further details of individual subjects, including prerequisites and exclusions.

100-LEVEL

BIOL102 GENERAL BIOLOGY

Double session; 12 credit points (2 hrs lectures, 4 hrs practical/tutorial per week)


TEXTBOOK


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

200-LEVEL

BIOL210 BIOCHEMISTRY

First session: 6 credit points (2 lectures, 4 hrs practical/tutorial per week)
Major topics covered include the chemistry and biochemistry of proteins, carbohydrates, lipids and nucleic acids; properties of biological membranes; enzymes and enzyme catalysis; intermediary metabolism; the transmission and expression of genetic information; biochemical evolution.

**TEXTBOOK**


### BIOL220 BOTANY

**Second session: 6 credit points (2 lectures, 4 hrs practical/tutorial per week)**

Major topics include plant morphology and anatomy; cell differentiation and growth; pathways of water and mineral ion uptake and transmission; plant reproductive structures; history and principles of taxonomy; the major families of flowering plants; evolution and co-evolution with vectors for pollen and seed dispersal.

As part of the practical requirements of this course, each student will make a small herbarium collection (25 labelled specimens).

**TEXTBOOKS**


### BIOL230 ZOOLOGY

**Second session: 6 credit points (2 lectures, 4 hrs. practical/tutorial per week)**

The course provides a broad survey of the animal kingdom. Students gain practical experience in the methods of collecting, describing, classifying and identifying animals. The evolutionary and adaptive basis of animal diversity is examined and a comparative study of animal organ systems is undertaken.

**TEXTBOOKS**


### BIOLOGY250 EVOLUTION AND ECOLOGY OF MAN

**First session: 6 credit points (3 lectures, 1 tutorial per week)**

This is a broadly based subject for which there are no formal prerequisites other than 48 credit points in any subjects. The following areas are covered. *Principles of Evolution*: Darwin and natural selection; mechanisms of inheritance; diversity; population genetics. *Human evolution*: The fossil record; neurobiological and behavioural evolution; reproduction in Man; cultural evolution and human diversity. *Concepts of Ecology*: Ecology of natural populations; food webs and energetics of ecosystems; species interactions and diversity of natural communities. *Human ecology*: The human population; effects of environment of Man (nutrition, disease, pollution); effects of Man on environment (population, resources, pollution and conservation); an ecological perspective of Man; global interactions between Man and the biosphere.

**TEXTBOOK**

BIOL310 CELL BIOLOGY

First session: 8 credit points (2 lectures, 4 hrs practical/tutorial per week)

Structure of microbial, plant and animal cells. The biophysical and biochemical properties of cell membranes in relation to diffusion, transport processes, and energy transduction. The water and ionic relations of cells. Energy processing within cells, the function of organelles, fluxes of metabolites. Mechanical work by cells. Entropy and information processing by cells.

TEXTBOOK

To be advised.

BIOL313 MICROBIAL PHYSIOLOGY

Second session: 8 credit points (2 lectures, 4 hrs practical/tutorial per week)

The cytology of prokaryotic and eukaryotic microorganisms. Patterns of microbial energy metabolism. Reproduction and population dynamics. Effects of environment on species and on populations. Selective toxicity; production and mode of action of some antibiotics. Gene expression; the inheritance and transfer or genetic information. Basic characteristics of viruses.

TEXTBOOK


BIOL314 MICROBIAL PHYSIOLOGY L

Second session: 4 credit points (2 lectures approx. 1 tutorial per week)

This subject consists of the lectures and tutorials of BIOL312, the practical component of which is the same as that used previously in BIOL201/301 (no longer available). BIOL313 is intended for students accredited with BIOL201 or 301.

TEXTBOOK


BIOL320 PLANT PHYSIOLOGY

First session: 8 credit points (2 lectures, 4 hrs practical/tutorial per week)


TEXTBOOKS

OR
AND

BIOL330 ANIMAL PHYSIOLOGY

First session: 8 credit points (2 lectures, 4 hrs. practical/tutorial per week)

**TEXTBOOK**


**BIOL331 NEUROBIOLOGY**

*Second session: 8 credit points (2 lectures, 4 hrs. practical/tutorial per week)*

This course aims to provide the student with an understanding of the mechanisms involved in the processing of information by both vertebrate and invertebrate nervous systems.

To achieve this, the course deals with basic neuroanatomy, cellular biophysics and pharmacology as a prelude to a more detailed examination of the neural systems involved in such things as homeostasis, control of behaviour and motor activities.

Laboratory work makes extensive use of neurophysiological recording techniques.

**TEXTBOOK**

To be advised.

**BIOL350 ECOLOGY**

*Second session: 8 credit points (2 lectures, 4 hrs. practical/tutorial per week plus a 4-day field camp in the mid-session break.)*


**TEXTBOOK**


**BIOL391 ADVANCED BIOLOGY**

*First, second or double session: 16 credit points (12 hrs. practical per week plus all departmental seminars)*

**Assessment:** Two seminars, two written assignments, two written project reports, one 3-hour written examination based on a reading list and departmental seminars.

A student will be assigned sequentially to two academic staff members who will each supervise a research project. The project will be selected primarily to extend and intensify both practical and theoretical experience. Emphasis will be placed on developing competence in a range of laboratory and field techniques not already familiar to the student. The reading list is intended to enhance previous understanding of biological phenomena and to introduce the student to areas of biology not treated elsewhere in the Biology syllabus.

**TEXTBOOKS**

The reading list will be provided at the beginning of the course.
BIOL401 BIOLOGY HONOURS

Double session: 48 credit points

A research project with thesis plus other assignments. Students wishing to proceed to honours should consult the departmental Chairman as soon as their interest in doing so is known.
CHEMISTRY

The Chemistry Department offers two 100-level, four 200-level, seven 300-level single session and one 200-level double session subjects. Entry to Chemistry IV Honours course is determined by the Academic Senate on the advice of the Chairman of the Department of Chemistry.

A student wishing to take out a Bachelor of Science degree with a major sequence in Chemistry must obtain at least 36 credit points at the 300-level of which at least 24 credit points must be from subjects offered by the Department of Chemistry.

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

Schedule Entries.

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A. Subjects also appear in other schedules are:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Schedules</th>
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</thead>
<tbody>
<tr>
<td>CHEM101</td>
<td>C &amp; D</td>
</tr>
<tr>
<td>CHEM102</td>
<td>D</td>
</tr>
</tbody>
</table>

100-LEVEL

CHEM101 CHEMISTRY IA (INTRODUCTORY PHYSICAL AND GENERAL CHEMISTRY)

_First session; 6 credit points (28 hrs lectures, 14 hrs tutorials and 42 hrs practical)_

_Assessment:_ Practical and tutorial assignments plus written examination

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

**TEXTBOOKS**


CHEM102 CHEMISTRY IB (INTRODUCTORY ORGANIC AND PHYSICAL CHEMISTRY)

_Second session; 6 credit points (28 hrs lectures, 14 hrs tutorials and 42 hrs practical)_

_Assessment:_ Practical and tutorial assignments plus written examination.


**TEXTBOOKS**


or

CHEM211 INORGANIC CHEMISTRY II

Second session; 6 credit points (28 hrs lectures, 14 hrs tutorials, 42 hrs practical)  
Assessment: Practical and tutorial assignments plus written examination


TEXTBOOKS


CHEM212 ORGANIC CHEMISTRY II

First session; 6 credit points (28 hrs lectures, 14 hrs tutorials plus 42 hrs practical classes)  
Assessment: Practical and tutorial assignments plus written examination


TEXTBOOKS


CHEM213 PHYSICAL CHEMISTRY II

First session; 6 credit points (28 hrs lectures, 14 hrs tutorials plus 42 hrs practical classes)  
Assessment: Practical and tutorial assignments plus written examination

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.  
Chemical Thermodynamics: Review of 1st, 2nd and 3rd laws. Application of thermodynamics to chemical systems.

TEXTBOOKS


CHEM214 ANALYTICAL CHEMISTRY II

Second session; 6 credit points (28 hrs lectures, 14 hrs tutorials plus 42 hrs practical classes)  
Assessment: Practical and tutorial assignments plus written examination

Ionic equilibrium in analytical chemistry: acid base, oxidation-reduction, pre-
cipation. Introductory analytical spectroscopy, separation techniques: chromatography, solvent extraction etc.

**TEXTBOOK**


**CHEM219 THE COMPUTER IN SCIENCE**

*Double session; 6 credit points (56 hrs lectures, 28 hrs tutorial/practical)*

**Assessment:** Continual assessment plus written examination


**TEXTBOOKS**


**300-LEVEL**

**CHEM311 INORGANIC CHEMISTRY III**

*First session; 8 credit points (42 hrs lectures and tutorials plus 42 hrs practical classes)*

**Assessment:** Practical and tutorial assignments plus written examination


**TEXTBOOK**


**CHEM314 ANALYTICAL CHEMISTRY III**

*Second session; 8 credit points (42 hrs lectures and tutorials plus 42 hrs practical classes)*

**Assessment:** Practical and tutorial assignments plus written examination

Electrochemistry and chemical analysis, electrodeposition, potentiometry, polarography, anodic stripping voltammetry. Techniques of trace analysis, sampling, solution concentration, selection of method.

Instrumentation and trace analysis, mass spectrometry, atomic absorption spectroscopy, fluorescence analysis, emission spectroscopy, radiochemistry.

**TEXTBOOKS**


CHEM321 ORGANIC STEREOCHEMISTRY AND HETEROCYCLICS III

First session; 8 credit points (42 hrs lectures and tutorials, 42 hrs practical)
Assessment: Practical and tutorial assignments, and written examination


TEXTBOOKS

CHEM322 ORGANIC SPECTROSCOPY AND NATURAL PRODUCTS III

Second session; 8 credit points (42 hrs lectures and tutorials and 42 hrs practical)
Assessment: Practical and tutorial assignments, and written examination


TEXTBOOKS

CHEM323 PHYSICAL CHEMISTRY III

Second session; 8 credit points (42 hrs lectures and tutorials plus 42 hrs practical classes)
Assessment: Practical and tutorial assignments plus written examination

Chemical Dynamics; correlation of Chemical Reactivity with Molecular Structure; Surface Chemistry and Applications; Transport Processes in Solution; Electrochemistry.

TEXTBOOKS
DESCRIPTION OF SUBJECTS - CHEMISTRY 239

**CHEM324 THEORETICAL CHEMISTRY**

*Second session; 8 credit points (56 hrs lectures and tutorials plus 28 hrs practical classes)*

*Assessment:* Practical and tutorial assignments plus written examination

The Concepts of Quantum Chemistry; Molecular Orbital Theory of Electronic Structure; Symmetry in Quantum Chemistry and Molecular Spectroscopy; Statistical Mechanics.

*TEXTBOOKS*


**CHEM327 CHEMISTRY AND THE ENVIRONMENT**

*First session; 8 credit points (56 hrs lectures and tutorials, 28 hrs practical)*

*Assessment:* Laboratory and field work 20%. Two submitted essays 20%. Written examination 60%

The environment as we know it depends on complex interactions of chemical, physical and biological processes both natural and anthropogenic in origin. Environmental chemistry interprets these processes and applies this understanding to such areas as pollution measurement, pollution control and the recycling and conservation of resources. A chemical description of evolution and behaviour in the environment: rates and equilibria, transport processes, natural regulatory mechanisms, geochemical cycling of the elements. Chemical pollution arising from exploitation of resources and disposal of wastes. Environmental trace analysis: detection and measurement of pollutants in air and water. Chemistry of water and air pollution control.

*TEXTBOOK*


**400-LEVEL**

**CHEM411 SELECTED TOPICS IN CHEMISTRY**

*Double session; 16 credit points (56 hrs lectures and 56 hrs tutorials)*

*Assessment:* Written examination and seminar

Theories concerning the creation of life on Earth; Organic and Inorganic Geochemistry and its effect on the environment; Vitamins, hormones and important common drugs; Introduction to Digital Instrumentation; The Basic Nature and desirable properties of Materials (e.g. ceramics, glasses, polymeric and composite materials); Chemistry Through the Ages; Chemical Literature; Chemistry and Society; Computer Simulation of Complex Systems; and others added as required.

*TEXTBOOKS*

A reading list will be provided by the Department at the beginning of each year.

**CHEM420 CHEMISTRY HONOURS PROJECT FOR FULL-TIME STUDENTS**

*Double session; 32 credit points*

A list of topics available for study in any year will be provided by the Department of Chemistry.
A reading list will be provided by the supervisor allocated to each student.

**CHEM421 CHEMISTRY HONOURS PROJECT**  
**PART I FOR PART-TIME STUDENTS**

*Double session; 8 credit points (Contact: 8 hrs per week)*  
*Assessment:* Written report

A list of topics available for study in any year will be provided by the Department of Chemistry.

**CHEM422 CHEMISTRY HONOURS PROJECT**  
**PART II FOR PART-TIME STUDENTS**

*Double session; 24 credit points (Contact: 24 hrs per week)*  
*Assessment:* Minor thesis and seminar as in CHEM420 but without the CHEM421 component.

A list of topics available for study in any year will be provided by the Department of Chemistry.

**CHEM425 CHEMISTRY JOINT HONOURS**

*Single or Double session: 24 credit points* (note that another 24 credit point program provided by another Department, usually a member Department of the Faculty of Science, is also required and no award will be made until the requirements of both Departments are fulfilled).  
*Assessment:* 1 written examination, 1 seminar and a thesis. The thesis is usually integrated with the thesis required by the other cooperating Department. However, by agreement with the two relevant Departmental Chairmen, separate theses may be submitted.

The subject consists of one half of the CHEM411 - "Selected Topics in Chemistry" plus one half of the CHEM420 - "Chemistry Honours Project for Full-time Students". A reading list and a list of topics available will be provided by the Department.
Normal Structure and Study Patterns

In the operation of the course, subjects are scheduled so that it may be completed within a period of 4 to 8 years. Common patterns are the 4 years pattern (I) and the 6 years pattern (II) but progression within the course is by subject with the restriction of meeting pre-requisite and co-requisite requirements.

Patterns (I) and (II) are shown below.

Professional Electives

Students in approved full-time employment may become eligible to include the subjects of Professional Practice in their programme as electives. The inclusion of such work will enable students to complete the course under Pattern (II). Students wishing to be eligible to attain Honours Class I or Class II can only credit a maximum of three professional electives and will be required to select alternative (or additional) 300 and 400-level electives.

Professional Experience

As part of the course requirements, students are required to obtain 12 weeks of approved professional experience; such experience to be obtained in the summer vacation prior to their final year, unless exempted by the Department due to the student's full-time professional employment.

Excursions form an integral part of the course and are mandatory.

Transitional Arrangements

Students enrolled in the B.E. in Civil Engineering prior to January, 1976 will be required to complete the course as prescribed in Schedule C - B.E. in Civil Engineering - of the Bachelor Degree Requirements approved as at 1st January, 1975.

The Chairman of the Department of Civil and Mining Engineering has the authority to approve any variations to this prescribed programme for the B.E. in Civil Engineering in the event of students enrolled under the 1975 requirements seeking to change over to the 1976 course.

Assessment

All subjects offered for the degree of Bachelor of Engineering in the Department of Civil and Mining Engineering normally are assessed by means of a final examination. Set project work, laboratory reports and tutorial assignments may be taken into account in this assessment.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule C (with the exception of CIVL112, 113, 114, 115, 116). Subjects which also appear in other schedules are:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Schedule</th>
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</thead>
<tbody>
<tr>
<td>CIVL111</td>
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<tr>
<td>CIVL112</td>
<td>A</td>
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<tr>
<td>CIVL113</td>
<td>A</td>
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<tr>
<td>CIVL114</td>
<td>A</td>
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<tr>
<td>CIVL115</td>
<td>A</td>
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<tr>
<td>CIVL116</td>
<td>A</td>
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BACHELOR OF ENGINEERING - CIVIL ENGINEERING

Suggested Pattern I: With 4 Year Attendance (Honours)

**YEAR 1 OF ATTENDANCE**

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Hours per Week</th>
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<tbody>
<tr>
<td>CHEM101</td>
<td>Chemistry IA</td>
</tr>
<tr>
<td>PHYS120</td>
<td>Fundamentals of Electricity and Magnetism</td>
</tr>
<tr>
<td>CIVL171</td>
<td>Surveying I</td>
</tr>
<tr>
<td>MATH187</td>
<td>Mathematics IA Part 1</td>
</tr>
<tr>
<td>CIVL172</td>
<td>Survey Camp</td>
</tr>
<tr>
<td>CIVL122</td>
<td>Mechanics and Structures</td>
</tr>
<tr>
<td>METL106</td>
<td>Engineering Materials I</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Session 2</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL111</td>
<td>Introduction to Design</td>
</tr>
<tr>
<td>CIVL123</td>
<td>Dynamics</td>
</tr>
<tr>
<td>MATH188</td>
<td>Mathematics IA Part 2</td>
</tr>
<tr>
<td>CIVL142</td>
<td>Materials 1</td>
</tr>
<tr>
<td>CIVL193</td>
<td>Excursions 1</td>
</tr>
<tr>
<td>CIVL192</td>
<td>Construction 1</td>
</tr>
<tr>
<td>PHYS121</td>
<td>The Physics of Waves and Particles</td>
</tr>
<tr>
<td>CIVL191</td>
<td>Building Construction</td>
</tr>
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</table>

**YEAR 2 OF ATTENDANCE**

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL294</td>
<td>Construction 2</td>
</tr>
<tr>
<td>CIVL281</td>
<td>Computational Techniques 1</td>
</tr>
<tr>
<td>CIVL225</td>
<td>Mechanics 1</td>
</tr>
<tr>
<td>CIVL295</td>
<td>Experimental Engineering</td>
</tr>
<tr>
<td>CIVL251</td>
<td>Strength of Materials 1</td>
</tr>
<tr>
<td>CIVL273</td>
<td>Surveying 2</td>
</tr>
<tr>
<td>CIVL296</td>
<td>Excursions 2</td>
</tr>
<tr>
<td>ELEC296</td>
<td>Applied Electricity 1A*†</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Session 2</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL282</td>
<td>Computational Techniques 2</td>
</tr>
<tr>
<td>CIVL226</td>
<td>Mechanics 2</td>
</tr>
<tr>
<td>CIVL231</td>
<td>Hydraulics I</td>
</tr>
<tr>
<td>CIVL243</td>
<td>Materials 2</td>
</tr>
<tr>
<td>CIVL252</td>
<td>Strength of Materials 2</td>
</tr>
<tr>
<td>CIVL213</td>
<td>Structural Design I</td>
</tr>
<tr>
<td>ELEC297</td>
<td>Applied Electricity IB*†</td>
</tr>
</tbody>
</table>

**YEAR 3 OF ATTENDANCE**

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL332</td>
<td>Hydraulics 2</td>
</tr>
<tr>
<td>CIVL326</td>
<td>Mechanics 3</td>
</tr>
</tbody>
</table>

* Subjects marked with an asterisk are electives.
† ECON111 Economics II or GEOG202 Urban Location and Structure, may be taken in lieu of ELEC296 and ELEC297.
### Year 4 of Attendance

#### Session 1
- **CIVL401** Thesis
- **CIVL481** Engineering Management I
- **CIVL482** Engineering Management II
- **MECH491** Professional Orientation
- **CIVL455** Structures 3
- **CIVL456** Structures 4
- **CIVL491** Computer Applications

#### Session 2
- **CIVL401** Thesis
- **CIVL481** Engineering Management II
- **MECH491** Professional Orientation
- **CIVL455** Structures 3
- **CIVL456** Structures 4
- **CIVL491** Computer Applications

### Year 2 Electives*
- **ELEC296** Applied Electricity IA
- **ELEC297** Applied Electricity IB
- **ECON111** Economics II
- **GEOG202** Urban Location and Structure

### Year 3 Electives*
(May also be taken as Year 4 Electives)
- **CIVL495** Geology for Civil Engineers
- **CIVL496** Roads Engineering
- **CIVL497** Introductory Modern Languages (if available, e.g. French, Italian.)
- **ECON215** Microeconomics
- **MECH241** Thermodynamics I
- **MECH391** Heat Transfer for Civil Engineers

*Subjects marked with an asterisk are electives.*
YEAR 4 ELECTIVES*

CIVL411 Professional Practice 1
CIVL412 Professional Practice 2
CIVL413 Professional Practice 3
CIVL414 Professional Practice 4
CIVL415 Professional Practice 5
CIVL416 Professional Practice 6
CIVL434 Hydraulic Engineering 3
CIVL445 Materials 4 3
CIVL455 Structures 3 3
CIVL456 Structures 4 3
CIVL464 Soil Mechanics 3 3
CIVL486 The Civil Engineer and the Environment 3
CIVL487 Town Planning 3
CIVL488 Traffic and Transport Systems 3
CIVL491 Computer Applications 3
CIVL493 Public Health Engineering 3
ECON312 Industrial Economics 3

Suggested Pattern II: With 6 Year Attendance

YEAR 1 OF ATTENDANCE

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Hours per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL122 Mechanics and Structures</td>
<td>3</td>
</tr>
<tr>
<td>CIVL171 Surveying 1</td>
<td>3</td>
</tr>
<tr>
<td>CIVL172 Survey Camp</td>
<td>-</td>
</tr>
<tr>
<td>MATH187 Mathematics IA Part I</td>
<td>6</td>
</tr>
</tbody>
</table>

Session 2

| CIVL111 Introduction to Design | 3 |
| CIVL123 Dynamics for Civil Engineers | 3 |
| MATH188 Mathematics IA Part 2 | 6 |

YEAR 2 OF ATTENDANCE

<table>
<thead>
<tr>
<th>Session 1</th>
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<tbody>
<tr>
<td>PHYS120 Fundamentals of Electricity and Magnetism</td>
<td>3</td>
</tr>
<tr>
<td>CHEM101 Chemistry IA</td>
<td>6</td>
</tr>
<tr>
<td>METL106 Engineering Materials I</td>
<td>3</td>
</tr>
</tbody>
</table>

Session 2

| CIVL142 Materials IC | 6 |
| PHYS121 The Physics of Waves and Particles | 3 |
| CIVL193 Excursions 1 | - |
| CIVL191 Building Construction | 3 |
| CIVL192 Construction 1 | 3 |

YEAR 3 OF ATTENDANCE

<table>
<thead>
<tr>
<th>Session 1</th>
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<tbody>
<tr>
<td>CIVL281 Computational Techniques 1</td>
<td>5</td>
</tr>
<tr>
<td>CIVL251 Strength of Materials 1</td>
<td>3</td>
</tr>
<tr>
<td>CIVL225 Mechanics 1</td>
<td>3</td>
</tr>
<tr>
<td>CIVL296 Excursions 2</td>
<td>-</td>
</tr>
</tbody>
</table>

* Subjects marked with an asterisk are electives.
Total number of Year 3 and Year 4 electives in Pattern 1 required is at least 8. Normally not to include CIVL411, 412, 413, 414, 415, 416.
Session 2
CIVL282  Computational Techniques 2  5
CIVL213  Structural Design 1  4
CIVL226  Mechanics 2  3

YEAR 4 OF ATTENDANCE

Session 1
ELEC296  Applied Electricity 1A†  3
CIVL295  Experimental Engineering  3
CIVL273  Surveying 2  3
CIVL294  Construction 2  3

Session 2
ELEC297  Applied Electricity 1B†  3
CIVL231  Hydraulics 1  3
CIVL243  Materials 2C  3
CIVL252  Strength of Materials 2  3

YEAR 5 OF ATTENDANCE

Session 1
CIVL332  Hydraulics 2  3
CIVL353  Structures 1  3
CIVL362  Soil Mechanics 1  3
CIVL397  Construction 3  3
CIVL398  Excursions 3  -

Session 2
CIVL334  Hydraulics 3  3
CIVL344  Materials 3  3
CIVL374  Surveying 3  3
CIVL495  Geology for Civil Engineers*  3

YEAR 6 OF ATTENDANCE **

Session 1
CIVL312  Civil Engineering Design  3
CIVL326  Mechanics 3  3
CIVL401  Thesis  6
CIVL481  Engineering Management I  3
CIVL490  Excursions 4  -
CIVL487  Town Planning*  3
CIVL493  Public Health Engineering*  3
CIVL496  Roads Engineering*  3
CIVL486  The Civil Engineers and the Environment  3

* Subjects marked with an asterisk are electives.
† ECON111 Economics II or GEOG202 Urban Location and Structure, may be taken in lieu of ELEC296 and ELEC297.
**May be taken over 1 or 2 years; vacation at end of Year 5 may be used for thesis commencement.
246 DESCRIPTION OF SUBJECTS - CIVIL & MINING ENGINEERING

Session 2

CIVL401 Thesis 10
MECH491 Professional Orientation 3
CIVL327 Mechanics 4* 3
CIVL314 Structural Design 2* 3
CIVL354 Structures 2* 3
CIVL363 Soil Mechanics 2* 3
CIVL434 Hydraulic Engineering* 3
CIVL488 Traffic and Transport Systems* 3
CIVL455 Structures 3* 3

ELECTIVES*

CIVL314 Structural Design 2 3
CIVL327 Mechanics 4 3
CIVL354 Structures 2 3
CIVL363 Soil Mechanics 2 3
MECH391 Heat Transfer for Civil Engineers 3
CIVL411 Professional Practice 1
CIVL412 Professional Practice 2
CIVL413 Professional Practice 3
CIVL414 Professional Practice 4
CIVL415 Professional Practice 5
CIVL416 Professional Practice 6
CIVL434 Hydraulic Engineering 3
CIVL445 Materials 4 3
CIVL455 Structures 3 3
CIVL456 Structures 4 3
CIVL464 Soil Mechanics 3 3
CIVL486 The Civil Engineer and the Environment 3
CIVL487 Town Planning 3
CIVL488 Traffic and Transport Systems 3
CIVL491 Computer Applications 3
CIVL493 Public Health Engineering 3
CIVL494 Coastal Engineering 3
CIVL496 Roads Engineering 3
CIVL497 Introductory Modern Languages 3

100-LEVEL

CIVL111 INTRODUCTION TO DESIGN

Second session

(a) Drawing Practice with examples taken from trusses, space frames, urban systems, transportation.
(b) Design of bolted and welded attachments. Introduction to structural design, design loads, factor of safety, codes of practice.
(c) Materials in design including classification of civil engineering materials, occurrence, processing, manufacture and their properties.
(d) Workshop Practice including elementary workshop exercises and practice in the use of simple machine tools and welding.

*Subjects marked with an asterisk are electives. Total number of electives in Pattern II required is 11. If 6 Practice Electives are attained (thus leaving 5) then it is usual to read for 2 in Session 1 and 3 in Session 2.
CIVL112 BUILDING*

*First session; 6 credit points*

Design and construction of buildings and their environment, estimating and building organisation. The economics of building materials and methods. The organisation of development approvals and building approvals.

CIVL113 PUBLIC WORKS AND CONSTRUCTION*

*Second session; 6 credit points*

Principles of construction and fabrication of public works including consideration of operating costs, comparative performance of large scale equipment, purchase and operation of plant, job administration and construction labour. The public works to include irrigation and water supply schemes, harbour and river works and pipelines.

CIVL114 SURVEYING*

*First session; 6 credit points*

Use of surveying instruments, methods of plane traverse, plane table surveying, levelling, setting out, instrument selection and adjustment of surveying errors.

CIVL115 PHOTO-INTERPRETATION AND MEASUREMENT*

*Second session; 6 credit points*

Introduction to Photogrammetric techniques and their application in land utilisation, planning and development.

CIVL116 THE BUILT ENVIRONMENT*

*Double session; 6 credit points*

Man and his artificial environment, the planning process, management of natural and artificial resources, Environmental Impact Statements, Cost Benefit Analysis.

CIVL122 MECHANICS AND STRUCTURES

*First session*

Two-dimensional statics: concurrent and non-concurrent force systems; analytical and graphical methods. Three-dimensional statics. Analysis of structures: axial forces in plane trusses; shear forces and bending moments in beams. Geometric properties of plane sections: centroids and moments of inertia.

CIVL123 DYNAMICS

*Second session*


CIVL142 MATERIALS

*Second session*

Structure and properties of metallic and non-metallic engineering materials,

*Subjects included in Schedule A.*
248 DESCRIPTION OF SUBJECTS - CIVIL & MINING ENGINEERING

mechanical properties of materials, types of mechanical tests, material response and testing procedures for: static tension and compression, shear, bending, torsion, impact, hardness; use of test results in design.

CIVL171 SURVEYING 1

First session

Linear measurements, corrections, chain surveying, simple levelling. Earthworks. Theodolite and compass traversing; simple curves, transition curves, vertical curves, setting out.

CIVL172 SURVEY CAMP

First session

An area of land will be surveyed. Experience will be gained in carrying out linear measurements, chain surveys; level circuits; traverse surveys and computations; tacheometrical surveys; setting out of horizontal curves; plane tabling.

CIVL191 BUILDING CONSTRUCTION

First session

Single and ridged roofs; solid and framed walls; footings; stone, brick, tiles, sheets, timber; roof coverings; ventilation ducting; heating and cooling appliances; basement procedures; quality and management control; economics.

CIVL192 CONSTRUCTION 1

Second session

The classification, selection and use of plant, its organisation and costs; site establishment, drilling, blasting, quarrying, tunnelling, pipe lines, pile driving, hoisting and conveying. Project planning, construction and analysing networks. Estimating. Preservation of structures.

CIVL193 EXCURSIONS 1

First or Second session

Visits to selected works and establishments.

200-LEVEL

CIVL213 STRUCTURAL DESIGN 1

Second session

(a) Steel structures, bolted and welded connections; simple and built up beams; trusses and columns.
(b) Introduction to design with timber and bricks.

CIVL216 DESIGN M

Double session

Session 1

(a) Engineering Drawing. Fundamental concepts of descriptive geometry including projections, reference systems, representation of point, line and plane; use of drawing instruments and drawing standards; measurements and dimensioning orthographic and isometric projections.
(b) Statics.
Two dimensional statics: concurrent and non-concurrent force systems; analytical and graphical methods. Analysis of structures: axial forces in plane trusses; shear forces and bending moments in beams.

Session 2

(c) Strength of Materials. Geometric properties of plane sections: centroids and moments of inertia. Concepts of stress and strain; analysis of stress and strain in two dimensions; deflection of beams; combined loading.

(d) Design.
Various design projects associated with heavy engineering and metallurgical practices and processes.

CIVL225 MECHANICS 1

First session

Single degree-of-freedom systems: free vibration; damping; harmonically forced vibration; transient vibration. Two degrees-of-freedom systems. Lagrangian dynamics.

CIVL226 MECHANICS 2

Second session

Introduction to systems modelling and analysis, optimisation techniques, linear programming, network analysis, queuing theory, maximal flow and shortest path analysis, flowgraphs. Applications of Fortran Programming to these methods.

CIVL231 HYDRAULICS 1

Second session


CIVL243 MATERIALS 2

Second Session

Failure and fracture theories; fatigue; impact strength - approximate methods; stress concentration; notch sensitivity; welding processes and residual stresses.

CIVL251 STRENGTH OF MATERIALS 1

First session

Concepts of stress and strain; flexibility and stiffness concepts; analysis of stress and strain; principal moments of inertia; deflection of beams; torsion of circular and thin-wall sections; combined loading. An introduction to statically indeterminate beams.

CIVL252 STRENGTH OF MATERIALS 2

Second session

Experimental methods including dynamic loadings; strain gauge techniques; photo-elasticity; testing machines and procedures; methods of non-elastic analysis; applications; buckling of compression members.
CIVL254 STRENGTH OF MATERIALS

First or Second session

Components of stress and strain; two dimensional stress systems; torsion of circular shafts; springs; structures; strain energy; frame structures; flexure and deflexion of beams; slope deflexion equation.

CIVL273 SURVEYING 2

First session

Optical distance measurement; electronic distance measurement; precise levelling; precise levelling equipment; triangulation surveys; theory of errors; Geodetic surveying; Geodetic computations; techniques used in the development of mineral properties; tunnel and borehole surveys.

CIVL281 COMPUTATIONAL TECHNIQUES 1

First session

Taylor Series and its applications; Fourier methods of analysis; complex variable and contour integration; matrix analysis and its use in Civil Engineering. Computer usage.

CIVL282 COMPUTATIONAL TECHNIQUES 2

Second session

Introduction to statistical methods, quality control; finite differences; concepts of finite elements in relation to two and three dimensions. Computer applications using finite elements.

CIVL294 CONSTRUCTION 2

First session

(a) Contracts, specifications, Bill of quantities, economic evaluation, Management, Personnel management;
(b) Introduction to transportation engineering; roads and pavements; airport engineering; railroad engineering; river and coastal engineering; pipeline transportation; belt conveyors; undersea transportation; transportation planning.

CIVL295 EXPERIMENTAL ENGINEERING

First session

Basic concepts, instrumentation for the measurement of temperature, pressure, stress, strain, displacement, deflection, velocity; fluid flow under static and dynamic conditions; data acquisition and analysis; error analysis; model analysis; photoelastic technique; brittle coating method.

CIVL296 EXCURSIONS 2

First or Second session

Visits to selected works and establishments.

300-LEVEL

CIVL312 CIVIL ENGINEERING DESIGN

First session
(a) Topics to be selected from: location and design of earth and rock-fill dams, pipelines. Treatment works.
(b) Design of reinforced concrete elements.

**CIVL314 STRUCTURAL DESIGN 2**

*Second session*

(a) Steel Structures - design of continuous structures; rigid mill building frames; plastic design.
(b) Concrete Structures - design of retaining walls, pre-stressed beams and slabs.
(c) Use of Computers.

**CIVL326 MECHANICS 3**

*First Session*


**CIVL327 MECHANICS 4**

*Second session*

(a) Statistical methods including Probability Theory, discrete and continuous data, probability density functions, Statistical parameters, correlation and regression analysis, sampling theory, Statistical inference, data generation using mathematical models, analysis of variance, goodness of fit tests.
(b) Numerical methods including Linear systems, differential equations, Finite difference methods.

**CIVL332 HYDRAULICS 2**

*First session*


**CIVL334 HYDRAULICS 3**

*Second session*

Water resources and climate, Precipitation processes, time and space variations of rainfall, rainfall losses, Groundwater, Hydrograph analysis, hydrograph synthesis, design flood estimation and recurrence interval, Flood routing in rivers and reservoirs, Urban drainage design, Open channel hydraulics.

**CIVL344 MATERIALS 3**

*Second session*

Non-destructive testing; properties of concrete - plastic and hardened; structure and composition; cement; aggregates; mix design; additives; concrete manufacture, field control and acceptance. Introduction to highway materials.
CIVL353 STRUCTURES 1

First session


CIVL354 STRUCTURES 2

Second session

Advanced beam theory; unsymmetrical bending; composite and curved beams; beams on elastic foundations. Limit analysis of structures. Beam-columns. Experimental structural analysis: similarity and use of models; Muller-Breslau principle.

CIVL362 SOIL MECHANICS 1

First session

Principal types of soil; mechanical analysis and index properties of soils, permeability and Darcy's law of flow; isotropic and anisotropic soil; compressibility; settlement computations; shearing resistance and conditions; shearing resistance and conditions of failure for soils; dessication of soil; flow nets and quantity of seepage; introduction to the one-dimensional theory of consolidation; simple approaches to slope stability; experimental work.

CIVL363 SOIL MECHANICS 2

Second session

Concepts of active and passive earth pressure; Rankine and Coulomb theories; earth pressures due to cohesionless and cohesive soils; bearing capacity of shallow footings, piers and piles; earth pressure against bracing in cuts; stresses beneath loaded areas; contact pressure and subgrade reaction; construction and use of Newmark's chart; cantiliever sheet piles; experimental work.

CIVL374 SURVEYING 3

Second session


CIVL397 CONSTRUCTION 3

First session

To encompass coffer dams; underpinning and dewatering systems; design of formwork, modular building.

CIVL398 EXCURSIONS 3

First or Second session

Visits to selected works and establishments.

CIVL499 PROFESSIONAL EXPERIENCE

First session
As part of the course requirements, students are required to obtain 12 weeks of approved professional experience; such experience to be obtained in the summer vacation prior to their final year, unless exempted by the Department due to the student's full-time professional employment.

**400-1 FVFI**

**CIVL401 THESIS**

Double session

Each student is required to prepare a thesis on a subject or topic approved by the Chairman of the Department.

The subject of a thesis may cover:

(a) a report of original work performed by the student in the laboratory or field;
(b) a theoretical and/or experimental investigation of a Civil Engineering problem;
(c) a set of drawings and calculations covering a Civil Engineering Design.

**PROFESSIONAL PRACTICE**

Double session

For students in full employment each year of appropriate supervised employment that is approved by the Chairman of the Department may, on request, be credited to the course. A maximum of six such units are allowed described as:

- CIVL411 Professional Practice 1
- CIVL412 Professional Practice 2
- CIVL413 Professional Practice 3
- CIVL414 Professional Practice 4
- CIVL415 Professional Practice 5
- CIVL416 Professional Practice 6

A Corporate member of the Institution of Engineers represents the organization where the Professional Practice was obtained, must examine and sign for such practice work to permit eligibility for it to be applied against the course. A report is to be submitted for each subject, the assessment and evaluation of which will be made by the Departmental Assessment Committee. Details of required format and content of reports are available from the Department of Civil and Mining Engineering.

Each elective completed will be credited at either 100-, 200-, 300- or 400-level, the credit being determined by the Chairman of Department and will be from the following list: CIVL111, 191, 192, 171, 172, 193, 142, 273, 294, 296, 397, 398, 312, 344, 487, 496, 493, 490.

**CIVL434 HYDRAULIC ENGINEERING**

Second session


**CIVL445 MATERIALS 1**

Second session

Introduction of two- and three-dimensional theory of elasticity; small deflection theory of thin plates; general theory of cylindrical and spherical shells.
CIVL455 STRUCTURES 3

Second session

Introduction to two- and three-dimensional theory of elasticity; small deflection theory of thin plates; general theory of cylindrical and spherical shells.

CIVL456 STRUCTURES 4

Second session

Finite element and finite strip methods. Structural dynamics. Computer applications. Matrix methods of analysis for skeletal structures including grillages and space frames.

CIVL464 SOIL MECHANICS 3

First session

Confined and unconfined seepage; rapid and slow drawdown in earth dams; seepage studies; excess or transient pore pressures; analysis of slopes for different conditions; comparison of limit equilibrium methods; methods for the determination of settlement; analysis of anchored sheet piles; design of footings, rafts and piles; soil exploration; experimental work.

CIVL481 ENGINEERING MANAGEMENT I

First session

Theory and practice of organisation, management and control; introduction to industrial law and law of contract; project finance and cost control methods; industrial relations; the use of human and physical resources.

CIVL486 THE CIVIL ENGINEER AND THE ENVIRONMENT

First session

Economic and social evaluation of engineering projects. The interdependence of the roles of the Civil Engineer and Architect, with their responsibilities to the community.

Problems of development and use of resources. Excess waste material. Air pollution, water pollution and noise. Case studies of Civil engineering works, e.g. freeway construction, irrigation vs. flood mitigation, development of unstable areas.

CIVL487 TOWN PLANNING

First session

Urbanisation past and present. The modern city in its regional context. Planning processes and techniques. Plans and planners; planning law and administration in New South Wales.

CIVL488 TRAFFIC AND TRANSPORT SYSTEMS

Second session

Theory of traffic flow; traffic management schemes; accident studies; congestion; transport planning; transportation studies; competing transport modes.
CIVL490 EXCURSIONS 4

First or Second session
Visits to selected works and establishments.

CIVL491 COMPUTER APPLICATIONS

Second session
The writing and use of problem orientated computer languages such as STRUDL, PROJECT, TOPOLOGY, MOVIE.

CIVL493 PUBLIC HEALTH ENGINEERING

First session

CIVL495 GEOLOGY FOR CIVIL ENGINEERS

Second session

CIVL496 ROADS ENGINEERING

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

CIVL497 INTRODUCTORY MODERN LANGUAGES

First session
Depending upon the availability, the subject offered will be selected from: French, Italian, Chinese, Bahasa Indonesian, Japanese, Russian.
Normal Structure and Study Patterns

In the operation of the course, subjects are scheduled so that it may be completed within a period of 8 to 16 sessions (4 to 8 years). Two suggested patterns are shown. If professional experience is to be recognised, students must have approval from the Departmental Chairman.

Professional Electives

Students in approved full-time employment may become eligible to include the subjects of Professional Practice in their programme as electives. The inclusion of such work will enable students to complete the course under pattern (II). Students wishing to be eligible to attain Honours Class I or Class II can only credit a maximum of 1 Professional elective and will be required to select alternative 300 or 400 level electives.

Professional Experience

As part of the course requirements, students are required to obtain 12 weeks of approved professional experience; such experience to be obtained in the summer vacation prior to their final year, unless exempted by the Department due to the student's full-time professional employment.

Excursions form an integral part of the course and are mandatory.

Assessment

All subjects offered for the degree of Bachelor of Engineering in Mining Engineering normally are assessed by means of a final examination. Set project work, laboratory reports and tutorial assignments may be taken into account in this assessment.

BACHELOR OF ENGINEERING - MINING ENGINEERING

Suggested Pattern I: Taken over 8 Sessions

YEAR 1 OF ATTENDANCE

<table>
<thead>
<tr>
<th>Session 1</th>
<th>Hours per Week</th>
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<tbody>
<tr>
<td>METL106</td>
<td>Engineering Materials I</td>
</tr>
<tr>
<td>CIVL122</td>
<td>Mechanics &amp; Structures</td>
</tr>
<tr>
<td>MATH187</td>
<td>Mathematics IA Part I</td>
</tr>
<tr>
<td>CIVL171</td>
<td>Surveying I</td>
</tr>
<tr>
<td>CHEM101</td>
<td>Chemistry IA</td>
</tr>
<tr>
<td>PHYS120</td>
<td>Fundamentals of Electricity and Magnetism</td>
</tr>
<tr>
<td>CIVL172</td>
<td>Survey Camp</td>
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<tr>
<th>Session 2</th>
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<tbody>
<tr>
<td>CIVL111</td>
<td>Introduction to Design</td>
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<tr>
<td>CIVL123</td>
<td>Dynamics</td>
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<tr>
<td>MATH188</td>
<td>Mathematics IA Part 2</td>
</tr>
<tr>
<td>CIVL142</td>
<td>Materials I</td>
</tr>
<tr>
<td>CIVL193</td>
<td>Excursions I</td>
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<tr>
<td>CIVL192</td>
<td>Construction I</td>
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<tr>
<td>PHYS120</td>
<td>The Physics of Waves and Particles</td>
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<tr>
<td>CIVL191</td>
<td>Building Construction</td>
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</table>
### Year 2 of Attendance

**Session 3**
- **ELEC296** Applied Electricity IA*  3
- **CIVL281** Computational Techniques I  5
- **CIVL225** Mechanics I  3
- **CIVL295** Experimental Engineering  3
- **CIVL251** Strength of Materials I  3
- **CIVL296** Excursions 2  -
- **GEOL252** Geology for Engineers I  6
- **CIVL273** Surveying 2  3

**Session 4**
- **ELEC297** Applied Electricity IB*  3
- **CIVL282** Computational Techniques 2  5
- **CIVL226** Mechanics 2  3
- **CIVL231** Hydraulics 1  3
- **CIVL243** Materials 2  3
- **CIVL213** Structural Design 1  4
- **MINE231** Construction Operations  3

### Year 3 of Attendance

**Session 5**
- **CIVL332** Hydraulics 2  3
- **GEOL352** Geology for Engineers II  6
- **METL302** The Materials Industries I  3
- **METL387** Mineral Processing  3
- **MINE371** Mining Methods and Ventilation  3
- **MINE372** Transportation  3

**Session 6**
- **MECH241** Thermodynamics I*  3
- **MINE342** Surveying (Mining)  3
- **MINE364** Management of Mining Projects  2
- **MINE365** Simulation of Mining Operations  6
- **MINE366** Mining Equipment  2
- **MINE367** Mine Resources  2
- **MINE368** Environmental Control  3
- **MINE314** Professional Practice 4  -

### Year 4 of Attendance

**Session 7**
- **MINE491** Thesis  6
- **CIVL481** Engineering Management I  3
- **MINE474** Mining Projects and Reports  3
- **CIVL362** Soil Mechanics I  3
- **MINE471** Power and Control  3
- **MINE473** Regulations and Safety  3

*Subject marked with an asterisk are electives. The total number of electives required is normally more than 4, being one at 200-level, one at 300-level and two at 400-level (ELECT296 and ELEC297 together count as one 200-level elective).
### Session 8

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<tr>
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<tr>
<td>MECH491</td>
<td>Professional Orientation</td>
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<tr>
<td>MINE472</td>
<td>Rock Mechanics and Explosives</td>
<td>3</td>
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<tr>
<td>CIVL363</td>
<td>Soil Mechanics 2*</td>
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<td>CIVL488</td>
<td>Traffic Engineering and Transportation*</td>
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#### 200-level Electives *

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<tr>
<td>ELEC297</td>
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<tr>
<td>ECON111</td>
<td>Economics II</td>
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#### 300-level Electives *

(May also be taken as 400-level)

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<tr>
<td>MECH241</td>
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<tr>
<td>ECON215</td>
<td>Microeconomics</td>
<td>3</td>
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<tr>
<td>CIVL491</td>
<td>Computer Applications</td>
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<tr>
<td>GEOG202</td>
<td>Urban Location and structure</td>
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#### 400-level Electives *

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<tr>
<td>CIVL486</td>
<td>The Civil Engineer and the Environment</td>
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<td>GEOL336</td>
<td>Geophysics</td>
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<tr>
<td>GEOL337</td>
<td>Structural Geology and Mathematical Geology</td>
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<tr>
<td>ECON312</td>
<td>Industrial Economics</td>
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</table>

### Suggested Pattern 2: Taken over 10 Sessions

Subject to staff and facilities being available, the arrangement of this course will be as shown below. It is possible that there may be variations of the Session in which the subjects are shown to be offered.

#### Session 1

<table>
<thead>
<tr>
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<td>The Physics of Waves and Particles</td>
<td>3</td>
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<tr>
<td>CIVL193</td>
<td>Excursions I</td>
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<tr>
<td>CIVL192</td>
<td>Construction I</td>
<td>3</td>
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<tr>
<td>CIVL191</td>
<td>Building Construction</td>
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### Session 5

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ELEC296</td>
<td>Applied Electricity IA*</td>
<td>3</td>
</tr>
<tr>
<td>CIVL281</td>
<td>Computational Techniques 1</td>
<td>5</td>
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<tr>
<td>CIVL225</td>
<td>Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>CIVL295</td>
<td>Experimental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIVL251</td>
<td>Strength of Materials I</td>
<td>3</td>
</tr>
<tr>
<td>GEOL252</td>
<td>Geology for Engineers I</td>
<td>6</td>
</tr>
<tr>
<td>CIVL273</td>
<td>Surveying I</td>
<td>3</td>
</tr>
<tr>
<td>CIVL296</td>
<td>Excursions 2</td>
<td>-</td>
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### Session 6

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<th>Course Code</th>
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<tbody>
<tr>
<td>ELEC297</td>
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<tr>
<td>CIVL282</td>
<td>Computational Techniques 2</td>
<td>5</td>
</tr>
<tr>
<td>CIVL226</td>
<td>Mechanics 2</td>
<td>3</td>
</tr>
<tr>
<td>CIVL231</td>
<td>Hydraulics I</td>
<td>3</td>
</tr>
<tr>
<td>CIVL243</td>
<td>Materials 2</td>
<td>3</td>
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<tr>
<td>CIVL213</td>
<td>Structural Design I</td>
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<tr>
<td>MINE231</td>
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### Session 7

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<tr>
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<tr>
<td>CIVL332</td>
<td>Hydraulics 2</td>
<td>3</td>
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<tr>
<td>GEOL352</td>
<td>Geology for Engineers II</td>
<td>6</td>
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<tr>
<td>METL302</td>
<td>The Materials Industries I</td>
<td>3</td>
</tr>
<tr>
<td>METL387</td>
<td>Mineral Processing</td>
<td>3</td>
</tr>
<tr>
<td>MINE371</td>
<td>Mining Methods and Ventilation</td>
<td>3</td>
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<tr>
<td>MINE372</td>
<td>Transportation</td>
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### Session 8

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<tbody>
<tr>
<td>MECH241</td>
<td>Thermodynamics I*</td>
<td>3</td>
</tr>
<tr>
<td>MINE342</td>
<td>Surveying (Mining)</td>
<td>3</td>
</tr>
<tr>
<td>MINE364</td>
<td>Management of Mining Projects</td>
<td>2</td>
</tr>
<tr>
<td>MINE365</td>
<td>Simulation of Mining Operations</td>
<td>6</td>
</tr>
<tr>
<td>MINE366</td>
<td>Mining Equipment</td>
<td>2</td>
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<tr>
<td>MINE367</td>
<td>Mine Resources</td>
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<td>MINE368</td>
<td>Environmental Control</td>
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### Session 9

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<tbody>
<tr>
<td>MINE491</td>
<td>Thesis</td>
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<tr>
<td>CIVL481</td>
<td>Engineering Management I</td>
<td>3</td>
</tr>
<tr>
<td>MINE473</td>
<td>Regulations and Safety</td>
<td>3</td>
</tr>
</tbody>
</table>

*Subjects marked with an asterisk are electives. The total number of electives required is normally more than 4, being one at 200-level, one at 300-level and two at 400-level (ELEC296 and ELEC297 together count as one 200-level elective).
### Description of Subjects - Civil & Mining Engineering

<table>
<thead>
<tr>
<th>Subject Code</th>
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<tbody>
<tr>
<td>CIVL362</td>
<td>Soil Mechanics 1</td>
<td>3</td>
</tr>
<tr>
<td>MINE471</td>
<td>Power and Control</td>
<td>3</td>
</tr>
<tr>
<td>MINE474</td>
<td>Mining Projects and Reports</td>
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</tr>
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#### Session 10

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<tr>
<td>MINE491</td>
<td>Thesis</td>
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<tr>
<td>MECH491</td>
<td>Professional Orientation</td>
<td>3</td>
</tr>
<tr>
<td>CIVL363</td>
<td>Soil Mechanics 2</td>
<td>3</td>
</tr>
<tr>
<td>CIVL488</td>
<td>Traffic Engineering and Transportation *</td>
<td>3</td>
</tr>
<tr>
<td>MINE472</td>
<td>Rock Mechanics and Explosives</td>
<td>3</td>
</tr>
</tbody>
</table>

#### 200-level Electives *

- ELEC296  Applied Electricity IA  3
- ELEC297  Applied Electricity IB  3
- ECON111  Economics II  3

#### 300-level Electives *

(May also be taken as 400-level)

- MECH241  Thermodynamics 1  3
- ECON215  Microeconomics  3
- CIVL491  Computer Applications  
- GEOG202  Cities and Urban Systems  

#### 400-level Electives *

- CIVL363  Soil Mechanics 2  3
- CIVL486  The Civil Engineer and the Environment  3
- CIVL493  Public Health Engineering  3
- CIVL491  Computer Applications  3
- CIVL488  Traffic and Transport Systems  3
- CIVL496  Roads Engineering  3
- CIVL464  Soil Mechanics 3  3
- GEOL334  Economic Geology  6
- GEOL336  Geophysics  6
- GEOL337  Structural Geology and Mathematical Geology  6
- MINE111  Professional Practice 1  
- MINE112  Professional Practice 2  
- MINE213  Professional Practice 3  
- MINE314  Professional Practice 4  
- MINE415  Professional Practice 5  
- MINE416  Professional Practice 6  
- GEOL225  Resource Geology  6
- ECON312  Industrial Economics  3

### 100-Level

**MINE111 Professional Practice 1**

Satisfactory experience gained whilst in full employment for one year in the Mining Industry. A report is to be submitted, the assessment and evaluation of which will be made by the Departmental Assessment Committee.

*Subjects marked with an asterisk are electives. The total number of electives required is normally more than 4, being one at 200-level, one at 300-level and two at 400-level (ELEC296 and ELEC297 together count as one 200-level elective).*
MINE112 PROFESSIONAL PRACTICE 2

Satisfactory experience gained whilst in full employment for one year in the Mining Industry. A Corporate member of the Institution of Engineers representing the organisation where the Professional Practice was obtained, must examine and sign for such Practice work for it to be applied against the course. A report is to be submitted for each subject, the assessment and evaluation of which will be made by the Departmental Assessment Committee.

200-LEVEL

MINE213 PROFESSIONAL PRACTICE 4

Satisfactory experience gained whilst in full employment for one year in the Mining Industry. A Corporate member of the Institution of Engineers representing the organisation where the Professional Practice was obtained, must examine and sign for such Practice work for it to be applied against the course. A report is to be submitted for each subject, the assessment and evaluation of which will be made by the Departmental Assessment Committee.

MINE231 CONSTRUCTION OPERATIONS

Second session


300-LEVEL

MINE314 PROFESSIONAL PRACTICE 4

Satisfactory experience gained whilst employed full-time in the Mining Industry during the long vacation. A Corporate member of the Institute of Engineers representing the organisation where the Professional Practice was obtained, must examine and sign for such Practice work. A report is to be submitted, the assessment and evaluation of which will be made by the Departmental Assessment Committee.

MINE342 SURVEYING (MINING)

Second session

Aerial photogrammetry: vertical photographs; stereoscopy; radial-line triangulation. Photographic interpretation. Correlation of surface and underground surveys: shaft plumbing; underground traversing; gyro-Theodolite; optical plumbing. Spheroidal co-ordinates and projections. Integrated Survey Grid.

MINE362 MINE PROCESS ENGINEERING

First session


MINE364 THE MANAGEMENT OF MINING PROJECTS

Second session

The establishment of mines, including their organisation, control, costing and human relations. The operation of mines and their management.
MINE365 SIMULATION OF MINING OPERATIONS
Second session
Simulation by digital computer of the complete operation of a mine including methods of mining, equipment and transport.

MINE366 MINING EQUIPMENT
Second session
Modern equipment used, including that for drilling, blasting, tunnelling, mining, loading, transport, longwall mining, roof support and control, on-line computer control of mining equipment.

MINE367 MINE RESOURCES
Second session

MINE368 ENVIRONMENTAL CONTROL
Second session
The economic and social evaluation of mining projects. The role of the Mining Engineers and their responsibilities to the community.

MINE371 MINING METHODS AND VENTILATION
First session
A technical introduction to Mining Engineering, classification of mining methods and mining environments. Ventilation of mines, fans, and network analysis; computer simulation and project work. Thermodynamics of mine ventilation, heat in mines, its physiological and psychological effects, appropriate regulations. Inspection of local mines.

MINE372 TRANSPORTATION
First session

400-LEVEL

MINE415 PROFESSIONAL PRACTICE 5
Double session
Satisfactory experience gained whilst employed full-time in the Mining Industry. A corporate member of the AUS.I.M.M. or I.E.(Aust) representing the organisation where the Professional Practice was obtained, must examine and sign for such Practice work. A report is to be submitted, the assessment and evaluation of which will be made by the Departmental Assessment Committee.

MINE416 PROFESSIONAL PRACTICE 6
Double session
Satisfactory experience gained whilst employed full-time in the Mining Industry. A Corporate member of the AUS.I.M.M. or I.E.(Aust) representing the organisation where the Professional Practice was obtained, must examine and sign for such Practice work. A report is to be submitted, the assessment and evaluation of which will be made by the Departmental Assessment Committee.

MINE471 POWER AND CONTROL

First session


MINE472 ROCK MECHANICS AND EXPLOSIVES

Second session

Properties of rocks, failure theories, rock structures, stress and failure in rock about excavations and classification of explosives, theories of detonation and blasting. Rock fragmentation. Damage to structures, regulations. Inspections.

MINE473 REGULATIONS AND SAFETY

First session


MINE474 MINING PROJECTS AND REPORTS

First session

Preparation and writing reports on technical aspects of mining operations, including sociological, environmental and impact studies. Visits to underground and open-cut mines.

Double session

Each student is required to prepare a thesis on a subject or topic approved by the Chairman of the Department. The subject of a thesis may cover:

(a) a report of original work performed by the student in the laboratory or field;
(b) a theoretical and experimental investigation of a Mining Engineering problem;
(c) a set of drawings and calculations covering a Mining Engineering design.
Courses offered by the Computing Science Department may be included in the Bachelor of Mathematics, the Bachelor of Science, Bachelor of Commerce (Accountancy) or the Bachelor of Arts degrees. The Computing Science Department offers:

(i) a main-stream sequence of subjects for students who intend to study a major sequence in computing science. Currently available main-stream subjects are:

CSCI101, CSCI201, CSCI331, CSCI333, CSCI312, CSCI321

(ii) service subjects for students of other disciplines who require some knowledge of computing science. The currently available service subjects are:

CSCI233
CSCI313 (for Bachelor of Commerce (Accountancy))

(iii) honours and graduate courses in computing science.

A student wishing to obtain a Bachelor of Mathematics degree with a major sequence in Computing Science must obtain at least 36 credit points at 300-level of which at least 24 credit points must be from subjects offered by the Department of Computing Science.

The only additional requirement relating to compulsory subjects for the degree of Bachelor of Mathematics is that a student must take:

*either* at least 84 credit points of subjects selected from Schedule F,

*or* 72 credit points from Schedule F (24 of which must form a substantial and coherent study at the 300-level) provided a further minimum of 48 credit points are taken from subjects offered by or on behalf of one other department of the university (24 of which must form a substantial and coherent study at the 300-level).

**Schedule Entries**

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A. Subjects which also appear in other schedules are:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Schedules</th>
</tr>
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<tbody>
<tr>
<td>CSCI101</td>
<td>B12 &amp; F</td>
</tr>
<tr>
<td>CSCI201</td>
<td>B12 &amp; F</td>
</tr>
<tr>
<td>CSCI233</td>
<td>D &amp; F</td>
</tr>
<tr>
<td>CSCI222</td>
<td>F</td>
</tr>
<tr>
<td>CSCI331</td>
<td>B12 &amp; F</td>
</tr>
<tr>
<td>CSCI333</td>
<td>B12 &amp; F</td>
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<tr>
<td>CSCI334</td>
<td>B12 &amp; F</td>
</tr>
<tr>
<td>CSCI312</td>
<td>B12 &amp; F</td>
</tr>
<tr>
<td>CSCI321</td>
<td>B12 &amp; F</td>
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<tr>
<td>CSCI313</td>
<td>B12 &amp; F</td>
</tr>
<tr>
<td>CSCI401</td>
<td>F</td>
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</tbody>
</table>

**Textbooks**

Students will be advised of the appropriate textbooks for each subject in the first lecture of the subject. In all cases the lecturer should be consulted before textbooks are purchased.
Method of Assessment

Unless otherwise indicated all subjects offered by the Department of Computing Science will be assessed by a combination of formal examinations, class tests and assignments.

Coherent Study in Computing Science

The 24 credit points of substantial and coherent study at the 300-level in Computing Science referred to in the Bachelor Degree Regulations 16.2, 20A.2.2 and 20A.3.1 comprise:

- CSCI331 Advanced Data Structures
- CSCI333 Compiler Basics
- CSCI312 Operating Systems
- CSCI321 Software Project

100-LEVEL

CSCI101 COMPUTING SCIENCE I

Double session; 12 credit points (3 lectures and 3 hrs laboratory per week)

The objectives of this subject are to provide a foundation for subsequent computing science studies and to develop basic skills in problem-solving, algorithm design and programming style.

The fundamental concepts of programming are presented using Pascal as the implementation language. Students are taught to use effectively the software tools available under the UNIX operating system in the solution of problems.

Tools - introduction to the programming language Pascal; system utilities, file handling and text editing; fundamentals of computer operation; fundamental algorithms for searching, sorting, plotting, string handling and non-numeric computing.

Laboratory Work - the computing science laboratory is equipped with a Perkin Elmer 3220 computer with 30 VDU terminals under the UNIX operating system. Assignments will include use of the system utilities, problem solving, algorithm design, coding, debugging, testing and documenting programs.

TEXTBOOKS


CSCI201 COMPUTING SCIENCE II

Double session; 12 credit points (3 lectures, 1 tutorial and 2 hrs laboratory work per week)

The objectives of this subject are to develop problem-solving skills and programming style so that non-trivial problems of moderate size can be solved quickly, correctly and with confidence. Emphasis will be placed on developing well-designed, well-structured, and well-documented programs that are demonstrably correct. Skill in analysing algorithms will also be developed.

The content is as follows:

(a) Methods - program verification techniques, analysis of algorithms, factoring methods, sorting and searching, text processing, dynamic data structures, recursion, combinatorial algorithms and dynamic programming.
DESCRIPTION OF SUBJECTS · COMPUTING SCIENCE

(b) Tools - advanced Pascal together with assembly language programming and debugging techniques will be discussed.

TEXTBOOKS


CSCI222 SOFTWARE ENGINEERING

*Single session; 6 credit points (2 lectures and 2 tutorials per week)*

The objective of this subject is to introduce students to the design and development of large programs and systems.

Topics to be covered will include:

(a) Problem analysis, system description and specification, and design methodology.
(b) Modular programming, software quality.
(c) Structured walkthroughs, team programming, error handling and automated testing.
(d) Documentation tools such as Nassi-Schneiderman flowcharts, structure diagrams, state space diagrams, Wainer Diagrams, HIPO.

The design of a large system will be worked through in tutorials and design of a complete programme will be set as an assignment.

TEXTBOOK


CSCI233 FUNDAMENTALS OF COMPUTING

*Single session; 6 credit points (2 lectures + 2 hrs practical/tutorial per week)*

The objectives of this subject are to provide students with a foundation in computing by developing basic skills in problem-solving, algorithm design and programming style, and familiarizing them with the computing facilities available to them in pursuing their other subjects.

The fundamental concepts of programming are presented using FORTRAN 77 as the implementation language. Students are taught to use effectively the software tools available under the UNIVAC EXEC-8 operating system in the solution of problems.

Tools - introduction to the FORTRAN 77 programming language; system utilities, file handling and text editing; fundamentals of computer operation; algorithms applicable to general situations in common subjects.

Laboratory work - students will be given practical work involving the use of terminals, the UNIVAC operating system and system facilities with particular reference to the editor and will be given practice in reading, designing and writing algorithms and in development techniques and debugging of programs. The selection of examples will be from a wide range of subject areas.

CSCI312 OPERATING SYSTEMS

*Single session; 6 credit points (3 lectures, 1 tutorial)*
The objectives of this subject are to provide an intermediate study of operating system concepts and to show the realization of these concepts in UNIX and other operating systems.

The topics to be studied will include sequential and concurrent processes, synchronisation of independent processes, memory management, scheduling algorithms, resource allocation and file systems.

TEXTBOOK

CSCI313 BUSINESS DATA PROCESSING

*Second Session; 6 credit points (3 lectures per week)*

The objectives of this subject are to introduce students to techniques applicable to business data processing and to the solution of non-trivial problems using the programming language COBOL.

The topics to be studied will include: sequential, random and indexed files; sorting procedures - internal and external; multilanguage systems; data bases and data base management systems; the programming language COBOL and programming techniques applied to COBOL, and other business languages.

Students will be required to complete a number of practical assignments.

TEXTBOOK

CSCI321 SOFTWARE PROJECT

*Single session; 6 credit points (1 lecture)*

The objective of this subject is to develop the student's ability to handle the definition, design, programming and documentation of a non-trivial software project. The content is as follows:

(a) A list of projects is provided and students may select one or nominate an alternative topic subject to departmental approval.

(b) Tools: the programming language C and the NROFF text processing facility.

TEXTBOOK

CSCI331 ADVANCED DATA STRUCTURES

*Double session; 6 credit points (2 lectures per week)*

The objectives of this subject are to introduce students to abstract data structures and their representation in terms of high level programming languages. Problem solving will be clarified by dividing it into two stages:

(a) The design of abstract data structures together with the primitive operations relevant to the problem.

(b) The translation of these abstract data structures and algorithms into the
fundamental data structures and functions of a specific programming language.

Topics to be covered will include: Axiomatic definition of data structures; restricted data structures: stack, queue deque with applications; linked storage allocation; graphs and trees together with algorithms for manipulation; data access: symbol tables, search trees, hash coding; retrieval trees, inverted files.

Students will be required to complete a number of practical assignments.

CSCI333 COMPILER BASICS

*Double session; 6 credit points (2 lectures per week)*

The objectives of this subject are to introduce students to the basic theories of compiler and interpreter construction.

The topics to be studied will include: lexical analysis, parsing techniques, runtime system, code generation, optimization, symbol-tables and error detection.

Students will be required to complete a number of practical assignments.

*TEXTBOOK*


CSCI334 MICROCOMPUTERS

*Double session; 6 credit points (2 lectures per week)*

The objectives of this subject are to study in detail computer architecture as applied to microprocessors and the interaction between software and the hardware on which it runs with particular emphasis on programmable interface circuits.

Topics to be covered will include: structure of computers, processor architecture, microprocessors, memory, instruction sets, microcomputer programming, number systems, codes, logic, peripheral interfaces, interface drivers, data collection devices, communication protocol.

Students will be required to complete a number of practical assignments.

*TEXTBOOK*


CSCI401 COMPUTING SCIENCE IV (HONOURS)

*Double session; 48 credit points*

The honours programme is designed to develop a deeper understanding of Computing Science and to provide practical experience in at least one application area.

The Honours degree in Computing Science is achieved by the successful completion of a full year of comprehensive study following a pass degree. The minimum requirement for entry into the honours programme is the completion of a substantial and coherent course in Computing Science at the 300-level with examination results significantly above pass level.

A student taking honours would normally take a selection of Computing Science and/or Mathematics topics at fourth year level (subject to approval by the Chairman of the Department) and undertake a substantial programming project supervised by a member of departmental staff.

**CSCI411 COMPUTING SCIENCE HONOURS SEMINAR**

*Double session; 12 credit points*

The Honours Seminar, which is available as a separate subject for Master of Science or Diploma in Computing Science candidates only, requires the undertaking of a reading course in an appropriate field of study and the presentation of a research report as well as a seminar to the Department of Computing Science.

Assessment of the honours seminar will only be on the quality of the research report and of the seminar and will be made by the relevant departmental staff.
ECONOMICS

Schedule Entries

Refer to the schedule entries for further details, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A. All 100-, 200- and 300-level subjects are also included in Schedule B. Subjects which also appear in other schedules are:

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<thead>
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<th>Subject</th>
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<tbody>
<tr>
<td>ECON111</td>
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<td>ECON215</td>
<td>C</td>
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<tr>
<td>ECON312</td>
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100-LEVEL

ECON101 ECONOMICS I

First session; 6 credit points (3 lectures, 1 tutorial per week)
Assessment: Examinations, essays, tutorial assignments

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.

TEXTBOOKS


ECON111 ECONOMICS II

Second session; 6 credit points (3 lectures, 1 tutorial per week)
Assessment: Assignments, essays, examinations

An introduction to microeconomics and its application to contemporary social and economic problems. Elementary economic theory and the necessary institutional framework will be developed to foster the analysis of such topics as consumer protection, poverty, industry policy, non-renewable resources, education and health care.

TEXTBOOKS


ECON121 QUANTITATIVE METHODS I

First session; 6 credit points (3 lectures, 1 tutorial per week)
Assessment: Examinations and assignments

An introduction to quantitative techniques and their application to economics and business. Topics will include algebraic functions and economic relationships, linear economic models and matrix algebra, and introductory statistics. The statistics covered will include descriptive statistics, probability, sampling and hypothesis testing.
DESCRIPTION OF SUBJECTS - ECONOMICS 271

TEXTBOOKS


ECON122 QUANTITATIVE METHODS II

Second session; 6 credit points (3 lectures, 1 tutorial per week)
Assessment: Examinations and assignments

Application of calculus and statistics to economics and business. Topics will include the derivative, partial derivatives, integral calculus, analysis of variance, regression and correlation analysis, and multiple regression. Treatment of these topics enables the student to gain familiarity with the use of computer packages for estimation and analysis.

TEXTBOOKS


200-LEVEL

ECON205 MACROECONOMICS

First session; 8 credit points (3 class hours: 2 lectures, 1 tutorial per week)
Assessment: Assignments, essay, examinations

This is the second core subject in the Macroeconomics stream which begins in first year with Economics I and continues to Public Finance. The aim of the subject is development of monetary analysis. The latter stages of the course use this analysis in conjunction with product market analysis to examine the role of money and how it may influence economic activity. The topics covered are introduction to financial institutions as they relate to money supply and money demand, money supply theory, theories of the demand for money and the tools and techniques of monetary policy.

TEXTBOOKS


ECON206 PUBLIC FINANCE

Second session; 8 credit points (2 lectures, 1 tutorial per week)
Assessment: Examinations, essays, and tutorial assignments

The subject is designed to provide an introduction to PUBLIC FINANCE, with special reference to Australia. An analysis of the theoretical issues involved in equity, efficiency and incidence of taxes is used as a basis for an analysis of different types of tax bases. Income tax, company tax, sales taxes, land taxes, turnover taxes, consumption taxes, value added tax and capital gains taxes are all examined. Non tax sources of revenue are also examined as is the Public Debt. Particular attention will be paid throughout to the Australian situation and in particular the effects of the Federal system on Australian Public Finance will be considered.
Public expenditure will also be studied, with particular emphasis on the welfare effects of government expenditure. Questions about the type of goods and services which the government might provide and the size of the government sector will also be examined. The effects of social welfare expenditure and other expenditures on the distribution of income will also be studied.

**TEXTBOOKS**


**ECON215 MICROECONOMICS**

*First session; 8 credit points (2 lectures, 1 tutorial/seminar per week)*

*Assessment*: Examination and written assignments

This subject provides a comprehensive survey of contemporary microeconomics. Neo-classical theory is studied in depth, evaluated and compared with institutional, behaviourist and Marxian approaches. Topics will include the theories of consumer choice and the firm, commodity and factor markets, general equilibrium and welfare economics.

**TEXTBOOK**


**ECON216 INTERNATIONAL ECONOMICS**

*Second session; 8 credit points (2 lectures, 1 hr tutorial per week)*

*Assessment*: Tutorial exercises, essays and examinations

This subject extends the study of international economy in the following areas: the structure and pattern of international trade and income levels; the analysis of resource allocation; protection; factor transfers; the foreign exchange market; the balance of payments and its implications in macroeconomic analysis; the international monetary system.

Australian international economic relations will have special attention.

**TEXTBOOKS**


**ECON225 QUANTITATIVE ANALYSIS FOR DECISION MAKING - A**

*First session; 8 credit points (2 lectures, 1 tutorial per week)*

*Assessment*: Assignments, term project, examinations.

Analysis of the role of quantitative analysis in the decision-making process. A variety of problem-solving techniques will be studied with emphasis on their practical application. Topics will include linear programming, inventory and queuing models, scheduling and Markov chains.

**TEXTBOOK**

ECON226 QUANTITATIVE ANALYSIS FOR DECISION MAKING - B

Second session; 8 credit points (2 lectures, 1 tutorial per week)
Assessment: Assignments, term project, examinations

Analysis of the role of quantitative analysis in the decision-making process. A variety of problem-solving techniques will be studied with emphasis on their practical application. Topics will include decision and game theory, cost-benefit analysis, forecasting techniques, risk analysis and computer simulation.

TEXTBOOK

ECON227 MEASUREMENT OF ECONOMIC VARIABLES AND INPUT/OUTPUT ANALYSIS

First session; 8 credit points (2 lectures, 1 tutorial per week)
Assessment: Assignments, term project, examinations

This subject first examines the concepts and problems associated with the measurement of micro and macro economic variables. Topics will include national income and flow-of-funds accounts, sources of data, problems of collection and aggregation, and measures of economic welfare. Secondly, input-output economics will be studied along with applications to structural analysis, forecasting, economic development and growth, and regional economics.

TEXTBOOKS

300-LEVEL

ECON302 COMPARATIVE ECONOMIC SYSTEMS

First session; 8 credit points (3 lectures per week)
Assessment: Continuous assessment based on 2 essays, a mid-term and a final examination


TEXTBOOK

ECON303 ECONOMIC DEVELOPMENT ISSUES

8 credit points (2 lectures, 1 tutorial per week)
Assessment: Examinations, essays, tutorial assignments

The subject concentrates on the study of those factors which characterise under-development. Particular emphasis is placed on the institutional aspects of under-development 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; industrialisation (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, as well as international factors such as the North-South dialogue.

TEXTBOOK
Meier, G.M. Leading Issues in Economic Development. O.U.P.

ECON304 ECONOMIC POLICY
Second session; 8 credit points (3 hrs per week: lecture, organised group work and seminar)
Assessment: Assignments, class work and examinations

This is a study of the objectives of economic 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.

ECON305 ECONOMIC DEVELOPMENT PLANNING
Second session; 8 credit points (2 hrs lectures, 1 hr tutorial per week)
Assessment: Assignments, essays and examinations

This subject emphasises techniques of development planning, and deals with the following topics: models of development and development strategy; programming; project evaluation; budgeting; planning organisation; development plans of some less-developed countries.

TEXTBOOKS

ECON306 INTERNATIONAL TRADE
8 credit points (2 hrs lectures, 1 hr tutorial per week)
Assessment: Assignments, essays and examinations

This subject examines the theory and application of trade policies. It will include protection by tariff and other means, foreign investment, foreign aid, and customs union.

ECON307 INTERNATIONAL MONETARY ECONOMICS
8 credit points (2 lectures, 1 tutorial per week)
Assessment: Examinations, essays, assignments, seminars

The subject is a study of monetary aspects of International Economics. Balance of payments, theory and policies for internal and external balance will be included, and special attention will be given to international monetary arrangements developed in the post-war period.

ECON308 LABOUR ECONOMICS
First session; 8 credit points (3 hrs lectures/seminars per week)
Assessment: Continuous assessment comprising essays/assignments/examinations

A study of the labour market and the factors influencing the supply and demand for labour will be the basis for the subject. Wages theory will be discussed as well as Australian practice. The effects of changes in technology on the work-
force will be discussed as well as ways of accommodating such changes.

**TEXTBOOKS**


**ECON311 NATURAL RESOURCE ECONOMICS**

*Second session; 8 credit points (1 lecture and 2 seminars per week)*

**Assessment:** Seminar papers

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 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.

**TEXTBOOK**


**ECON312 INDUSTRIAL ECONOMICS**

*Second session; 8 credit points (1 lecture, 1 seminar, 1 tutorial per week)*

**Assessment:** Examinations and written assignments

A study of factors affecting production and productivity, with particular regard for 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 decisions on prices, employment, investment, innovation, output and income distribution.

**TEXTBOOKS**

Shepherd, W.G. *The Economics of Industrial Organisations*. Prentice-Hall.

**ECON313 TRANSPORT ECONOMICS**

*First session; 8 credit points (2 lectures, 2 tutorials, fieldwork)*

**Assessment:** 1 examination, research report, seminar papers/essay

This subject considers the significance of transport systems in structuring spatial patterns. It 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.

It also deals with techniques for network analysis, optimizing flows in networks and related methodology.

**ECON314 URBAN AND REGIONAL ECONOMICS**

*8 credit points (3 lectures per week)*

**Assessment:** Continuous assessment based on 2 essays, a mid-session and a final examination

Presentation of a general theory or Urban and Regional economic growth. Analysis
276 DESCRIPTION OF SUBJECTS - ECONOMICS

of inter-urban and inter-regional disparities in levels of unemployment, income, migration and population growth. Examination of evidence relating to the economic costs of such disparities. Analysis of government policies for control of the spatial distribution of economic activities. Examination of the effectiveness of such policies.

Detailed consideration is given to material relating to the Australian economy, and brief consideration to material relating to various other market and command economies.

ECON315 APPLIED MICROECONOMICS

First session; 8 credit points (2 lectures, 1 tutorial per week)
Assessment: Examinations and assignments

Microeconomics applied to a variety of topics and social problems. The areas of application studied vary from year to year but include such topics as the economics of health care, education, working women, migration, the arts and crime.

ECON316 HISTORY OF ECONOMIC THOUGHT

First session; 8 credit points (2 lectures, 1 seminar per week)
Assessment: Examinations and written assignments

A subject designed to introduce students to the main developments in economic theory from the 17th to 20th centuries. Internal changes in theories, relationships between successive theories and external influences on this development will be examined. External influences to be considered will include not only historical events but also contemporary climates of opinion. Students will be expected to read widely in both primary and secondary sources.

TEXTBOOKS

Either


or


ECON321 ECONOMETRICS

First session; 8 credit points (2 lectures, 1 tutorial per week)
Assessment: Assignments, term project, examinations

The subject will be an introduction to the use of multiple regression in economic analysis. The major concern will be with the estimation of single equations. A theoretical framework for the second session subject Econometric Models is provided.

TEXTBOOK


ECON322 MATHEMATICAL ECONOMICS

8 credit points (2 lectures, 1 tutorial per week)
Assessment: Assignments, examinations

Mathematical treatment of economic topics such as market equilibrium; welfare economics; and basic macroeconomic models.
ECON323 ECONOMETRIC MODELS

Second session: 8 credit points (2 lectures, 1 tutorial per week)
Assessment: Assignments, term project, examinations

This subject will complete the series in Econometrics. It will be an applied subject in evaluating and building of Econometric Models. Single equation, recursive and simultaneous models will be considered.

TEXTBOOK

ECON331 LABOUR-MANAGED SYSTEMS

Second session: 8 credit points (2 lectures, 1 tutorial per week)
Assessment: Essays, assignments and examinations

This is a study of the Economics of Participatory and Labour-Managed Systems. The theoretical and practical implications of worker management and participation are considered. The economic efficiency of both the labour managed firm and economy are examined in detail. Special attention is given to deriving policies to counter the poor survival record of labour managed firms.

TEXTBOOKS

400-LEVEL

ECON421 HONOURS ECONOMICS

Double session: 48 credit points (6 hrs tuition and supervised class work)
Assessment: Assignments, class work, examinations and thesis.

The course work consists of advanced macroeconomic theory (including public sector economics and monetary theory), and advanced microeconomic theory, including welfare economics, methodology and the history of economic thought. The thesis must be a piece of original research and is evaluated by members of the Department and external assessors.

ECON451 JOINT HONOURS

Double session: 24 credit points
Assessment: Assignments, class work, examination and thesis.

The course work consists of components chosen by the Chairman of the Economics department from those required of students in ECON421 Honours Economics.

INDUSTRIAL RELATIONS

100-LEVEL

ECON140 INDUSTRIAL RELATIONS A: WAGE DETERMINATION IN AUSTRALIA

Second session: 6 credit points (2 lectures, 1 seminar/tutorial per week)
Assessment: Will be based on essays and tutorial/seminar exercises (a total of approx. 3000 words) and one 2-hour examination.

The objective of the course is to examine some of the institutional arrangements
and other factors which influence wages determination in Australia. Special emphasis is placed on the development of the Arbitration System and the effects this has had on trade unions, employer groups and wages. Topics to be studied include the industrial situation before Arbitration (Wages Boards and Collective Bargaining), the mechanics of award making, differences between Commonwealth and State tribunals, Basic Wage, Margins, Productivity and Wages, Wages share in national income, Wages and Price Adjustment, Wages Drift, Market influence on wages, social factors influencing wage differentials, Total Wage, Minimum Wage and Wage Indexation.

TEXTBOOK

Plowman, David, Deery, Stephen & Fisher, Chris, eds. *Australian Industrial Relations.*

200-LEVEL

ECON242 TRADE UNIONS, EMPLOYER ORGANISATIONS AND THEIR ENVIRONMENT

First session: 8 credit points (2 lectures and 1 tutorial per week)
Assessment: Two 2000 word essays, tutorials, assignments and examination

This subject examines the development and working of the industrial relations system in Australia. The organisation and policies of the major participants in the system - trade unions, employers and governments - are analysed in both historical and contemporary settings. Standard institutional material is supplemented and extended by an attempt to understand the influence of the social, economic, political and legal environment of the system.

TEXTBOOK


300-LEVEL

ECON340 INDUSTRIAL RELATIONS 3B: SPECIAL TOPICS IN INDUSTRIAL RELATIONS

Second session: 8 credit points (seminars: 3 hours per week)
Assessment: 1 research paper, c. 8,000 words.

Original, supervised research work in an identified problem area of industrial relations, leading to submission of a research report. Research topics are subject to the approval of the Lecture-in-Charge of the Industrial Relations Programme. Where practical, students will be encouraged in developing a research topic arising out of "placement" or "internship" with an employer, union, government or judicial body.

PRELIMINARY READING


TEXTBOOKS

No textbook is prescribed. Basic reading will vary according to individual projects.
ECON342 COMPARATIVE LABOUR STUDIES

First session; 8 credit points (4 hours lectures/tutorials per week.)
Assessment: Essays, tutorials, assignments and examination

A comparative examination of the development and organisation of industrial relations systems in several countries, especially Australia, U.S.A., Great Britain, West Germany and Sweden. In particular the organisation of trade unions and employer organisations will be studied, as well as methods of wage bargaining and the relationship between the government and the industrial relations system.

TEXTBOOK

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

Students are advised to see Departmental handbook for details of 1) actual courses available and 2) session offered. (Available in Department from October each year).

100-LEVEL

EDUC101 LEARNING - THE INDIVIDUAL AND INSTITUTIONS

Double session; 12 credit points (3 hrs per week: lecture, seminar, tutorial)

Assessment: Assignments and examinations.

Part 1: Learning: The meaning of learning and how learning occurs; Analysis of the concept of learning.

An explanation of the range of knowledge and ideas which relate to learning and its application to educational processes; the relationship between learning, the sensory mechanisms and the environment; the gaps in our present state of knowledge; concepts of learning in relation to education as a discipline and to the social practice of education.

Part 2: The Individual: Development of the individual as a learner; Changes in the structure of the social environment of the learner.

The development of learning processes in the individual with an emphasis on development and on the interaction between individual and environment, and with special reference to educational processes; a history of the changes in the structure of social environment of the learner.

Part 3: Institutions: The learning environment; the curriculum; the social contest and the structure of institutions.

The transition between childhood and adolescence as a curricular context for the study of problems in learning; creating a learning environment for the emerging adolescent; the pathways of new knowledge into the curriculum; the inherent inequalities in social structure, their general effects on and manifestations in educational institutions, and their specific effects on learning processes.

Part 4: Education, learning and social change.

Education and learning as devices for changing societies; possible future trends in education.

200-LEVEL

Subjects offered at this level are intended as introductory courses in educational studies. Normally, students enrolling in these courses shall have passed not fewer than three first-year subjects or the equivalent, although this condition may be modified in special circumstances by the Chairman of the Department.

Required Enrolment Patterns.

Students will normally be expected to enrol in more than one 200-level subject.
Students intending to take 24 credit points of 300-level study in education are required to pass subjects at the 200-level to the value of 12 credit points.

From 1981, a sequence of Education studies from 100 to 300-level will be available to undergraduate students. EDUC101: Learning, The Individual and Institutions, is a 100-level subject which will be the starting point for coherent studies in Education by serving as the basis for the re-structuring and streamlining of existing 200-level and 300-level courses in time for the 1982 and 1983 academic years respectively.

Therefore, students will be able to undertake what is in effect a "major" sequence in Education.

Research programs such as Education IV (the Honours program), the Master of Education and Master of Arts (in Education) degrees, and the Doctor of Philosophy will be available to students from a variety of cognate backgrounds, including that of coherent or "major" studies in Education.

The Diploma in Education, the Master of Studies in Education, and the Master of Education (where this is completed primarily by coursework) will be available as largely vocational/professional courses for teachers and other appropriate professional workers.

**EDUC213 EDUCATIONAL PSYCHOLOGY**

*First session; 6 credit points (3 hrs per week: lectures and tutorials)*

*Assessment:* 1 major assignment; end of session examination

A treatment of the growth and behaviour of typical children in an educational setting, emphasising issues in perception, cognition, learning, motivation and environmental influences, with observation classes and practical experiences.

**TEXTBOOKS**


**EDUC214 EDUCATIONAL SOCIOLOGY**

*Second session; 6 credit points (3 hrs per week, lectures and tutorials)*

*Assessment:* assignments and examination

An enquiry into the question of schools and society, focusing on social structure, the process of schooling and contemporary problem areas relating to education, politics and society.

**TEXTBOOKS**

To be advised.

**EDUC215 HISTORY OF WESTERN EDUCATION**

*6 credit points (3 hrs per week, lectures and tutorials)*

*Assessment:* 1 tutorial paper, option of major assignment or examination

An introduction to the historical study of education as a social process, with primary focus on educational institutions and including educational revolution in the 16th and 17th centuries. Changing views of childhood and adolescence the rise of the schooled society, and the relationship between social structure and educational institutions in the 20th century.
DESCRIPTION OF SUBJECTS - EDUCATION

TEXTBOOKS


EDUC216 PHILOSOPHY IN EDUCATION

Second session; 6 credit points (3 hrs per week, lectures, seminars and tutorials)
Assessment: written assignments and optional examination

This course examines the educational ideas both of individual theorists and schools of thought from antiquity to the present day.

TEXTBOOK


EDUC217 EDUCATIONAL RESEARCH AND MEASUREMENT AND ATYPICAL CHILDREN

First session; 6 credit points (3 hrs per week: lectures and tutorials)
Assessment: 1 major assignment, end of session examination

An introduction to principles and practices of measurement and research in education, and an introductory study of atypical children, in relation to educational processes. This subject can only be taken with EDUC213.

TEXTBOOKS


300-LEVEL

Ten subjects are listed at 300-level, each valued at 8 credit points. Students intending to take 24 credit points in education at the 300-level must take at least two subjects from the following: EDUC313, 314, 315, 316, 317, 319.

Students are advised to see Departmental handbook for details of 1) actual courses available and 2) session offered. (Available in Department from October each year).

EDUC313 DEVELOPMENTAL PRINCIPLES IN EDUCATION

Single session; (3 hrs per week: lectures, seminars, tutorials, and school-based laboratory exercises)
Assessment: Examinations and assignments

This unit offers an opportunity to study the concept of human development, emphasising cognition, and a selection of contemporary theories of development within the context of contemporary society and education. Course work will include a child study.

TEXTBOOKS

EDUC314 SOCIOLOGY OF EDUCATION

Second session; (3 hrs per week: lecture, tutorial, research)
Assessment: Continuous. Essay, Project and school-based laboratory exercises

An examination of sociological theory with critical evaluation together with an analysis of critical issues in education.

TEXTBOOKS


EDUC315 HISTORY OF EDUCATION

First session; (3 hrs per week: 1 lecture and 2-hour seminar per week)
Assessment: Seminar papers, option of major project or examination.

Education and Society: Great Britain, United States and Australia 1780-1970. A comparative examination of the historical relationship between education and society in three related but different cultural contexts. Students will be introduced to the major historiography; considerable emphasis will be placed on historical methodology and the use of primary source material. Major themes will be: education and social control; education and the economy; the historical sociology of curriculum change; the politics of education; the influence and impact of educational ideas and the role of educational bureaucracies.

TEXTBOOKS


EDUC316 PHILOSOPHY IN EDUCATION

First session; (3 hrs per week: lectures, seminars, tutorials)
Assessment: Written assignments and optional examination

This course deals with the philosophical analysis of educational concepts. Topics to be considered include: the methodology of philosophical analysis in relation to educational ideas; the aims of education and their relationship to social and personal values; the nature of knowledge - how it is related to truth, belief and understanding?; the ethics of education and the concepts of freedom, authority, discipline and punishment.

TEXTBOOK


EDUC317 EDUCATIONAL RESEARCH METHODOLOGY

Second session; (3 hrs per week: lectures, seminars, tutorials)
Assessment: Examinations and assignments

This unit offers a study of the nature of educational research, surveys and experiments, and the evaluation of research, and report writing. Problems in designing conventional and action research programmes will be discussed.

TEXTBOOKS

DESCRIPTION OF SUBJECTS - EDUCATION


EDUC318 COMPARATIVE EDUCATION

Single session; (3 hrs per week: lectures, seminars, tutorials)
Assessment: Examinations and assignments

A comparative treatment of schooling in the social context, the preparation of teachers and tertiary education in a selection of cultures in relation to the Australian educational scene.

TEXTBOOKS


EDUC319 PRINCIPLES OF CURRICULUM THEORY

Second session; (3 hrs per week: 1 lecture, 2 seminars)
Assessment: 1 major essay, 2 seminar reports

An examination of the major educational concepts and principles related to the area of curriculum theory and development.

TEXTBOOKS


EDUC320 EDUCATIONAL ADMINISTRATION

Single session; (3 hrs per week: basis: lectures, seminars)
Assessment: Examinations, assignments, seminar papers

Principles of organisational psychology and sociology. School structure as a determinant of conditions for learning. Implications for the learning environment of Federal and State educational management structures and policies. Theories of innovation as devices in policy.

TEXTBOOKS


EDUC321 CROSS-CULTURAL DEVELOPMENT AND EDUCATION

First session; (3 hrs per week: lectures, seminars)
Assessment: 1 major assignment, end of session examination
A treatment of human development in relation to education from an intercultural perspective. The subject will examine cultural and ecological influences upon development, and the relationship between various forms of schooling to developmental processes.

**TEXTBOOKS**


**EDUC322 MODELS OF CURRICULUM DEVELOPMENT**

First or second session; 8 credit points (3 hrs per week; lectures and tutorials)

Assessment: 1 major essay, two seminar reports

An examination of several models of curriculum development that have been of major importance in influencing educational practice in Australia in the twentieth century; knowledge based models; child centred models and school (teacher and community) based models.

**TEXTBOOKS**

As an alternative to textbooks, journal articles will be recommended by lecturer.

**400-LEVEL**

The main purpose of Education IV is to provide an Honours year for those students wishing to specialise in educational studies. Considerable emphasis will be laid upon research and research methodology, and students will be expected to apply their knowledge in research to one or more of the areas of Educational Psychology, Educational Sociology, Comparative Education, History of Education, Philosophy of Education and Theories of Education. A thesis equivalent in time to one-third of the year's work is also required. Above average performance at third year level is a pre-requisite and entry to the Honours year will be determined by the Academic Senate on the advice of the Departmental Chairman.

It is hoped that students who complete an Honours degree through Education IV might continue their interest in research subsequently through higher degree work.

**EDUC401 EDUCATION IV**

Double session; 48 credit points (8 hrs of lectures/seminars; 4 hrs of tutorials)

Assessment: Formal examinations, test, assignments and associated projects (if appropriate)

All students must take the following topics totalling 16 credit points in the area of educational Research Methodology and Design:

- The logic of educational research
- Descriptive techniques
- Inferential techniques
- Sampling problems
- Validity of experiments in social settings
- Statistical and scientific hypotheses
- Quasi-experimental designs
- Generalisations and predictions
- Applications of research to the classroom
- Applications of research to education

Students must also complete 16 credit points comprising two groups of the following topics:
286 DESCRIPTION OF SUBJECTS - EDUCATION

Educational Psychology Topics A

- Language in early childhood
- Language in the school
- Continuity and discontinuity in development tests of conceptual and language development
- Special topic

Educational Psychology Topics B

- Social class and intelligence
- Ethnic differences and mental growth
- Compensatory education
- Literacy and numeracy programmes
- Special topic

Educational Sociology Topics A

- The family and education
- Social class and education
- The economy and education

Educational Sociology Topics B

- The political functions of education
- The use of education for selection
- Implications of teaching becoming a profession
- The roles of the teacher

Comparative Education and History of Education

- Systematic study of education systems selected from Australia, U.S.A., U.K., France, Japan, S.E. Asia and China.
- Selected case study analyses showing the problem and inductive approaches in comparative methodology.
- Interdisciplinary contributions to Comparative Education.
- The Australian context.
- Historical antecedents to formal education systems in selected countries.

Philosophy of Education and Theories of Education

- Impact of philosophers on education
- Application of philosophical methods of enquiry to education
- Social philosophies and their impact on education
- Survey of major educational theories and theorists
- Critical issues in Curriculum Theory and Development
- Mass compulsory education in post-industrial society
DESCRIPTION OF SUBJECTS - ELECT. & COMPUTER ENGINEERING

ELECTRICAL AND COMPUTER ENGINEERING

Assessment

All subjects offered by the Department of Electrical and Computer Engineering are normally assessed by means of a final examination. In addition, set project work, laboratory reports and tutorial problems undertaken by the student throughout the session may also be taken into account. Lecturers in the individual subjects will provide details at the beginning of each session.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedules C and G (with the exception of ELEC191, 192, 291, 292, 294, 295, 298, 299, 392 and 394). Subjects which also appear in other schedules are:

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1. CORE MATERIAL

ELEC101 ELECTRICAL ENGINEERING 1

Second session; 6 credit points (42 hours of lectures and tutorials and 42 hours of practical)

Introduction to electrical quantities and measurements, circuit analysis, electronic devices and circuits. Basic electrical measuring, recording and display instruments. Characteristics and measurement of circuit elements. Digital and analogue signals.

TEXTBOOK


ELEC201 CIRCUIT THEORY I

First or double session; (42 hours of lectures and tutorials)

Development or 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.

TEXTBOOKS

To be advised.

ELEC302 CIRCUIT THEORY 2

First session; (42 hours of lectures and tutorials)
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.

**TEXTBOOKS**
To be advised.

**ELEC211 ELECTRONICS 1**

*Double session (42 hrs of lectures and tutorials)*

Semi-conductor devices and device models; current transport in semi-conductors, diodes, bipolar and field-effect transistors, circuit modelling, biasing, single-stage wideband amplifiers, frequency response, design procedures.

**TEXTBOOKS**

**ELEC311 ELECTRONICS 3A**

*Double session (84 hrs of lectures and tutorials)*

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

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

**TEXTBOOK**

**ELEC221 ENERGY CONVERSION AND DISTRIBUTION 1**

*Double session*

**ELEC322 ENERGY CONVERSION AND DISTRIBUTION 2**

*Double session*

Each of the above subjects comprises 42 hrs of lectures and tutorials. The details for the above 2 subjects are as follows:

Recapitulation of basic laws in electro and magneto statics and dynamics. Properties of ferro-magnetic materials and magnetic circuits. Energy conversion principles, with emphasis on electro mechanical devices. Coupled circuits, poly-phase and instrument transformers; dynamic circuit theory; transducers.


**TEXTBOOKS**
*Energy Conversion and Distribution 1:*
To be advised.
**Energy Conversion and Distribution 2:**

**ELEC131 COMPUTERS 1**

*First session (42 hrs lectures and tutorials)*

Fundamental concepts - the evolution of computers, number systems, codes, binary arithmetic, Boolean algebra and computer logic, truth functional calculus.

High level programming languages, FORTRAN in particular. Analogue computer components, analogue programming, time and magnitude scaling, engineering applications.

**TEXTBOOKS**

To be advised.

**ELEC231 COMPUTERS 2**

*First session (42 hrs lectures and tutorials)*

Combinational logic, simplification of logic expressions, Karnaugh map, Quine-McCluskey minimisation. Sequential logic, flip-flops, registers, clock, timing and synchronisation problems. Sequential machines, Mealy and Moore machines, timing diagrams and state tables.

**TEXTBOOK**


**ELEC332 COMPUTERS 3**

*Second session (42 hrs lectures and tutorials)*

Computer architecture, central processing unit, memory (ROM and RAM), input/output devices. Basic computer organisation, binary data and instruction codes, machine and assembly languages - instruction set, direct and indirect addressing. Interrupt, I/O bus and interface, direct memory access, I/O communication protocol. Introduction to hybrid computers, simulation and modelling of engineering systems on computers.

**TEXTBOOK**

To be advised.

**ELEC343 CONTROL SYSTEMS**

*Double session (84 hrs of lectures and tutorials)*

Description and physical systems by differential equations - Lagrange's equations; the convolution integral, transfer functions, block diagrams and signal flow graphs; feedback and its effects; analogue 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.
ELEC393 ENGINEERING DESIGN METHODS

Double session; (84 hrs of lectures and tutorials, 42 hrs of design projects)

Selected topics on logical, functional and computer aids to design, system and component reliability, economic parameters, time and frequency domain techniques in discrete and continuous system design.

The projects to be supervised, theoretical design assignments.

TEXTBOOKS

To be advised.

ELEC152 LABORATORY IA

First or second session; (42 hrs of laboratory work)

Introduction to engineering applications of computers.

ELEC251 LABORATORY 2A

Double session and first or second session

ELEC252 LABORATORY 2B

Double session and first or second session

ELEC352 LABORATORY 3A

Double session and first or second session

ELEC353 LABORATORY 3B

Double session and first or second session

ELEC354 LABORATORY 3C

Double session and first or second session

ELEC355 LABORATORY 3D

Double session and first or second session

Each of the above subjects comprises 42 hrs of laboratory work and tutorials. The details for the above 6 subjects are as follows:

Topics covered will include:

Measuring equipment and techniques relevant to electric, magnetic and electromechanical circuits and systems.

Response of first and 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.
DESCRIPTION OF SUBJECTS - ELECT. & COMPUTER ENGINEERING 291

ELEC253 LABORATORY 2C

Double and first or second session; (42 hrs of practical work)

Selected experiments from ELEC251 Laboratory 2A and ELEC252 Laboratory 2B

ELEC356 LABORATORY 3E

Double and first or second session; (42 hrs of practical work)

Selected experimental work from ELEC353 Laboratory 3B, ELEC251 Laboratory 2A

ELEC461 COMMUNICATIONS 1

First session (42 hrs of lectures and tutorials)

Basic structure of communication systems; analogue modulation and detection, analysis and methods of signal processing, performance of AM and FM systems in presence of noise; binary PCM and M, quantization, error probability. Comparison of information - transmission systems.

TEXTBOOK


ELEC457 THESIS

Double session

This comprises two projects (a minimum of 154 hrs in session 1 and 154 hours in session 2)

Each project involves the design and construction of experimental apparatus together with extensive laboratory testing. Where possible the projects are related to the research programme of the Department and are chosen to develop the students' initiative. Each student is required to deliver a seminar paper and to prepare a thesis on the result of the project work.

INDUSTRIAL OPTIONS

Students in full-time employment become eligible to include Industrial Options in their course. Such inclusion is subject to the approval of the Chairman of the Department.

ELEC181 Industrial Option 1
ELEC282 Industrial Option 2
ELEC283 Industrial Option 3
ELEC384 Industrial Option 4
ELEC485 Industrial Option 5

A student enrolled in an Industrial Option is required to submit written reports and to participate in seminars within the Department. These will deal with a critical analysis and reporting of general (or nominated specific) aspects of Professional Practice as experienced by the student. A Corporate Member of the Institution of Engineers representing the organisation wherein the Professional Practice is obtained must examine and sign for such Professional Practice work before it can be accepted and assessed by the Departmental Assessment Committee.

2. ELECTIVES

All single session subjects (3 hrs per week)
ELEC401 CIRCUIT THEORY 3

First or second session (42 hrs of lectures and tutorials)

Filters, introduction to random signal theory, correlation functions, power density spectrum, probabilistic network analysis, optimal design of filters, computational aspects of network analysis.

TEXTBOOK


ELEC404 CIRCUIT THEORY 4

First or second session

Network functions, analysis and synthesis techniques, computer-aided approaches, large scale analysis, state space methods, network optimisation, signal flow graphs.

TEXTBOOK

To be advised.

ELEC423 ENERGY CONVERSION AND DISTRIBUTION 3

First or second session (42 hrs of lectures and tutorials)

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.

TEXTBOOK


ELEC424 ELECTRIC ENERGY SYSTEMS

First or second session

System modelling, application of the computer to load flow analysis. Optimum operating conditions, frequency and voltage control. Economic aspects of power transmission.

Unsymmetrical fault analysis, interruption theory, surges, transient stability. Transient characteristics of synchronous machines. System protection.

TEXTBOOK


ELEC425 GENERALISED MACHINE THEORY

First or second session

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.
ELEC426 ELECTROMECHANICAL DYNAMICS

First or second session (42 hrs of lectures and tutorials)

Field description of electromechanical interaction, field transformations; generalised Ohms Law for plasma, transition to liquid and solid conductors; magnetic diffusion, levitation, charge relaxation; forces in magnetic and electrostatic field systems, Maxwell stress tensor, magnetization and polarisation force densities; electromechanical dynamics of solid continua, incompressible fluids and compressible fluids.

TEXTBOOK

ELEC427 STATIC CONVERTERS

First or second session (42 hrs of lectures and tutorials)

Characteristics of rectifiers, inverters, pulse and cycloconverters and their application to a.c. and d.c. variable speed drives.

TEXTBOOK
No set text.

ELEC432 COMPUTERS 4

First or second session (42 hrs of lectures and tutorials)

Advance features, memory architecture (memory interleaving, cache memory and hierarchy of memories), micro-programming, micro-processors and micro-computer hardware (bus system, multiplex bus system organisation), interface design. Programming of micro-computers with reference to appropriate micro-computers. Micro-computer applications.

TEXTBOOKS
To be advised.

ELEC443 CONTROL 3

First or second session


TEXTBOOKS
To be advised.

ELEC456 LABORATORY 4

First or second session; (42 hrs of laboratory work and tutorials)

Advanced modern measurement equipment and techniques. Selected topics may include: circuit measurement with deterministic and random signals, R.F. and microwave measurements, digital and analogue circuits and systems, advanced control circuits for machines.
ELEC462 COMMUNICATIONS 2

First or second session
Scope: analysis and design of communication circuits for analogue signal processing and frequency-domain multiplexing.

TEXTBOOKS
To be advised.

ELEC463 SIGNAL TRANSMISSION

First session; (42 hrs of lectures and tutorials)
Wave propagation in cables, waveguides and atmosphere, radiation and antennas.

TEXTBOOK

ELEC472 ELECTRICAL PROPERTIES OF MATERIALS

First or second session
Electric conduction and breakdown in solid, liquid and gaseous dielectrics; field strength calculations using Laplace and Poisson’s equations. High voltage testing.

TEXTBOOKS
To be advised.

ELEC481 PROBABILITY AND RANDOM PROCESSES

First or second session
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

ELEC475 COMPOSITE ELECTIVE 1

First or second session (42 hrs of lectures and tutorials)
Selected topics from not more than three of the following:

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TEXTBOOKS
Reading as appropriate
DESCRIPTION OF SUBJECTS - ELECT. & COMPUTER ENGINEERING 295

ELEC476 COMPOSITE ELECTIVE 2

First or second (42 hrs of lectures and tutorials)

Selected topics from not more than three of the following:

ELEC401  ELEC424
ELEC404  ELEC426
ELEC423  ELEC432
ELEC425  ELEC456
ELEC427  ELEC462
ELEC443  ELEC463
ELEC472  ELEC481
ELEC482

TEXTBOOKS

Reading as appropriate.

ELEC477 COMPOSITE ELECTIVE 3

First or second session (42 hrs of lectures and tutorials)

Selected topics from not more than three of the following:

ELEC401  ELEC424
ELEC404  ELEC426
ELEC423  ELEC432
ELEC425  ELEC456
ELEC427  ELEC462
ELEC443  ELEC463
ELEC472  ELEC481
ELEC482

TEXTBOOKS

Reading as appropriate.

ELEC482 SYSTEM RELIABILITY

First or second session (42 hrs of lectures and tutorials)

Introduction to reliability engineering, mathematical system modelling, reliability assessment techniques, redundant systems, reliability improvement, reliability optimisation, Markovian processes, applications to electronic, power and telecommunication networks, computer-aided techniques.

3. SERVICING SUBJECTS

ELEC191 COMPUTER ENGINEERING I

First session; 6 credit points
Comprising: ELEC152 Laboratory IA and ELEC131 Computers 1

ELEC295 COMPUTER ENGINEERING 2A

First session; 6 credit points
Comprising: ELEC231 Computers 2
Plus 42 hrs of appropriate tutorial and practical work.
DESCRIPTION OF SUBJECTS - ELECT. & COMPUTER ENGINEERING

ELEC298 COMPUTER ENGINEERING

Second session; 6 credit points
Comprising: ELEC332 Computers 3
Plus 42 hrs of appropriate tutorial and laboratory work.

ELEC392 COMPUTER ENGINEERING 3A

First session; 6 credit points (56 hrs of lectures and tutorials)
Aspects of: mini-computers, peripherals, interfaces, data conversion, microprocessors, memory elements and organisation.

ELEC394 COMPUTER ENGINEERING 3B

Second session; 6 credit points (56 hrs of lectures and tutorials)
Selected topics in fields of circuit theory, electronics and control computing.

TEXTBOOK
No set text.

ELEC291 APPLIED ELECTRICITY I

Double session; 8 credit points.
Topics selected from circuit theory, electronic devices and their application in linear and digital circuits.

TEXTBOOK

ELEC296 APPLIED ELECTRICITY 1A

First session
Topics in electric circuit theory and electronics.

TEXTBOOK

ELEC297 APPLIED ELECTRICITY 1B

Second session
Topics in Electronics and magnetic circuits.

TEXTBOOK

ELEC192 INTRODUCTORY ELECTRONICS

Second session; 6 credit points (42 hrs of lectures and tutorials; 42 hrs of practical)
Assessment: Class tests, final examination and reports
The course provides an introduction to electronic devices, circuits and systems for students in Computing Science, Social Science and the Humanities.
DESCRIPTION OF SUBJECTS - ELECT. & COMPUTER ENGINEERING 297

TEXTBOOKS


**ELEC299 CONTROL AND SYSTEMS THEORY**

*Double session; 12 credit points (84 hrs of lectures and tutorials, 42 hrs of laboratory work)*

As for ELEC343 Control Systems and ELEC355 Laboratory 3D.

**TEXTBOOKS**


**ELEC292 APPLIED ELECTRICITY 2**

*Double session; 8 credit points*

Electromagnetic devices, d.c. and a.c. machines, transmission systems, and instrumentation.

**TEXTBOOK**


**ELEC294 INTRODUCTORY SYSTEMS THEORY**

*Second session; 6 credit points*

Definition and measures of information; introduction to some of the properties of the measures and to the idea of channel capacity and coding. The relationship between thermodynamics and information; information and organisation.

Concept and examples of systems, dynamic properties; modelling; introduction to methods of analysis of linear systems with extension to non-linear problems. Analogue simulation and system model analysis by digital and analogue computer. Deterministic and stochastic responses and models; continuous and discrete signals.
The Department of English offers subjects in English Language at 100-, 200-, 300- and 400 (Honours)-level, in English Literature at 100-, 200-, 300- and 400 (Honours)-level and in Drama at 100-, 200-, 300- and 400 (Honours)-level in the BA Degree course.

A comprehensive course of study in English comprises not less than 54 credit points of which not less than 12 credit points must be taken from 100-level subjects and not less than 24 credit points taken from 300-level subjects. Entry to 400-level English is determined by Senate on the recommendation of the Departmental Chairman.

Students may undertake English IV honours courses in English Literature or in English Language or in Drama, or, if they have the necessary pre-requisites, in a combination of courses in English Literature, English Language and Drama. Students wishing to proceed to 400-level English should discuss their proposed honours courses with the Departmental Chairman. Those who wish to do honours in English Literature are advised to include the following courses in their degree: ENGL218 Elizabethan and Jacobean Tragedy; ENGL219 Seventeenth Century Poetry and Prose; ENGL 324 Eighteenth Century Fiction; ENGL327 Nineteenth Century Poetry. Students wishing to take honours in English Language will find the necessary pre-requisites set out in Schedule A.

Each subject comprises at least 28 hours (2 hours per week per session) of lectures, seminars and tutorials. The Departmental Chairman 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.

All students are required to possess The Concise Oxford English Dictionary and H. Coombes’ Literature and Criticism (Penguin) in addition to the texts prescribed for the subjects in which they are enrolled. Students intending to pursue a comprehensive course in English are also advised to obtain The Oxford Anthology of English Literature, 2 vol. edn., ed. Kermode and Hollander.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

English subjects proposed for offer 1981 - 1983.

+ indicates subject will be offered.

- indicates subject will not be offered.

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ENGLISH LITERATURE

100-LEVEL

ENGL101 INTRODUCTION TO MODERN LITERATURE

Double session; 12 credit points (2 lectures, 1 tutorial per week)
Assessment (each session): 1 essay, 1 tutorial paper, 2 practical criticism exercises

First Session

Critical Method and Modern Prose. The problems and techniques involved in the criticism of prose; critical discussion of selected modern short stories and novels.

PRELIMINARY READING


TEXTBOOKS


Second Session

Critical Method and Modern Poetry. Problems and techniques involved in the criticism of poetry; critical discussion of selected poems.

TEXTBOOKS


200-LEVEL

ENGL217 RENAISSANCE POETRY AND PROSE A

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises. (This course may have two lectures per week in common with EURO211- 301- 311- 361.)

A study of renaissance poetry and poetic theory with reference to Italy and France.

TEXTBOOKS

DESCRIPTION OF SUBJECTS - ENGLISH 301


ENGL218 ELIZABETHAN AND JACOBEAN TRAGEDY

First session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises.

A study of late sixteenth and early seventeenth century tragedy.

TEXTBOOKS

Ford, John. 'Tis Pity She's a Whore. ed. Morris, New Mermaid Series, Benn, 1976.

ENGL219 SEVENTEENTH CENTURY POETRY AND PROSE

Second session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises

A study of English poetry and prose of the seventeenth century.

TEXTBOOKS


ENGL220 UTOPIAN AND ANTI--UTOPIAN LITERATURE

First session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: 1 essay, 2 tutorial papers, 1 practical criticism exercise.

A study of some literary portrayals of imaginary societies.

TEXTBOOKS


ENGL222 AUSTRALIAN LITERATURE SINCE 1920 A

First session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: 1 essay, 1 tutorial paper, 2 practical criticism exercises
A study of several major works of Australian prose fiction, poetry and drama of the Twentieth Century.

**PRELIMINARY READING**


**TEXTBOOKS**

Dark, E. *The Timeless Land*. Collins.

**ENGL234 ENGLISH COMEDY A**

*Second session; 6 credit points (1 lecture, 1 tutorial per week)*

**Assessment:** One essay, one tutorial paper, two practical criticism exercises.

A study of English comedy from the sixteenth to eighteenth century.

**TEXTBOOKS**


**ENGL235 EIGHTEENTH CENTURY POETRY A**

*First session; 6 credit points (1 lecture, 1 tutorial per week)*

**Assessment:** One essay, one tutorial paper, two practical criticism exercises.

A study of the poetry of Dryden, Pope, Johnson, Gray, Goldsmith, Crabbe, Collins and Cowper.

**TEXTBOOKS**


**ENGL236 AUSTRALIAN LITERATURE TO 1920 A**

*First session; 6 credit points (1 two-hour seminar per week)*
Assessment: One essay and either two tutorial papers and one practical criticism exercise or one tutorial paper and two practical criticism exercises

A study of a number of works of Australian prose fiction and poetry to 1920.

PRELIMINARY READING


TEXTBOOKS

Clarke, M. For the Term of His Natural Life. Angus and Robertson, Sydney, 1975.
Furphy, J. (Collins T. pseud.) Such is Life. Angus and Robertson, Sydney, 1972.

ENGL238 NINETEENTH CENTURY PROSE A

Second session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: 1 essay, 1 tutorial paper and two practical criticism exercises.

Course description and textbooks as for ENGL326.

300-LEVEL

ENGL314 AUSTRALIAN LITERATURE TO 1920 B

First session; 6 credit points (1 two-hour seminar per week)
Assessment: One essay and either two tutorial papers and one practical criticism paper or one tutorial paper and two practical criticism papers.

(Course description, preliminary reading and textbooks the same as for ENGL236).

ENGL320 RENAISSANCE POETRY AND PROSE B

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises.

(The course may have two lectures in common with EURO211-301-311-361).

(Course description and textbooks as for ENGL217).

ENGL324 EIGHTEENTH CENTURY PROSE

First session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises.

A study of English prose literature of the eighteenth century.

TEXTBOOKS


ENGL325 EIGHTEENTH CENTURY POETRY B

First session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises.

A study of the poetry of Dryden, Pope, Johnson, Gray, Goldsmith, Crabbe, Collins and Cowper.

TEXTBOOKS


ENGL326 NINETEENTH CENTURY PROSE

Second session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises

A study of English prose literature of the nineteenth century.

PRELIMINARY READING


TEXTBOOKS


ENGL327 NINETEENTH CENTURY POETRY

Second session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises

A study of English poetry of the nineteenth century.

TEXTBOOKS


ENGL328 ENGLISH COMEDY B

Second session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises.
ENGL329 AUSTRALIAN LITERATURE SINCE 1920 B

First session; 6 credit points (1 lecture, 1 tutorial per week)
Assessment: One essay, one tutorial paper, two practical criticism exercises.

ENGL334 CRITICAL PRACTICE AND THEORY

First session; 6 credit points (one 2-hour seminar per week)
Assessment: One essay, one tutorial paper, 2 practical criticism exercises.

TEXTBOOKS


400-LEVEL

ENGL400 ENGLISH IV HONOURS

Students may undertake English IV honours courses in English Literature, English Language or in Drama, or if they have the necessary pre-requisites, in a combination of courses in English Literature, English Language and Drama.

Double session; 48 credit points
Assessment: Seminar papers, long essays and/or examinations, and by a thesis of not more than 10,000 words. At the discretion of the Departmental Chairman sessional examinations may be set instead of the thesis.

Following is the description for students studying the Literature strand of this subject.

First Session

PRACTICAL CRITICISM (A). An introduction to the science of reading.
2-hour seminar
Assessment: 2 Practical Criticism exercises

PRELIMINARY READING

Thompson, D. Reading and Discrimination. Chatto & Windus, 1954.

TEXTBOOKS

Scripts will be provided.

2-hour seminar
Assessment: 1 three-hour examination

PRELIMINARY READING

A reading list will be provided.
THE WRITINGS OF W. B. YEATS. A discussion of Yeat’s poetry, prose and plays.
2-hour seminar
Assessment: 1 long essay and 1 two-hour examination

TEXTBOOKS
Yeats, W. B. Complete Plays. Macmillan.

SPECIAL SUBJECT (A). A course of supervised individual study on a topic chosen by the student and approved by the Departmental Chairman.
1-hour individual tutorial per week
Assessment: Either a 10,000 word thesis or, at the discretion of the Departmental Chairman, a three-hour examination each session

Second Session

PRACTICAL CRITICISM (B). As for first session.

MODERNISM. A critical study of some representative texts.
2-hour seminar
Assessment: 1 three-hour examination

TEXTBOOKS
A reading list will be provided.

TWENTIETH CENTURY WOMEN WRITERS. This subject will examine novels, short stories and poetry written by women in the twentieth century.
2-hour seminar
Assessment: 2 essays

TEXTBOOKS
Engel, Marian. Bear.

SPECIAL SUBJECT (B). As for first session.

ENGLISH LANGUAGE

100-LEVEL

ENGL103 INTRODUCTION TO ENGLISH LANGUAGE STUDIES A

First session; 6 credit points (1 lecture, 1 two-hour seminar, 1 tutorial per week)
Assessment: 1 phonetics exercise, 2 tutorial papers, 2 class exercises

(i) The Development of English up to the Middle English Period, and
(ii) Introduction to Mediaeval Life and Thought

TEXTBOOKS

**ENGL104 INTRODUCTION TO ENGLISH LANGUAGE STUDIES B**

*Second session; 6 credit points (1 lecture, 1 two-hour seminar, 1 tutorial per week)*

Assessment: 1 long essay, 2 tutorial papers, 2 class exercises

(i) The Development of English from the Middle English Period to the present day.
(ii) Introduction to Early English Language and Literature: a study of Chaucer’s language and of selected *Canterbury Tales*.

**TEXTBOOK**


**200-LEVEL**

**ENGL223 OLD ENGLISH**

*Double session; 12 credit points (1 lecture, 1 tutorial per week)*

Assessment: 1 essay, 1 tutorial paper, 2 class exercises

An introduction to the language, literature and culture of the Anglo-Saxons and a study of Old English poetry and prose.

**ENGL224 MIDDLE ENGLISH**

*Double session; 12 credit points (1 lecture, 1 tutorial per week)*

Assessment: 1 essay, 1 tutorial paper, 2 class exercises

An introduction to the language and literature of England between the Norman Conquest and the Age of Chaucer to be followed by a study of the poetry, prose and drama of the later Middle English period.

**ENGL237 ENGLISH LANGUAGE IN AUSTRALIA**

*Second session; 6 credit points (one 2-hour seminar per week)*

Assessment: 1 long essay, 2 tutorial papers, 2 class exercises

A survey of modern approaches to basic problems in philology. Controversial questions of grammatical and phonological classification, terminology, and doctrines of correctness in language study. The course places special emphasis on the works of Australian linguists, the origins and development of Australian English and the divergence between the literary and vernacular forms of language in Australia.

**TEXTBOOKS**


**300-LEVEL**

**ENGL316 ADVANCED OLD ENGLISH**

*First session; 6 credit points (1 lecture, 1 tutorial per week)*

Assessment: 1 essay, 1 three-hour examination
A detailed study of some of the more difficult texts in Old English poetry and prose.

**TEXTBOOKS**


Graden, P. *Elene*. University of Exeter, 2nd ed.


**ENGL317 MEDIAEVAL ROMANCE IN ENGLAND**

*First session; 6 credit points (1 lecture, 1 tutorial per week)*

Assessment: 1 essay, 1 three-hour examination

A detailed study in the original language of the romance genre in Mediaeval English literature.

**TEXTBOOKS**


**ENGL318 OLD AND MIDDLE ENGLISH LYRIC**

*Second session; 6 credit points (1 lecture, 1 tutorial per week)*

Assessment: 1 essay, 1 three-hour examination

A study of the origins and nature of Old and Middle English lyrics.

**TEXTBOOKS**


**ENGL319 MEDIAEVAL DRAMA IN ENGLAND**

*Second session; 6 credit points (1 lecture, 1 tutorial per week)*

Assessment: 1 essay, 1 tutorial paper, 2 class exercises

A study of drama in England from the earliest times up to the early-Tudor period.

**TEXTBOOK**


**400-LEVEL**

**ENGL400 ENGLISH IV HONOURS**

Students may undertake English IV honours courses in English Literature, English Language or in Drama, or, if they have the necessary pre-requisites, in a combination of courses in English Literature, English Language and Drama.

*Double session; 48 credit points*

Assessment: Seminar papers, long essays and/or examinations, and by a thesis of not more than 10,000 words. At the discretion of the Departmental Chairman sessional examinations may be set instead of the thesis.
Following is the description for students studying the language strand of this subject.

First Session

CRITICAL THEORY AND PRACTICE. Classical and Mediaeval.
Assessment: 1 long essay and a three-hour examination

TEXTBOOKS


Students will study selections from Plato, Aristotle, Horace, Longinus, Quintilian, Pseudo-Cicero, Bede and Geffroi de Vinsauf.

Assessment: 1 long essay and a two-hour examination

TEXTBOOK


FOURTEENTH CENTURY LITERATURE (A). Students will study the works of Chaucer and selections from Langland, Gower and the Gawain poet.
Assessment: 1 long essay and a two-hour examination

SPECIAL SUBJECT (A). A course of supervised individual study on a topic chosen by the student and approved by the Departmental Chairman.
1-hour individual tutorial per week
Assessment: A thesis of not more than 10,000 words or, at the discretion of the Departmental Chairman, a three-hour examination each session.

Second Session

THE HISTORY OF PHILOLOGY. A study of Linguistic Theory and Method from classical, through mediaeval times, up to the present day.

Students will study a selection from Plato, Aristotle, Quintilian, Mediaeval Christian Philosophers, Eighteenth Century Linguists, Nineteenth Century Comparative Philologists and the Twentieth Century Linguists.
Assessment: 1 long essay and a three-hour examination

BEOWULF AND RELATED HEROIC POETRY (B). A study of Old English heroic poetry.
Assessment: 1 long essay and a three-hour examination

TEXTBOOK


FOURTEENTH CENTURY LITERATURE (B). Students will study the works of Chaucer and selections from Langland, Gower and the Gawain poet.
Assessment: 1 long essay and a three-hour examination

SPECIAL SUBJECT (B). As for first session.
ENGL106 INTRODUCTION TO DRAMA STUDIES

Double session; 12 credit points (1 lecture, 1 tutorial and 1 2-hour practical (workshop) session per fortnight)
Assessment: 1 essay, 1 tutorial paper, 2 practical exercises per session

The aim of this course is to explore the manifestations and potentialities of drama as a natural rather than an artificial mode of human behaviour. It involves the study of the expression of beliefs, values, attitudes and opinions by means of moving (and vocal) figures and the examination of the growth of dramatic institutions from ritual to television, including contemporary trends and developments in all dramatic media and forms.

Practical, experiential activities will form a significant component of the course.

First session

Human Drama. Specific areas to be considered include: children's play; drama and socialization; drama and self-realization; games; simulation gaming; drama as communication; the body as a medium of expression; role-playing and acting; drama and stereotypes; playing and not playing the part; drama and diagnosis; drama and therapy; psychodrama; drama and encounter techniques; improvisation.

PRELIMINARY READING

Hall, S.T. The Silent Language.

TEXTBOOKS

A detailed list of various sources to be consulted by students will be supplied at the beginning of the course.

Second Session

Institutionalized Drama. Specific areas to be considered include: drama, magic and ritual; from ritual to theatre; theatre and dramatic conventions; dramatic form and theatrical technology; cinema and the film; dramatic form and cinematographic technology; television and radio; the medium and the message/mass-age; documentary drama in the various media; producers, performers, audiences and viewers.

PRELIMINARY READING

DESCRIPTION OF SUBJECTS - ENGLISH

TEXTBOOKS
A detailed list of various sources to be consulted by students will be supplied at the beginning of the course.

200-LEVEL

ENGL230 THEATRE ARTS (A)

First session; 6 credit points (1 two-hour seminar workshop per week)
Assessment: One essay, one seminar paper, one major or two minor practical projects

The examination of examples of the major theatrical forms and genre:
(i) from the viewpoint of the requirements for the "realisation" or presentation of plays on the stage;
(ii) to develop an understanding of their qualities as dramatic texts and as representatives of specific forms and genre;
(iii) to develop an understanding of the ways in which dramatists formally express ideas, attitudes, values, beliefs, etc. by means of vocal and moving figures;
(iv) to provide an historical perspective from which to view the dramatic repertoire.

NOTE: Practical, experiential activity will form a significant component of the subject. Project options will provide opportunities for developing skills in acting, direction, design, technical production, music, script-writing, criticism and theatre group management for conventional theatres, street theatre, theatre in education, etc.

TEXTBOOKS
Note that the works cited are to be regarded as reference points for the subject rather than set texts.


ENGL231 THEATRE ARTS (B)

Second Session; 6 credit points (1 two-hour seminar workshop per week)
Assessment: One essay; one seminar paper; one major or two minor practical projects

An examination of examples of major theatrical styles as they have emerged in Western Drama from the Renaissance to the present. Attention will be directed to:
(i) styles in acting and production;
(ii) styles in play writing;
(iii) the ways in which these styles are directed towards the expression of ideas, attitudes, values, beliefs, etc., by means of moving and vocal figures;
(iv) theatrical style in relation to the nature of audiences (and the societies from which they are drawn).

NOTE: Practical, experiential activity will form a significant component of the subject. Project options will provide opportunities for developing skills in acting, direction, design, technical production, music, script-writing, criticism and theatre group management for conventional theatres, street theatre, theatre in education, etc.

TEXTBOOKS

Note that the works cited are to be regarded as reference points for the subject rather than set texts, just as the titles of the stylistic “types” are to be considered general descriptions and not exclusive categories.

Boddy, M. & Ellis, R. *The Legend of King O’Malley*. Angus and Robertson, 1974.

ENGL232 MODERN MEDIA (A)

First session; 6 credit points (1 two-hour seminar workshop per week)
Assessment: One essay, one seminar paper, one major or two minor practical projects

*The Art of the Film*. An examination of examples of the major forms and genre of the cinema in such a way as to:

(i) develop an understanding of film as dramatic communication, craft and art;
(ii) develop approaches to film criticism;
(iii) develop an understanding of the technical requirements for the “realisation” of filmic material on screen;
(iv) develop an understanding of the ways in which film-makers express ideas, attitudes, values, beliefs, etc., by means of moving and vocal figures.

“Forms” and “genre” to be treated include: The Western; the Thriller; “Cinema Noir”; the Comedy; the Psychological Drama; the Historical Film; Literary Adaptations; Fantasy and Science Fiction; the Cinema of Social Comment; the Romance; Documentary. There will also be a section on experimental and exploratory films, usually “short subjects.”

NOTE: Practical, experiential activity will form a significant component of the subject. Project options will provide opportunities for developing skills in acting, direction, design, technical production, music, script-writing, criticism and crew and studio management for conventional cinema, alternative cinema, etc. Australian source material will be favoured in these activities but not exclusively.

Source Material

Individual films for intensive treatment cannot be determined at the time of writing, but 8 titles will be cited at the beginning of the subject, hopefully drawn from the following list:

*Incident at Owl Creek Bridge* (Enrico)  *City Lights* (Chaplin)
*Black* (Winkler)  *Brewster McCloud* (Altman)
DESCRIPTION OF SUBJECTS - ENGLISH 313

Neighbours (McLaren)  
Fritz the Cat (Bakshi)  
Ivan the Terrible (Eisenstein)  
Seven Samurai (Kurosawa)  
The Searchers (Ford)  
Henry V (Olivier)  
The Grapes of Wrath (Ford)  
M (Lang)  
The Third Man (Reed)  
Metropolis (Lang)  
2001: A Space Odyssey (Kubrick)  
Cabaret (Fosse)  
The Magic Flute (Bergman)  
8 1/2 (Fellini)  
Day for Night (Hutteraut)  
Citizen Kane (Welles)  
Easy Rider (Hooper)  

ENGL233 MODERN MEDIA (B)

Second session; 6 credit points (1 two-hour seminar workshop per week)
Assessment: One essay, one seminar paper, one major or two minor practical projects

The Broadcast Media, Drama and Society. An examination of examples of dramatic presentations for radio and television in such a way as to:

(i) develop an understanding of the communicative and artistic features of these media, including the special genre developed in them;

(ii) develop the special approaches to criticism required by them;

(iii) develop an understanding of the technical requirements for the effective production of radio and television drama;

(iv) develop an understanding of the ways in which television and radio producers express ideas, attitudes, values, beliefs, etc., by means of moving and/or vocal figures;

(v) develop an understanding of the relationship between the broadcast media and society.

NOTE: See note under Modern Media (A)

Source Material

Examples of radio and television programmes will be set for close study. The emphasis will be on those which may be considered representative and significant works of dramatic art in the light of the critical standards applied to works for theatre and cinema. However, "popular" forms will also be represented.

The following list cites examples of the kind of material to be treated: specifications depend on availability of programmes in second session.

(a) Radio

- The Martian Invasion (A dramatised feature - Welles)
- Landscape and Silence (Radio plays - Pinter)
- For the Term of His Natural Life (Serial Adaptation of Clarke’s novel)
- Dr. Finlay’s Casebook (Drama series, adapted from television)
- The Goon Show (Radio comedy - Milligan et al.)
- Hancock’s Half Hour (Radio comedy - adapted for television)
- Every Good Boy Deserves Favour (A play for actors and orchestra - Stoppard)
- Spaceworld (An experimental drama/fantasy - BBC Electronic Workshop)
- The Soul of the Termite (A documentary/feature - ABC Drama Unit)
- Watership Down (Serial adaptation of Adam’s novel)

(b) Television

- Culloden (Dramatic recreation of historical event - Peter Watkins)
- The War Game (Fictionalised documentary - Peter Watkins)
300-LEVEL

ENGL330 THEATRE ARTS C

DRAMA THEORY AND THEATRICAL PRACTICE
First Session; 6 credit points (one two-hour seminar/workshop per week)
Assessment: One 1500 word essay; one 750 word seminar paper; one major or two minor practical projects.

An examination of the ideas of a number of the major theorists in the theatre arts in the Twentieth Century, along with a study of the ways in which theatrical practitioners have applied these ideas to the realisation of plays on stage.

Theoretical principles associated with such significant figures as Artaud, Brecht, Brook, Gordon-Graig, Grotowski, Meyerhold, Shaw and Stenislavski will be treated.

A "theory-in-practice" approach is to be taken in the investigations involved in this course and so project options will provide opportunities for work in direction, acting, design, technical production, writing, etc.

TEXTBOOKS

Note that the works cited are intended to be reference points for the subject rather than set texts.

Jarry, A. Ubu Roi, Methuen, 1968.

NOTE: A reading list citing works by the major Twentieth Century dramatic theorists will be available from the English Department from December, 1980.

ENGL331 THEATRE ARTS D

THEATRE AND CULTURE
Second session; 6 credit points (one two-hour seminar/workshop per week)
Assessment: One essay, one seminar paper and one major or two minor practical projects.

An examination of the relationship between theatrical drama and the cultural contexts within which it develops. A major study will be the investigation of the relationships between a major Australian theatrical work and the cultural patterns and forces of this country. However, examples of theatrical drama from other cultures will be treated. These will be drawn from Asia, Africa and Eastern Europe as well as the Western European tradition. Special attention will be paid
to the drama of Japan, Indonesia and Slavic nations.

The major practical project will be the production of an Australian play so as to bring out relevant aspects of the above relationship.

TEXTBOOKS

Note that the works cited are intended to be reference points for the subject rather than set texts.

Boddy, M. & Ellis, R. *The Legend of King O'Malley*. Angus and Robertson, 1974.

NOTE: A reading list citing secondary works will be available from the English Department from December, 1980.

ENGL332 MODERN MEDIA C

SCREEN THEORY AND SCREEN PRACTICE

*First session; 6 credit points (one two-hour seminar/workshop per week)*

*Assessment:* One essay, one seminar paper and one major or two minor practical projects

An examination of the major developments in theoretical approaches to screen drama, along with an investigation of the ways in which these may be applied to the process of the realisation of dramatic material on screen.

Aspects to be examined include expression, structuralism, semiotics, the auteur approach, cinematic stylistics, mimesis, constructivism, the cinematic aesthetic and the sociology of the cinema.

In this way, work involving screen acting, designing, direction, technical production, etc., will be available to students by way of practical (project) investigations of theoretical models.

TEXTBOOKS

NOTE: The works cited are to be regarded as reference points for the subject rather than set texts. Eight films are to be treated, chosen from:

*The Battleship Potemkin*, (Eisenstein).
*Nashville*, (Altman)
*M*, (Lang)
*Citizen Kane*, (Wellles)
*Les Enfants Du Paradis*, (Carne)
*Solaris*, (Tarkovsky)
*The Seventh Seal*, (Bergman)
*Seven Beauties*, (Wertmuller)
*Clowns*, (Fellini)
*Coogan's Bluff*, (Siegel)
*Psycho*, (Hitchcock)
*The Discreet Charm of the Bourgeoisie*, (Bunuel)
*Red River*, (Hawks)
*The Big Sleep*, (Hawks)
*Duck Soup*, (McCary/Marx Brothers)
ENGL333 MODERN MEDIA D

SCREEN DRAMA AND CULTURE
Second session; 6 credit points (one two-hour seminar/workshop per week)
Assessment: One essay, one seminar paper and one major or two minor practical projects

An examination of the relationship between screen drama (both film and television) and the cultural contexts within which it develops. A major study will be the investigation of the relationship between a major work of Australian screen drama and the cultural patterns of this country.

Examples of screen drama from a number of disparate cultures will be treated. A major project available to students will be the production of a film or videotape drama so as to bring out the relevant aspects of the above relationship.

TEXTBOOKS

Note: That the works cited are to be regarded as reference points for the subject rather than set texts. Eight films are to be treated, chosen from:

La Grande Illusion, (Renoir)
Play It Again Sam, (Allen)
O Lucky Man, (Anderson)
Mean Streets, (Scorsese)
Roma, (Fellini)
The Conformist, (Bertolucci)
Dr. Strangelove, (Kubrick)
The Wild Bunch, (Peckinpah)
On The Waterfront, (Kazan)
Days of Heaven, (Malick)
Jules et Jim, (Truffaut)
Knife in the Water, (Polanski)
The Lost Honour of Katarina Blum, (Boll)
A Clockwork Orange, (Kubrick)
Newsfront, (Noyce)
F. J. Holden, (Thornhill)
Dersu Uzala, (Kurosawa)
The Invasion of the Body Snatchers, (Siegel)

(Television product will be set for viewing and study as available).

Note: A reading list citing works on film theory will be available from the English Department from December, 1980.

ENGL400 ENGLISH IV HONOURS

Double session; 48 credit points

Either a 10,000 word thesis or, at the discretion of the Chairman of English, a two-hour written examination plus an annotated production project per session.

First Session

PRACTICAL CRITICISM A. (An introduction to the science of reading)

2-hour seminar
Assessment: 2 practical criticism exercises.
DRAMATIC THEORY AND THEATRICAL REALIZATION

An examination of the major approaches to dramatic theory from Aristotle to the present day from the point of view of the ways in which these can contribute to the realization of dramatic texts on stage as well as to the criticism of text-performance.

2-hour seminar.

One essay, one practical exercise.

TEXTBOOKS

Dukore, B. Dramatic Theory and Criticism: the Greeks to Grotowski.

A list of plays to be treated will be provided at the beginning of the course.

OPTIONAL SUBJECT

Drama students will choose one of the Literature or Language subjects offered at 400-level in the 1982 Session 1 schedule.

SPECIAL SUBJECT (A)

A course of supervised individual study on a topic chosen by the student and approved by the Chairman of English.

One 1-hour individual tutorial per week.

Second Session

PRACTICAL CRITICISM (B). (As for First Session)

SCREEN THEORY, PRACTICE AND CRITICISM

An examination of contemporary approaches to screen theory from the point of view of the ways in which these may relate to the realization of dramatic material on screen and to the criticism of screen product.

One 2-hour seminar.

One essay, one practical exercise.

TEXTBOOKS

Barthes, R. Mythologies.
Metz, C. Film Language.
Fiske, J. and Hartley, J. Reading Television.
Mast, G. and Cohen, M. Film Theory and Criticism.

A list of screen product to be treated will be supplied at the beginning of the course.

OPTIONAL SUBJECT (As for First Session)

SPECIAL SUBJECT (B) (As for First Session)
The Department of European Languages currently offers courses in French and Italian not only for those who have already achieved a certain proficiency in the subject but also for beginners or near-beginners. Both categories of students may major in one or both languages and pursue their studies to postgraduate level.

A. Recommended Sequence of Study in French:

Either the sequence: EURO111, EURO112; EURO211, EURO212;
EURO311, EURO312.

Or the sequence: EURO103; EURO201, EURO202; EURO301,
EURO302.

B. Recommended Sequence of Study in Italian:

Either the sequence: EURO161, EURO162; EURO261, EURO262;
EURO361, EURO362.

Or the sequence: EURO153, EURO251, EURO252; EURO351,
EURO352.

All the above sequences may lead to 4th year honours courses following the recommendation of the Departmental Chairman and the approval of the Academic Senate.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

FRENCH

100-LEVEL

EURO103 INTRODUCTORY FRENCH

Double session; 12 credit points (6 hrs practical/tutorial per week)

Assessment: Regular exercises in aural comprehension, spoken and written expression.

Audio visual (‘De Vive Voix’) and audio-lingual (‘Intercodes’) courses are offered for beginners or near-beginners in French. Listening, speaking, reading and writing skills are developed throughout the course. Classes will be in tutorial groups of about 15 students and extensive use will be made of the language laboratory. Successful completion of Introductory French qualifies students for entry into French IIIC.

TEXTBOOKS


or

DESCRIPTION OF SUBJECTS - EUROPEAN LANGUAGES 319


**EURO111 FRENCH IA**

First session; 6 credit points (2 hrs lectures, 3 hrs tutorials per week)

**Recommended Pre-requisites:** Prior French study to an acceptable level as indicated either by a 2-Unit pass in the H.S.C. or by an equivalent level of proficiency.

**Assessment:**
(a) *Language:* regular assignments in written and oral expression and in aural comprehension;
(b) *Civilization:* essays during session.

This subject consists of 2 parts: (a) French IA language and (b) French IA civilization.

(a) **FRENCH IA LANGUAGE:**

In this course the principal emphasis is on the improvement of aural comprehension of normal French conversation and the ability to express relatively simple ideas in grammatically correct French. Regular attention is given to accurate discrimination and reproduction of French sounds and sound patterns.

**TEXTBOOKS**


(b) **FRENCH IA CIVILIZATION:**

A survey of French civilization from the Middle Ages to the 20th century. Lectures will outline the major artistic and philosophical movements.

**TEXTBOOK**


**EURO112 FRENCH IB**

Second session; 6 credit points (2 hrs lectures, 3 hrs tutorials per week)

**Assessment:**
(a) *Language:* regular assignments in written and oral expression and in aural comprehension;
(b) *Literature:* essays during session.

This subject consists of 2 parts: (a) French IB Language and (b) French IB literature.

(a) **FRENCH IB LANGUAGE:**

The programme of aural comprehension, grammar and the linguistic analysis of written passages begun in French IA is sustained and regular opportunity is provided for conversation in small groups.

**TEXTBOOKS**

As for French IA.
(b) FRENCH IB LITERATURE:

Through a selection of 20th century French plays students are introduced to techniques of literary analysis.

TEXTBOOKS


200-LEVEL

EURO201 FRENCH IIC

First session; 8 credit points (2 hrs lectures, 3 hrs tutorials per week)
Assessment:
(a) Language: regular exercises in written and oral expression and in aural comprehension.
(b) Literature: essays during session.

This subject consists of 2 parts: (a) French IIC language and (b) French IIC literature.

(a) FRENCH IIC LANGUAGE:

Written expression, reading, comprehension and formal grammar are emphasised. The skills in aural comprehension and spoken expression acquired in French 103 are further developed in tutorial groups and language laboratory sessions.

TEXTBOOKS


(b) FRENCH IIC LITERATURE:

A survey of French civilization from the Middle Ages to the 20th century. Lectures will outline the major artistic and philosophical movements.

TEXTBOOKS


EURO202 FRENCH IID

Second session; 8 credit points (2 hrs lectures, 3 hrs tutorials per week)
Assessment:
(a) Language: regular assignments in written and oral expression and in aural comprehension. There will also be an oral examination at the end of session;
(b) Literature: essays during session.

This subject consists of 2 parts: (a) French IID language and (b) French IID literature.

(a) FRENCH IID LANGUAGE:

Through the analysis of written and recorded documents, different patterns of French usage are explored. Continuing stress is also placed on accurate written
and spoken expression and reading comprehension.

**TEXTBOOK**


(b) FRENCH IIA LITERATURE:

Through a selection of 20th century French plays students are introduced to techniques of literary analysis.

**TEXTBOOKS**


**EURO211 FRENCH IIA**

First session; 8 credit points (2 hrs lectures, 3 hrs tutorials per week)
Assessment:
(a) Language: regular assignments in written and oral expression and in aural comprehension.
(b) Civilization: essays during session.

This subject consists of 2 parts: (a) French IIA language and (b) French IIA civilization.

(a) FRENCH IIA LANGUAGE:

This course consists of a programme of aural comprehension in the language laboratory; practice in spoken French in conversation groups; regular exercises in written expression; and a small amount of more formal grammar and translation work.

**TEXTBOOKS**


(b) FRENCH IIA CIVILIZATION:

A survey of French society and culture in the 17th century through the study of literary and philosophical writings and the intellectual and aesthetic movements which engendered them.

**TEXTBOOKS**


**EURO212 FRENCH IIB**

Second session; 8 credit points (2 hrs lectures, 3 hrs tutorials per week)
Assessment:
(a) Language: regular assignments in written and oral expression and in aural comprehension. There will also be an oral examination at the end of session.
DESCRIPTION OF SUBJECTS - EUROPEAN LANGUAGES

(b) Literature: essays during session.

This subject consists of 2 parts: (a) French IIB Language and (b) French IIB Literature.

(a) FRENCH IIB LANGUAGE:

This course consists of a programme of aural comprehension in the language laboratory; practice in spoken French in conversation groups; regular exercises in written expression; and a small amount of more formal grammar and translation work.

TEXTBOOKS

As for French IIA.

(b) FRENCH IIB LITERATURE

The novel and short story in 19th century France.

TEXTBOOKS


300-LEVEL

EURO301 FRENCH IIIC

First session; 12 credit points (2 hrs lectures, 3 hrs tutorials per week)

Assessment:

(a) Language: participation in classwork and regular assignments comprising exercises in written expression, aural comprehension, grammar and dictation.

(b) Civilization: essays during session.

This subject consists of 2 parts: (a) French IIIC language and (b) French IIIC civilization.

(a) FRENCH IIIC LANGUAGE:

The principle of this advanced audio-visual subject is to acquaint students with points of grammar and style in the context of dialogues related to problems of contemporary French life, and to provide an opportunity for re-use of these structures in the discussion of various thematically linked documents. Emphasis is placed on student participation. Associated listening comprehension documents are treated in the language laboratory and there is one hour of conversation.

TEXTBOOKS


(b) FRENCH IIIC CIVILIZATION

As for EURO211.
324 DESCRIPTION OF SUBJECTS - EUROPEAN LANGUAGES

Assessment:
(a) **Language**: regular exercises in aural comprehension, oral expression and translation. There will be an oral examination at the end of session.
(b) **Literature**: essays during session.

This subject consists of 2 parts: (a) French III B language and (b) French III B literature.

(a) **FRENCH III B LANGUAGE:**

This course will examine techniques of precise translation from English to French. It further develops skills of written expression and reading comprehension, and provides regular sessions of aural comprehension in the language laboratory and conversation in small groups.

**TEXTBOOKS**


(b) **FRENCH III B LITERATURE:**

French poetry 1850 - 1920.

**TEXTBOOKS**


400-LEVEL

**EURO400 FRENCH IV HONOURS**

*Double session; 48 credit points (7 hrs lectures/seminars per week)*

(a) **APPROACHES TO LITERARY CRITICISM:**

A survey of literary criticism in France with particular emphasis on critical method since 1945.
Assessment is by essays during session.

**TEXTBOOKS**


(b) **SUPPLEMENTARY STUDY:**

To be chosen in consultation with Departmental Chairman.

(c) **SPECIAL SUBJECT:**

A detailed study on a topic of French literature, civilization or language to be chosen in consultation with the Departmental Chairman. An essay of about 10,000 words in French is required.
(d) **PHONETICS:**

An examination of the sounds of French, the principles governing their articulation and operation when combined in words and sentences.

**Assessment:** Weekly orthographic transcriptions of recorded documents and an end of session examination comprising phonetic transcription of written and recorded passages; reading aloud; a test on French phonological and phonetic principles.

**TEXTBOOKS**


(e) **OLD FRENCH:**

A study of aspects of the semantic and morphological evolution of the French language from Latin to the sixteenth century through an examination of Old French documents, in conjunction with the study of two complete Old French texts and a series of excerpts from other works of the period.

**Assessment** will be based on a written examination of the material studied.

**TEXTBOOKS**


(f) **TRANSLATION:**

Development of skills in the precise rendition of English expression into French, and French to English will be developed through regular exercises in translation. Assessment will be based on these exercises.

**TEXTBOOKS**


(g) **STYLISTICS:**

Through the analysis of a selection of written documents, students will be required to demonstrate their awareness of techniques employed by writers (especially at the levels of syntax and vocabulary) for the effective communication of their ideas.

This work will be complemented by the phonostylistic analysis of a series of recorded documents.

**Assessment** will be by seminar participation and a final examination.

**TEXTBOOKS**

EURO425 COMBINED FRENCH-ITALIAN HONOURS

Double session; 48 credit points (7 hrs lectures/seminars per week)

(a) LITERARY CRITICISM:

Either

EURO400 (a) Approaches to literary criticism

or

EURO450 (a) Literary criticism

(b) SUPPLEMENTARY STUDY:

To be chosen in consultation with the Departmental Chairman.

(c) SPECIAL SUBJECT:

A detailed study on a topic of French and/or Italian literature, civilization or language to be chosen in consultation with the Departmental Chairman. An essay of about 8,000 words in French or Italian is required.

(d) LANGUAGE:

(i) as for EURO400  (f) Translation

(ii) as for EURO400  (g) Stylistics

(iii) as for EURO400  (h) Conversation

(iv) as for EURO450  (e) Language

ITALIAN

100-LEVEL

EURO153 INTRODUCTORY ITALIAN

Double session; 12 credit points (6 hrs practical/tutorial per week)

Assessment: Regular exercises in aural-oral comprehension and reading and writing

This is an audio-lingual course for beginners or near-beginners in Italian. The emphasis is initially on oral communication with a gradual development of competence in all four aspects of second-language acquisition: listening, speaking, reading and writing. Classes will be in tutorial groups of approximately 20 students and extensive use will be made of language tapes. Successful completion of EURO 153 qualifies students for entry into EURO251 Italian IIC.

TEXTBOOKS


DESCRIPTION OF SUBJECTS - EUROPEAN LANGUAGES 327


EURO161 ITALIAN IA

First session; 6 credit points (3 hrs lectures, 1 hr tutorial, 1 hr practical per week)
Recommended Pre-requisite: Prior Italian study to an acceptable level; normally this would mean satisfactory performance in Italian at the N.S.W. H.S.C. or proficiency attained from another source such as attending school in Italy.
Assessment:
(a) Language: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition;
(b) Literature: periodic comprehension achievement assessments and essays during session.

This subject consists of 2 parts: (a) Italian IA language and (b) Italian IA literature.

(a) ITALIAN IA LANGUAGE:
In this course the principal emphasis is on the improvement of aural-oral comprehension of standard Italian, on fluency for oral communication and on stylistic analysis and development for reading comprehension and for written communication and composition. Italian phonemics and phonetics are reviewed. Major attention is given to lexical development and the analysis of language structure and its use.

TEXTBOOK

(b) ITALIAN IA LITERATURE:
The Italian Theatre of the Twentieth Century: through a selection of 20th Century Italian plays students are introduced to an appreciation of the theatre, techniques of literary analysis and an over-view of modern Italian life.

TEXTBOOKS

EURO162 ITALIAN IB

Second session: 6 credit points (2 hrs lectures, 1 hr tutorial, 2 hrs lecture/practical per week)
Assessment:
(a) Language: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition;
(b) Civilization: periodic comprehension achievement assessments and essays during session.

This subject consists of 2 parts: (a) Italian IB language and (b) Italian IB civilization.

(a) ITALIAN IB LANGUAGE:
The programme begun in Italian IA is sustained with regular opportunity provided for the expression of ideas on subjects of interest presented by the various texts
or chosen by the student. These themes are also used as a basis for the written expression required during the session.

**TEXTBOOKS**

As for Italian IA.

(b) **ITALIAN IB CIVILIZATION:**

*The Novel and Italian Society*: This course explores the development of the novel in Italy and studies how each author reflects in his work the processes of change and conflict in Italian society since national unification. Textual analysis focuses on the techniques used by the various novelists to portray Italian society in a time of anxiety and transformation (1860-1945).

**TEXTBOOKS**


**200-LEVEL**

**EURO251 ITALIAN IIC**

First session; 8 credit points (3 hrs lectures, 1 hr tutorial, 1 hr practical per week)

*Assessment:*

(a) **Language**: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition;

(b) **Literature**: periodic comprehension achievement assessments and essays during session.

This subject consists of 2 parts: (a) Italian IIC language and (b) Italian IIC literature.

(a) **ITALIAN IIC LANGUAGE:**

As for EURO161.

**TEXTBOOKS**

As for EURO161.

(b) **ITALIAN IIC LITERATURE:**

Through a selection of 19th and 20th Century Italian prose, students are introduced to narrative works which illustrate the growth and development of the Italian novel, its literary techniques and its portrayal of modern Italian life.

**TEXTBOOKS**


And one of the following novels:


**EURO252 ITALIAN IID**

Second session; 8 credit points (2 hrs lecture/practical, 2 hrs lectures, 1 hr tutorial per week)
DESCRIPTION OF SUBJECTS - EUROPEAN LANGUAGES 329

Assessment:
(a)  Language: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition.
(b)  Civilization: Periodic comprehension achievement assessments and essays during session.

This subject consists of 2 parts: (a) Italian IID language and (b) Italian IID civilization.

(a)  ITALIAN IID LANGUAGE:
As for EURO162.

TEXTBOOKS
As for EURO162.

(b)  ITALIAN IID CIVILIZATION:

The Novel and Italian Society - 1860-1945: This course explores the development of the novel in Italy and studies how each author reflects in his work the processes of change and conflict in Italian society since national unification. Textual analysis focuses on the techniques used by the various novelists to portray Italian society in a time of anxiety and transformation (1860-1945).

TEXTBOOKS

EURO261 ITALIAN IIA

First session; 8 credit points (2 hrs lecture/practical, 2 hrs lecture, 1 hr tutorial per week)
Assessment:
(a)  Language: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition.
(b)  Literature: periodic comprehension achievement assessments and essays during session.

This subject consists of 2 parts: (a) Italian IIA language and (b) Italian IIA literature.

(a)  ITALIAN IIA LANGUAGE:
Vocabulary building for oral fluency and advanced stylistics for written expression are emphasised. The skills acquired in ITALIAN IA and IB are further developed.

TEXTBOOKS

(b)  ITALIAN IIA LITERATURE:
Dante: After a brief introduction to the historical, literary and philosophical
background of the period, this course focuses on Dante’s *Inferno*. Toward the end of session, there is also some consideration of Dante’s impact on Petrarch, Boccaccio and other Trecento writers.

**TEXTBOOK**


**EURO262 ITALIAN IIB**

*Second session; 8 credit points (2 hrs lecture/practical, 2 hrs lecture, 1 hr tutorial per week)*

*Assessment:*

(a) *Language*: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition.

(b) *Civilization*: periodic comprehension achievement assessments and essays during session.

This subjects consists of 2 parts: (a) Italian IIB language and (b) Italian IIB civilization.

(a) **ITALIAN IIB LANGUAGE:**

The programme begun in Italian IIA is sustained.

**TEXTBOOKS**

As for Italian IIA.

(b) **ITALIAN IIB CIVILIZATION:**

*The Renaissance*: a study of what Burckhardt defined as “the birthplace of the modern spirit”. The course examines the Italian Renaissance as a historiographical problem, using artistic and literary materials to illustrate some of the basic themes, problems and ideas common to the period.

**TEXTBOOKS**

To be chosen from the following titles:


**300-LEVEL**

**EURO351 ITALIAN IIIC**

*First session; 12 credit points (2 hrs lecture/practical, 2 hrs lecture, 1 hr tutorial per week)*

*Assessment:*

(a) *Language*: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition.

(b) *Literature*: periodic comprehension achievement assessments and essays during session.

This subject consists of 2 parts: (a) Italian IIIC language and (b) Italian IIIC literature parts i and ii.

(a) Extensive lexical and structural development and analysis for total oral fluency and comprehension will be stressed along with advanced stylistic-
ics for written expression. The skills acquired in Italian II are further developed.

**TEXTBOOKS**


(b) **ITALIAN IIIC LITERATURE (part i)**

This course studies Italian literature from its origins in the 12th-13th century to the present.

**TEXTBOOKS**


**ITALIAN IIIC LITERATURE (part ii)**

*Dante*: After a brief introduction to the historical literary and philosophical background of the period, this course focuses on Dante’s *Inferno*. Toward the end of session, there is also some consideration of Dante’s impact on Petrarch, Boccaccio and other Trecento writers.

**TEXTBOOKS**


**EURO352 ITALIAN IIID**

*Second session; 12 credit points (2 hrs lecture/practical, 2 hrs lecture, 1 hr tutorial per week)*

**Assessment:**

(a) **Language**: periodic assessments in aural-oral comprehension, reading comprehension, writing and composition.

(b) **Literature**: periodic comprehension achievement assessments and essays during session.

(c) **Civilization**: periodic comprehension achievement assessments and an essay during session.

This subject consists of 3 parts: (a) Italian IIID language; (b) Italian IIID literature; (c) Italian IIID civilization.

(a) The programme begun in Italian IIIC (EURO351) is sustained.

**TEXTBOOKS**

As for Italian IIIC (EURO351)

(b) **ITALIAN IIID LITERATURE**

*Poetry*: the programme begun in Italian IIIC (EURO351) is sustained.

**TEXTBOOKS**

As for Italian IIIC (EURO351)
(c) ITALIAN III CIVILIZATION

The Renaissance: a study of what Burckhardt defined as "the birthplace of the modern spirit". The course examines the Italian Renaissance as a historiographic problem, using artistic and literary materials to illustrate some of the basic themes, problems and ideas common to the period.

TEXTBOOKS

To be chosen from the following titles:


EURO361 ITALIAN IIIA

First session; 12 credit points (1 hr lecture/practical, 3 hrs lecture, 1 hr tutorial pe. week)
Assessment:
(a) Language: periodic assessments.
(b) Literature: periodic comprehension achievement assessments and essays during session.

This subject consists of 2 parts: (a) Italian IIIA language (b) Italian IIIA literature, part i and part ii.

(a) ITALIAN IIIA LANGUAGE:

History of the Italian language, dialectology and phonemics: this course studies the linguistic changes from Latin to Italian; identifies standard literary Italian throughout the centuries; reviews the phonemics of contemporary standard Italian and looks at the dialects of the Italian people.

TEXTBOOKS


(b) ITALIAN IIIA LITERATURE:

Part i Poetry:

This course studies Italian poetry from its origins in the 12th - 13th century to the present.

TEXTBOOKS


Part ii

Alessandro Manzoni: This course studies Romanticism in Italy and its major exponent in Italian letters, Alessandro Mazzoni. Manzoni's historical novel I promessi sposi is carefully analyzed.

TEXTBOOK

EURO362 ITALIAN IIIB

Second session; 12 credit points (1 hr lecture/practical, 3 hrs lecture, 1 hr tutorial per week)

Assessment:
(a) Language: periodic assessments.
(b) Literature: periodic comprehension achievement assessments and essays during session.
(c) Civilization: periodic comprehension achievement assessments and an essay during session.

This subject consists of 3 parts: (a) Italian IIIB language, (b) Italian IIIB literature, (c) Italian IIIB civilization.

(a) ITALIAN IIIB LANGUAGE:

The programme begun in Italian IIIA (EURO361) is sustained.

TEXTBOOKS

As for Italian IIIA (EURO361).

(b) ITALIAN IIIB LITERATURE:

Poetry: The programme begun in Italian IIIA (EURO361) is sustained.

TEXTBOOKS

As for Italian IIIA (EURO361)

(c) ITALIAN IIIB CIVILIZATION

This course is a study of Italian opera from its beginnings as an outgrowth of the Renaissance theatre in Italy to the genre as we know it today. The main composers will be studied with emphasis on the relationship between literature and libretto. The relationship between Italian opera and the other arts will be treated.

TEXTBOOKS


400-LEVEL

EURO450 ITALIAN IV HONOURS

Double session; 48 credit points (8 hrs lectures/seminars per week)

(a) LITERARY CRITICISM:

This course is both an examination of major developments in modern Italian literary theory, and an introduction to critical methods and bibliography. The topics to be explored under the first heading include the following: (1) the foundation of literary history by Francesco De Sanctis, (2) the formulation of Croce's idealist aesthetics, (3) Gramsci's views on Italian literature.

Assessment is by seminar papers and essays.
DESCRIPTION OF SUBJECTS - EUROPEAN LANGUAGES

TEXTBOOKS


(b) SUPPLEMENTARY STUDY:

This component consists of two of the following courses, one per session:

1. *Il teatro in musica italiano: il melodramma* (See EURO362 Civilization)
2. *Alessandro Manzoni e il Romanticismo italiano* (See EURO361 Literature, part ii)
3. *Il teatro di Carlo Goldoni*: This course gives an overview of the theatre in Italy during the Settecento. It studies in detail Carlo Goldoni, his major theatre works and his *Memorie*.

TEXTBOOKS


4. *Italian-Australian studies*: The Italians in Australia: this course investigates the process of Italian migration to Australia within an overall historical and cross-cultural framework examining in particular:

   a. the historical and social experience of Italians in the regions of major emigration;
   b. on-arrival and settlement problems experienced by Italian migrants to Australia;
   c. the long-term interaction process with the host society especially as expressed in Italo-Australian language and literature.

TEXTBOOKS


Assessment is by quizzes, seminar/research papers, essays.

(c) SPECIAL SUBJECT

A detailed study on a topic of Italian literature, civilization or language to be chosen in consultation with the Italian staff and the Department Chairman. An essay of approximately 8,000 words in Italian is required.

(d) DANTE

The studies begun in the third year programme on Dante will be continued. The *Purgatorio* and the *Paradiso* will be read and carefully studied, with particular attention to the philosophical and theological aspects of Dante's world view.

Assessment is by class exercises and essays during session.

TEXTBOOKS

(e) LANGUAGE

Those students entering the Honours programme from EURO352 replace this component with ITALIAN IIIA and ITALIAN IIIB language - History of the Italian Language, Dialectology and Phonemics: (See EURO361, EURO362).

This segment of the subject aims at the perfecting of skills in all areas of literary and idiomatic language awareness and usage through advanced analytical and stylistic study of selected documents and literary works. Skills acquired in the rendering of English into Italian and Italian into English will be further developed through regular exercises in translation.

Assessment will be by regular written assignments and a final examination.

TEXTBOOKS

GENERAL STUDIES

General Studies exists to enrich the curriculum of the University in two main ways: (1) by broadening the student’s range of study through the provision of areas of interest beyond his necessarily specialized professional course and (2) by attempting to exploit the interrelation between disciplines which (in the modern university) are generally studied as quite distinct subjects or courses, and to link such disciplines in relevant and fruitful ways.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

100-LEVEL

GENE111 AUSTRALIAN STUDIES: CULTURE AND THE SOCIAL ENVIRONMENT BETWEEN THE WARS

First session; 6 credit points (3 hours lecture/tutorial/seminar)
Assessment: 1 essay, 1 tutorial paper and tutorial performance

This subject is to do with the development of Australian society as reflected in the perspectives of geography, government, technology and culture; particular attention will be given to the impact of World War I, the changing pattern of work and leisure in the ‘twenties’ and to the Great Depression.

TEXTBOOKS


GENE112 AUSTRALIAN STUDIES: CULTURE AND THE SOCIAL ENVIRONMENT IN POST-WAR AUSTRALIA

Second session; 6 credit points (3 hours lecture/tutorial/seminar)
Assessment: 1 essay, 1 tutorial paper and tutorial/seminar performance

This subject is to do with the development of Australian society after World War II as reflected in the perspectives of geography, government, technology and culture; the impact of the war, post-war reconstruction, immigration, social welfare, nuclear and computer technology will receive attention.

TEXTBOOKS


GENE151 THE ART OF PHYSICS

Second session; 6 credit points

Refer to "Description of Subjects" - Department of Physics (PHYS151).

200-LEVEL

GENE203 THE WORLD OF LANGUAGE IA

First session; 8 credit points (2 lectures, 1 tutorial/demonstration per week)
Assessment: Will be based on 3 class tests, and assignments mainly in the form of short answers to specific questions in textbooks
An investigation of the nature and uses of Language, especially as it touches life and learning at so many points. At such points of contact the interdisciplinary aspects of the subject will be developed.

Part A will serve as a general introduction and then deal specifically with the phonological and semantic aspects.

**TEXTBOOKS**


**GENE204 THE WORLD OF LANGUAGE IB**

*Second session; 8 credit points (2 lectures, 1 tutorial/demonstration per week)*

**Assessment:** Will be based on 3 class tests, and weekly assignments mainly in the form of short answers to specific questions in textbooks

Continues the investigation of aspects of language, such as grammar and usage, and looks at certain specific contexts of language use, e.g. educational, sociological, computational, literary.

**TEXTBOOKS**


**WOMEN IN SOCIETY**

These subjects will examine women's role and experience in the social, economic and political process together with relevant theories about women. Students may enrol in both subjects or one only.

**GENE213 WOMEN IN SOCIETY A**

*First session; 8 credit points (3 hr lecture/seminar)*

**Assessment:** Students will be assessed on written assignments and seminar contributions

This subject will focus on women and the family taking into consideration such topics as female sexuality, women's reproductive role, socialization, literary representation of family life and an historical analysis of the family.

**TEXTBOOKS**

(Students are advised that textbooks should not be bought without consultation with those teaching the subject).

Bronte, C. *Jane Eyre*.


GENE214 WOMEN IN SOCIETY B

Second session; 8 credit points (3 hr lecture/seminar)
Assessment: Students will be assessed on written assignments and seminar contributions.

This subject will focus on women and work taking into consideration the economic and social situation of women in the workforce and its attendant conflicts, the education of women and women in politics.

TEXTBOOKS

Students are advised that textbooks should not be bought without consultation with those teaching the subject.


GENE220 CONCEPTS OF THE MODERN UNIVERSE

First session; 6 credit points (28 hrs lectures, 14 hrs tutorials, 14 hrs laboratory and one 3 hr field trip to the University Observatory)
Assessment: Will be based upon performance in tests, written assignments and one two-hour examination.

Note: No special ability in Mathematics or Physics is required for this subject.

Astronomy is the most ancient of all sciences. Present-day astronomers are on the verge of great discoveries and the relationship between man and the universe is gradually being revealed. This subject will illustrate the techniques used by astronomers and will attempt to give an understanding of the universe as we presently understand it. A field trip to the University’s Observatory will give the opportunity to observe the phenomena discussed.

The Birth of Astronomy; The Development of Astronomy as a Science; The Planets - A Description; The Formation of the Solar System; The Space Programme - Moon; To the Planets; The Search for Life; Future of the Space Programme; The Sun as a Star; The Violent Sun; Aurora; Eclipses; Starlight; The Message of Starlight; The Visible Stars; The Variation in Stars; The Birth and Death of Stars; Telescopes, Big and Small; The Milky Way; The Universe of Galaxies; The Universe in Perspective.

TEXTBOOK


GENE221 SCIENCE, TECHNOLOGY AND SOCIAL PROGRESS

First session; 8 credit points (2 lectures/seminars, 1 tutorial per week)
Assessment: Will be based on two seminar papers and one essay of approximately 5000 words.

The subject will study aspects of science and technology from the standpoint of their influence, both beneficial and detrimental, on the fabric and beliefs of society, with special reference to social progress.

The role of science and technology in society will be examined together with its effects on the relationship between humanity and nature and also on relationships between people. The origins of contemporary attitudes to science and technology in particular and progress in general will be examined from an hist-
In the light of this, a more detailed analysis of some contemporary issues will be made. Particular issues may include technical and political aspects of the debate over nuclear power; energy production systems and energy policy; environmental degradation and its control; genetics, eugenics and science; & micro processors and the impact of technological change.

TEXTBOOK


GENE225 COMPUTERS IN SOCIETY

Second session; 8 credit points

Refer to "Description of Subjects" - Department of History and Philosophy of Science (HPS228).

GENE231 RELIGIOUS STUDIES A

First session; 8 credit points (1 lecture, 2 seminars per week)
Assessment: Will be based on two 2000 word essays and one 1 hr examination

APPROACHES TO RELIGION: One lecture and one tutorial each week will be devoted to linguistic, historical and philosophical problems to be found in the study of religion. One tutorial a week will concentrate on a second strand of the subject, namely the study of some major religious documents. The two strands will be closely integrated, and, in the first session, selections from the New Testament will be studied.

(a) The Language of Religion. This segment includes a study of: the distinctiveness of religious language; anthropomorphism, both essential and extravagant; the disclosure language of revelation; transcendental. This study will adopt a linguistic and anthropological approach.

(b) Religion and History. An examination of the implications for historical understanding of the life of Jesus. Consideration will be given to the historical purpose of the authors of the New Testament and a Christian interpretation of history will be explored.

(c) Religion and Philosophy - Testimony and Religious Truth. An examination of the nature, relevance and validity of attempts to support religious beliefs and attitudes by appeals to historical and personal experience. Particular attention will be paid to (i) methodological problems surrounding religious inferences based on the content of the Gospels and (ii) attempts to support, or refute, religious belief by appeal to facts about the physical world.

TEXTBOOKS


GENE232 RELIGIOUS STUDIES B

Second session; 8 credit points (1 lecture, 2 tutorials per week)
Assessment: Will be based on two 2000 word essays and one 1 hr examination

RELIGION IN THE MODERN WORLD: One lecture and one tutorial each week will be devoted to an examination of the relationship between religion and science, modern theistic and atheistic thinking, problems in the sociology of religion and the sociological analysis of religion in Australia today. In the second tutorial a study will be made of the Upanishads, the Bhagavad Gita and the Koran.
(a) **Scientific and Religious Thought.** An examination of two case studies of conflict between science and religion: the trial of Galileo and the impact of Darwin's theory of evolution on nineteenth-century religious beliefs. Positivism and the attacks on non-empiricist knowledge. The decline of positivism and the acceptance of non-empirical sources of truth.

(b) **Modern Theistic and Atheistic Thinkers.** This section is an introduction to four thinkers who have exercised a significant influence on the religious thinking of twentieth-century man: Friedrich Nietzsche, Albert Camus, Teilhard de Chardin, and Dietrich Bonhoeffer.

(c) **A Sociological Approach to Australian Religion.** An examination of the function of religious belief in Australian culture.

**TEXTBOOKS**


**GENE241 FINE ARTS A**

*First session; 8 credit points (2 lectures, 2 tutorials per week and attendance at a prescribed film programme)*

**Assessment:** Two 2000 word essays, 3 hrs class tests

This subject consists of three strands: Architecture, Art and Aesthetics.

(i) **ARCHITECTURE:** This part concentrates on themes related to man's need to shape and enclose space and seeks to demonstrate how the history of architecture is also a record of man's aspirations, culture and fashions through the ages. The history surveys the major developments from ancient civilizations to the Middle Ages and concludes with a general comment on the moods and architecture of the Renaissance and how these eventually influenced the character of our own modern cities and towns.

**TEXTBOOKS**


(ii) **ART:** The broad spectrum of Western painting and sculpture from Giotto to the modern period. Artists who occupy a major place in the development of Western art will be dealt with in more detail. Mention will also be made of interaction between Eastern and Western painting, sculpture and ceramics.

**TEXTBOOK**


(iii) **AESTHETICS:** In addition to the Architecture and Art strands there will be a series of lectures on Aesthetics and Taste.

**GENE242 FINE ARTS B**

*Second session; 8 credit points (2 lectures, 2 tutorials per week and attendance at a prescribed film programme)*

**Assessment:** Two 2000 word essays, 3 hrs class tests
This subject consists of three strands: Architecture, Art and Aesthetics.

(i) ARCHITECTURE: A survey of major scenes and changes in Architecture over the last 500 years, culminating in the modern walls around us. The course concludes with a glance at possible new directions and with some speculation about the structure of "plug-in" cities which may lie ahead.

TEXTBOOKS


(ii) ART: The first flowering of 20th Century Art between the wars: After World War II; Modern Sculpture; Decline of U.S.A. Internationalism; Australian Art; Art of China and Japan.

TEXTBOOKS

Smith, B. Australian Painting. 2nd ed. O.U.P., Melbourne, 1974.

(iii) AESTHETICS: In addition to the Architecture and Arts strands there will be a series of lectures on Aesthetics and Taste.

GENE251 POPULATION IN A CROWDING WORLD*

First session; 8 credit points (2 lectures, 2 tutorial/seminar/workshop weekly)
Assessment: Essays, seminar paper, examination

In the twentieth century questions concerning the size, composition, growth and distribution of the human population, whether at global, national or regional scale, have assumed major importance at both academic and popular levels. In many countries governments sponsor birth control programmes, in others there is concern over the likely effects of near- or at-zero levels of replacement. Policy decisions concerning the movement of people between and within nations are made and remade in most societies and 'quality of life' considerations loom large in discussions of the recently apparent reversal of the metropolitanization of population in the developed world.

This subject attempts to provide a firm foundation for understanding the nature of these and other population related problems by exploring the social, cultural and economic bases of modern demographic change. Particular attention will be paid to historical and spatial variation in the level of human reproduction, to the 'retreat of death', to interventionist programmes (e.g. birth and death control) in both the less and more developed worlds, to resultant patterns of differential population growth and their social, economic and demographic consequences, to migration within and between states and its implications for regional and national planning and to specific questions relating to population distribution and density such as the relationship between living densities and 'life quality'. Alternative scenarios of growth change and distribution and their implications will be examined.

GENE261 THE ENVIRONMENTAL IMPACT OF MAN

First session; 8 credit points

Refer to "Description of Subjects" - Department of Geography (GEOG261).

* Will not be offered in 1982.
GENERAL STUDIES

GENE270 THE SCIENCE AND ART
OF MUSIC A: MUSIC-MAKING

First session; 8 credit points (1 lecture, 1 two-hour workshop session per week)
Assessment: Students will be assessed on practical projects, written work and seminar contributions.

A study of the craft and practice of music, though students are not required to have any prior specialised knowledge of music. It aims at a practical approach to music, and one in which all students can effectively participate. The major areas covered will be instrument-making; composition; the recording industry; some introductory acoustics: vibrations and waves, sound-sources, propagation, detection; pitch, timbre, loudness. The course will involve some fieldwork; concert attendance; visits to rehearsals of professional music organisations and to recording sessions.

TEXTBOOKS

A list of recommended reading will be given to students at the beginning of session.

GENE271 THE SCIENCE AND ART
OF MUSIC B: MUSIC IN SOCIETY

Second session; 8 credit points (1 lecture, 1 two-hour seminar per week)
Assessment: Students will be assessed on practical projects, written work and seminar contributions.

An historical survey of western music with emphasis upon the place of music in society, and the concept that music is a form of human behaviour. The course also contains a specific investigation of music as a part of drama.

TEXTBOOK


GENE272 THE SCIENCE AND ART
OF MUSIC C: MUSICAL ACOUSTICS

Second session; 8 credit points (1 lecture, 1 two-hour seminar per week)
Assessment: Students will be assessed on written work and seminar contributions

This course will deal with the acoustics of rooms and concert halls; the recording and transmission of music; hearing, harmony, discord; musical scales; electronic music; psychoacoustics. Students do not require any specialised mathematical knowledge in order to undertake this course.

TEXTBOOK


300-LEVEL

GENE303 THE WORLD OF LANGUAGE IIA:
THE STRUCTURE OF LANGUAGE

First session; 8 credit points (one 2 hr lecture/seminar, 1 hr tutorial per week plus consultation for project supervision)
Assessment: Regular progressive tests and supervised written projects.

Students will continue the study of structure begun in World of Language I (GENE203, 204) and topics will include: grammatical notions and functions; modern approaches to grammar; grammar and the school teacher; correctness and acceptability; some practical applications.
DESCRIPTION OF SUBJECTS - GENERAL STUDIES

TEXTBOOKS


GENE304 THE WORLD OF LANGUAGE IIB: LANGUAGE IN THE COMMUNITY

Second session; 8 credit points (one 2 hr lecture/seminar, 1 hr tutorial per week plus consultation for project supervision)

Assessment: Regular progressive tests and supervised written projects.

Varieties of Language - regional and social dialect; stylistic variations; language in a mixed society; specific uses - the language of politics, the media etc.

TEXTBOOKS


400-LEVEL

GENE403 EPISTEMOLOGY AND COMPARATIVE METHODOLOGY

Double session; 6 credit points (one 2 hr seminar/discussion per week)

Assessment: Either a 3 hr written examination at the end of session 2, or two 3000 word essays; or (with the permission of the Chairman of the Department(s) in which the student's 400-level programme is undertaken) a combination of essays and examinations. In addition, students may be required to contribute a seminar paper

An inter-disciplinary investigation of problems in epistemology and methodology, especially the methodology of the human and social sciences. What is the nature and the status of the human sciences? Do they require methodologies distinct from those of the natural sciences?

In the first session, a consideration of general issues in epistemology and the philosophy of the social sciences will be undertaken, based on the listed textbooks and presupposing acquaintance with the listed preliminary reading.

In the second session, particular methodological problems in history, psychology, sociology (and other social sciences) will be investigated. Seminar papers will be presented by representatives of the different disciplines.

PRELIMINARY READING

Hempel, C.G. *Philosophy of Natural Science*. Prentice-Hall.

Rudner, R. *Philosophy of Social Science*. Prentice-Hall.


TEXTBOOKS


A full three year programme of Geography subjects may be included in the pass BA, BSc or BCom degrees. Fourth year studies in Geography are available for the BA and BSc Honours Degrees.

At 100-level, two one-session subjects are offered, one in the physical/environmental aspects of the discipline, the other related to urban, regional and developmental aspects. Students may choose to do either or both but those thinking of continuing their studies in the discipline are advised to enrol for both subjects to minimise limitations on subject choice in later years. At higher levels students may choose to emphasise either physical or human geography or to combine the two by selecting from the range of options available.

Normally, students wishing to enter the Fourth year Honours programme should have completed at least 16 credit points of Geography at 200-level and either 36 credit points of 300-level Geography or 24 credit points in 300-level Geography and 12 credit points in a cognate field approved by the Department, usually at credit level or better. Candidates for the BSc Honours degree are required to have completed at least 24 credit points of 300-level Geography subjects approved by the Science Faculty. Joint Honours degree candidates must have completed the specified programme at 200- and 300-level.

In any subjects field classes may be required as a normal part of the work load. For details, consult individual subjects.

In all subjects overall grades may include the assessment of essays, tutorials, seminars, projects, periodic tests, field and practical work and/or terminal examinations. The precise weighting to be given each component will be discussed with classes early in the session.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

100-LEVEL

GEOG102 MAN-MADE ENVIRONMENTS: PROBLEMS AND CHANGE

Second session; 6 credit points (2 lectures, up to 3 hrs workshop/tutorial per week, field work as required)
Assessment: End of session examination, tutorial papers/essays.

Man-made environments are never static - patterns of settlement change in response to technological and social changes; the development of new mineral resources changes existing trade and transport links; innovations in agriculture and industry alter the way land is used. This introductory subject examines the spatial aspects of the development of man-made environments, the patterns of adjustment to change and the problems associated with it. More particularly it will examine questions relating to change in urban environments, population and settlement systems, primary and secondary industry, communications networks, etc.

For the most part the course will focus on issues related to the local Illawarra and Australian environments.

GEOG193 MAN-MADE ENVIRONMENTS: PROBLEMS AND CHANGE (SCIENCE)

Second session; 6 credit points (2 lectures, up to 3 hrs workshop/tutorial per week, field work as required)
DESCRIPTION OF SUBJECTS - GEOGRAPHY

For assessment and description see GEOG102.

GEOG112 PHYSICAL ENVIRONMENTS: PROBLEMS AND PROCESSES

First session; 6 credit points (2 lectures, 3 hrs practical/tutorial per week, field work).
Assessment: 1 examination, 1 essay, 1 field report, practical work.

This subject presents the basic principles and mechanisms underlying the moulding of the earth’s surface. Topics covered include climatic, weathering, slope, cold weather, fluvial, wind and coastal processes. Emphasis is placed upon the variation in these processes world-wide; however, where possible, illustrations are drawn from the Australian setting. Temporal change in processes is examined with particular reference to climatic change in arid Australia. The impact of man on climate, urban drainage and the coastal environment is examined in detail.

GEOG192 PHYSICAL ENVIRONMENTS: PROBLEMS AND PROCESSES (SCIENCE)

First session; 6 credit points (2 lectures, 3 hrs practical/tutorial per week, field work)
For assessment and description see GEOG112.

GEOG202 URBAN ENVIRONMENTS: STRUCTURE AND DEVELOPMENT

Second session; 8 credit points (2 lectures, 2 hrs tutorial/workshop per week, up to 2 days field work may be required)
Assessment: Tutorial papers, workshop report, final examination.

Can society afford urban sprawl? How should the redevelopment of the inner city be managed? What are the consequences of the segregation of social groups within the residential environment? Questions such as these are illustrative of current debate about urban development and of the problems which the contemporary urban environment poses for people and policy-makers. This subject deals with the processes responsible for the evolution of the modern city, particularly in terms of its internal structure, organization and operation. Generalizations about the distribution of land uses, activity nodes and social groups are used in discussions of problems relating to the spatial structure of contemporary urban areas. Illustrations of these problems are drawn primarily from large Australian cities.

GEOG206 ARID ENVIRONMENTS

First session; 8 credit points (2 lectures, 3 hrs practical/seminar tutorial per week, field work)
Assessment: 1 examination; practical/research reports; 1 essay

This introduction to arid landscapes is based on comparative studies of major deserts, especially those of Australia and North America. The main focus will be the interaction of past and present-day climates with landforms and vegetation. Attention will also be given to the diverse ways in which man has responded to and modified arid landscapes. Practical classes will deal with the analysis of aerial and satellite imagery and arid terrain.

TEXTBOOKS

DESCRIPTION OF SUBJECTS - GEOGRAPHY

GEOG296 ARID ENVIRONMENTS (SCIENCE)
First session; 8 credit points (2 lectures, 3 hrs practical/seminar tutorial per week, field work)
For assessment, description and textbooks: See GEOG206.

GEOG210 DEVELOPMENT ISSUES: THE ASIAN EXAMPLE

Second session; 8 credit points (2 lectures, 2 hrs workshop/tutorial per week)
Assessment: 2 essays, 1 examination

Australia's close proximity to Asian nations demands a better understanding of the area. These nations are confronted by a wide range of developmental problems including those related to high population growth, rapid urbanization, poverty, manpower development, trade and many more. This subject focuses on the developmental issues facing Asian nations and the cultural variables affecting the development contrasts of non-Western aspects of regional development with those characteristic of Western nations.

GEOG212 BIOGEOGRAPHY: THE CHANGING BIOSPHERE

Second session; 8 credit points (2 lectures, 2 hrs practical, 1 hr tutorial, 4 day residential field class)
Assessment: Essays, laboratory reports, research report, final examination.

Biogeography is the study of the distributions of plants and animals, and their interaction both with each other and with the physical environment. For example plant communities are examined in response to changes in soil conditions. Population dynamics, plant succession, species diversity and climax associations are studied in the light of traditional and contemporary theories in these fields, and particular attention is given to the unique characteristics of island communities. Present knowledge of glacial events, continental drift and the formation of land bridges are used to interpret the distribution of land vertebrates and plants, and late glacial changes in climate are related to associated changes in plant species and their abundance. Field work concentrates on local coastal and rainforest communities.

GEOG291 BIOGEOGRAPHY: THE CHANGING BIOSPHERE

Second session; 8 credit points (2 lectures, 2 hrs practical, 1 hr tutorial per week, field work 6 days, normally including a 4 day residential field camp)
For assessment, description and books: See GEOG212

GEOG230 TRANSPORT SYSTEMS: PLANNING AND DEVELOPMENT

First session; 8 credit points (2 lectures, 2 hrs workshop/seminar per week)
Assessment: End of session examination; research report; tutorial papers.

Peak hour congestion in urban traffic, high freight rates in international shipping, inefficient public transport, the isolation of land-locked and island countries, noise pollution around airports, freight subsidies and freight equalisation - these are all problems relating to the efficiency of transport systems. This introductory subject focuses on these and similar questions in order to develop basic concepts and principles related to transport planning and development. More particularly, it examines questions related to a number of themes including transport in national and regional development strategies, transport deprivation, the impact of transport in locational and land use decision-making, the environmental impact of transport infrastructure and operations and transport efficiency.
DESCRIPTION OF SUBJECTS - GEOGRAPHY

TEXTBOOKS


GEOG251 POPULATION IN A CROWDING WORLD*

First session; 8 credit points (2 lectures, 2 tutorial/seminar/workshop weekly)
Assessment: Essays, seminar paper, examination

In the twentieth century questions concerning the size, composition, growth and distribution of the human population, whether at global, national or regional scale, have assumed major importance at both academic and popular levels. In many countries governments sponsor birth control programmes, in others there is concern over the likely effects of near- or at-zero levels of replacement. Policy decisions concerning the movement of people between and within nations are made and remade in most societies and "quality of life" considerations loom large in discussions of the recently apparent reversal of the metropolitanization of population in the developed world.

This subject attempts to provide a firm foundation for understanding the nature of these and other population related problems by exploring the social, cultural and economic bases of modern demographic change. Particular attention will be paid to historical and spatial variation in the level of human reproduction to the "retreat of death", to interventionist programmes (e.g. birth and death control) in both the less and more developed worlds, to resultant patterns of differential population growth and their social, economic and demographic consequences, to migration within the between states and its implications for regional and national planning and to specific questions relating to population distribution and density such as the relationship between living densities and "life quality". Alternative scenarios of growth change and distribution and their implications will be examined.

TEXTBOOK


GEOG261 THE ENVIRONMENTAL IMPACT OF MAN

First session; 8 credit points (2 lectures, 1 tutorial per week, up to 2 days field work may be required)
Assessment: Essays, final examination

The rise of environmental lobby groups and the continuing debate over such matters as energy alternatives, resource development and air and water pollution testifies to present concern about the impact of mankind on the environment. This subject deals with environmental impact on two levels. Firstly, it examines the environmental relationships of different societies (for example, aboriginal cultures in Australia and pre-industrial and industrial societies in other parts of the world). Secondly, it investigates particular issues of environmental significance in present-day Australia. Examples include air pollution, conflicts over the utilization of coastal, marine and forest resources, and the impact of the recreation boom on near-city areas.

300-LEVEL

GEOG311 RIVER ENVIRONMENTS: PROCESS AND MANAGEMENT

First session, 12 credit points (2 lectures, 1 tutorial per week, up to 2 days

*Will not be offered in 1982.
Rivers play a dynamic and vital role both in shaping the earth's landforms and affecting man's use of the earth's surface. Consequently they deserve careful environmental study. This course examines processes forming and modifying stream channels and drainage basins. Rivers are studied as natural systems within which variables adjust to each other, to natural external variables, and to man's interference. Specific topics include flood hydrology, flood prediction and river floodplains; channel shape, river meanders and braided channels; channel erosion, sediment transport and deposition.

Particular attention is given to man's modification and management of rivers, with concentration where possible on local urban and rural streams. Techniques include field measurements, sediment analysis and aerial photograph interpretation.

**GEOG391 RIVER ENVIRONMENTS: PROCESS AND MANAGEMENT (SCIENCE)**

*First session; 12 credit points (2 lectures, 3 hrs, 1 hr tutorial, 4 day residential field class)*

*For assessment and description: See GEOG311*

**GEOG313 COASTAL ENVIRONMENTS: PROCESS AND MANAGEMENT**

*Second session; 12 credit points (2 lectures, 3 hrs practical, 1 hr seminar/tutorial per week, field work)*

*Assessment: 1 examination, 1 seminar, field reports, practical assignments*

This subject considers contemporary processes affecting the formation of sandy beaches and associated environments. Topics include nearshore and foreshore morphology, wave and water movements, sediment transport dynamics. Associated environments examined include barrier beaches, dunes, inlets, estuaries and continental shelves. Lecture material is illustrated mainly with Australian examples.

The applied aspect of the course expands concepts developed in lectures using local field study. Applied work is also directed towards delineation and solution of man-made and naturally occurring problems in the coastal zone. Techniques used include field measurements, computer simulation, sediment analysis and aerial photographic interpretation.

**GEOG393 COASTAL ENVIRONMENTS: PROCESS AND MANAGEMENT (SCIENCE)**

*Second session; 12 credit points (2 lectures, 3 hrs practical, 1 hr seminar/tutorial per week, field work)*

*For assessment and description: See GEOG313*

**GEOG314 EVOLUTION OF LANDSCAPE**

*Second session; 12 credit points (3 lectures, 3 hrs practical/seminar per week, field work 6 days)*

*Assessment: Examination, essays and reports*

The interaction of time and place in the evolution of landscape is the prime focus of this subject. Emphasis is placed firstly on the functional inter-dependence of landform, vegetation and soil, and secondly on the transformation of relationships among these phenomena arising both from natural causes and from man's impact on his environment. Topics include: problems in interpreting the denudation of highlands; survival of ancient landscapes; development of deposition...
lscapes; variations among landforms - vegetation relationships; man's transformation of soil-vegetation - landform assemblages over the last 40,000 years; a critical review of scientific perception of landscape. Relevant case studies will be drawn mainly from Australia, North America and Eurasia.

Practical classes will include advanced photographic and cartographic analysis and the macro- and micro-scopic study of palaeosols and weathering profiles.

TEXTBOOKS


GEOG394 EVOLUTION OF LANDSCAPE (SCIENCE)

Second session; 12 credit points (3 lectures, 3 hrs practical/seminar per week, field work 6 days)
For assessment, description and textbook: See GEOG314.

GEOG315 DEVELOPMENT ISSUES: THE ASIAN EXAMPLE

Second session; 12 credit points (2 lectures, 3 hrs practical/seminar/tutorial per week)
For assessment and description: See GEOG210.

GEOG320 SOCIAL PROBLEMS IN THE URBAN ENVIRONMENT

Second session; 12 credit points (2 lectures, 3 hrs workshop/seminar/field work per week)
Assessment: Essays/seminar papers, examination research report.

This subject looks at the city as a resource allocating mechanism, the effects of this allocation process upon the well-being/life chances of city dwellers and at policies and programmes designed to ameliorate or eliminate inequities and social problems such as poverty, health care disparities, educational and housing "deprivation" and those relating to especially disadvantaged groups.

GEOG322 REGIONAL DEVELOPMENT PROBLEMS

First session; 12 credit points (2 lectures, 2 hrs tutorial/seminar per week)
Assessment: Essays, research report, final examination

Are Australia's capital cities too big? What constitutes a "depressed area"? What are the special problems of rural regions? These are practical questions relating to rural and regional development. In this subject the emergence within nations of "problems region" of various types is examined, and some of the strategies employed in the resolution of developmental stresses in such areas are canvassed. Particular attention is paid to such issues as decentralisation from metropolitan areas, differences between regions in incomes and employment opportunities, agricultural adjustment, and rural settlement in undeveloped regions. The principal illustrative context is Australia, but cases drawn from other parts of the world are used where appropriate.

GEOG381 DIRECTED STUDIES IN GEOGRAPHY

First, second or double session; 6 credit points (2 hrs tutorial/seminar/lecture, field work as required)
Assessment: Seminar presentation, essays, research report.

This subject consists of directed reading, field and laboratory work (as required)
and writing leading to the production of a major research essay/project report in a field selected by the student and approved by the Chairman of Department. Normally enrolment will be restricted to students who have satisfactorily completed, or are concurrently enrolled in, at least 12 credit points of 300-level Geography.

GEOG382 DIRECTED STUDIES IN GEOGRAPHY (SCIENCE)

First, second or double session; 6 credit points (2 hrs tutorial/seminar/lecture, field work as required)
For assessment and description: See GEOG381

400-LEVEL

GEOG402 HONOURS

Double session; 48 credit points

Final year Honours students are required to write a thesis of approximately 20-25,000 words on an approved topic embodying the results of a piece of supervised research and to participate in a seminar programme.

In the first session the seminar programme is concerned with questions of methodological and philosophical significance to research in modern Geography. In addition candidates will be involved in a directed reading/seminar course which explores a particular research field and culminates in the preparation of a research proposal. The second session is devoted mainly to research but participation in a workshop seminar is also required.

Assessment is based upon seminar papers and thesis: the thesis is examined both externally and internally.

GEOG403 HONOURS (SCIENCE)

Double session; 48 credit points

Final year students for the Honours science degree are required to write a thesis of approximately 20-25,000 words on an approved topic embodying the results of a piece of supervised research and to participate in a reading/seminar programme.

In the first session the seminar programme is concerned with questions of methodological and philosophical significance to research in Geography. In addition candidates are required to undertake directed reading and participate in seminars which explore a particular research field for which an adequate foundation has been provided by previous 200- and 300-level subjects in the Science Schedule, and culminates in the defence of a thesis proposal. The second session will be devoted mainly to thesis writing but participation in an ongoing workshop seminar is also required. Students will also undertake a programme of directed reading in fields of Physical Geography outside the immediate area of their research.

Assessment is based upon the thesis (70%), which will be examined internally and externally, submitted seminar papers (20%) and a examination on directed reading (10%).

GEOG460 JOINT HONOURS IN GEOGRAPHY AND PSYCHOLOGY

Double session; 48 credit points

Student enrolling in this subject must have completed at 200- and 300-levels a programme meeting the requirements specified in Schedule A for PSYC460.
DESCRIPTION OF SUBJECTS - GEOGRAPHY 351

(a) write a thesis of 20-25,000 embodying the results of a theoretically based empirical investigation in a field acceptable to and jointly supervised by both Departments.

(b) attend for credit the seminar "Issues in the Philosophy and Methodology of Geography", and

(c) attend Psychology seminars and complete coursework requirements for PSYC499.
DESCRIPTION OF SUBJECTS - GEOLOGY

GEOLOGY

The three year pass degree in Geology is normally taken within the BSc degree requirements but may be taken for the BA degree. 400-level studies in Geology are available for the BSc Honours Degree or the BA Honours Degree.

The double-session GEOL103 subject provides a basic grounding in Geology for 200-, 300- and 400-level Geology subjects, but is also suitable for students who do not wish to specialize in Geology. The 200- and 300-level subjects are single session. Students are advised to complete GEOL221, 222, 223 and 224 satisfactorily before enrolling in 300-level Geology subjects. Students wishing to specialize in Geology should take six out of the seven 300-level Geology subjects (48 credit points at 300-level in Geology) except that, when a joint Honours programme is approved, students must have completed at least three 300-level subjects in Geology (at least 24 credit points at 300-level in Geology).

Field work is an integral part of Geology courses. Details of the field work required are listed for each subject. In addition, students are encouraged to participate in the activities of the University of Wollongong Geological Society, especially field excursions. Subjects are assessed on the basis of a formal examination taken in the examination period(s) after the session(s) in which the subject is taught, together with assessment of essays, assignments, seminars, field and practical work, practical examinations and other examinations which are prescribed. (Note: formal examinations for GEOL103 will be held in the examination periods following both Session 1 and Session 2). The way the marks are arranged to make up the complete assessment in each subject will be advised early in the first session in which the subject is taught.

Students should consult the Chairman, Department of Geology, if they have enquiries concerning transition arrangements following courses taken up to, and including, 1980.

Schedule Entry

All subjects in this section (except GEOL252, GEOL352) are listed in schedule A. The schedule gives details of the session in which the subjects are offered and provide pre- and co-requisites and exclusions.

100-LEVEL

GEOL103 INTRODUCTORY GEOLOGY

Double session; 12 credit points (2 hrs lectures, 1 hr lecture/tutorial and 2.5 hrs practical per week and 4 days of field work)
Assessment: 2 theory examinations; 4 multiple choice tests; 3 exercises; 1 essay; 2 practical examinations; 2 field tutorial essays.

The science of Geology is concerned with: understanding the origin, age and structure of the earth; minerals and rocks; plate tectonics; the geological cycle; earth resources; and the origin and evolution of life.

The study of symmetry, forms and systems of crystals provides the basis for describing the physical properties of minerals. The mode of occurrence, lithological characters and classification of igneous, sedimentary and metamorphic rocks is presented. The study of fossils and rocks leads to an interpretation of the stratigraphy and geological history of the Australian continent and, more specifically, of New South Wales and the Sydney Basin. Landscape evolution is described in the context of introducing an understanding of our environment.

Practical Work: This involves the study of crystals, the identification and description of common minerals, rocks and fossils in hand-specimen, the interpret-
atation and preparation of geological maps and cross-sections and the use of simple geological instruments. Four days (two in first session and two in second session) of field tutorials will be conducted to illustrate lecture and practical work.

**TEXTBOOKS**


or


or


*Wollongong Sheet Geological Map 1:250,000*. Mines Dept., N.S.W. Handbook prepared by the Department of Geology.

**200-LEVEL**

**GEOL221 MINERALOGY**

*First session; 6 credit points (2 hrs lectures and 4 hrs practical per week)*

**Assessment:** 1 theory examination; practical exercises; 1 practical examination.

The *Crystallography* course advances the foundation in crystallography established at 100-level. Subjects covered include zones and the zone law, the stereographic projection and point groups and an introduction to Bravais lattices. The use of spherical triangles and the equation to the normal is outlined. In addition, internal symmetry and space groups are discussed.

An introduction is made to *Optical Crystallography* starting with the properties of waves, refraction in isotropic and anisotropic media and refractive indices. Other subjects covered include pleochroism, interference colours and extinction, uniaxial and biaxial indicatrices, uniaxial and biaxial interference figures and the determination of optic sign.

In *Crystal Chemistry* the chemical composition and unit cell content are related to the bonding of atoms and the effect of ionic radius on crystal structure. Isomorphism, atomic substitution and solid solution, polymorphism, and the classification of minerals complete the crystal chemistry course.

*Silicate Minerals* are discussed in detail, and this involves studying their physical and chemical properties and applying the principles of crystal chemistry to systematize these properties.

In *Practical Classes* use is made of the petrological microscope to study the optical properties of minerals and this is complemented by hand-specimen examination of crystals and minerals.

**TEXTBOOKS**


or


or


**GEOL222 PETROLOGY**

*Second session; 6 credit points (2 hrs lectures and 4 hrs practical per week)*

**Assessment:** 1 theory examination; practical exercises; 1 practical examination
The aim of this course is to enable students to identify rocks in thin-section and hand-specimen and to give them an outline of the elementary aspects of theoretical petrology. The course discusses the classification of rocks in general and some classifications of igneous, sedimentary and metamorphic rocks.

Under *Igneous Rocks* topics include: the CIPW norm, variations in associated igneous rocks, the consolidation of magma and a study of some synthetic silicate systems. The main igneous rock types are also described.

The course on *Sedimentary Rocks* starts with a description of clastic and sedimentary minerals, heavy minerals and clay minerals. Textures of terrigenous and carbonate rocks are covered and their diagenesis is discussed. An outline of sedimentary provenances is given.

*Metamorphic Rocks* are described and defined and types of metamorphism are discussed. The following topics are then presented: the facies classification of metamorphic rocks, progressive regional metamorphism, dynamic metamorphism, contact metamorphic rocks, granulites and eclogites.

In *Practical* classes rocks are studied in thin-section and hand-specimen.

**TEXTBOOKS**


**GEOL223 GEOLOGICAL MAPPING AND STRATIGRAPHY I**

*Second session; 6 credit points (1 hr lecture, 1.5 hrs practical work, up to 10 days field work)*

**Assessment:** 1 theory examination, 2 reports, field mapping assignments, practical exercises, seminars.

This subject will provide a basic course in field geology. Commencing with laboratory techniques such as air photo interpretation, the practical work is carried out while on a field camp in the August vacation. Study of the field mapping results in the laboratory leads to preparation of a report including a geological map. A section will be measured in the Illawarra district. To permit a basic understanding of the regions studied, there will be a short course in Australian stratigraphy.

Introductory lectures on field techniques, air photographs and their interpretation, satellite photography and its uses. Field mapping tutorial and measurement of a section. Study of geology of selected areas. Map compilation and progress reports on each day's work, with final interpretation and preparation of report plus map in the laboratory after the field tutorial. Lecture course in aspects of Australian stratigraphy.

**TEXTBOOKS**


DESCRIPTION OF SUBJECTS - GEOLOGY 355

GEOL224 PALAEONTOLOGY

First session; 6 credit points (2 hrs lectures, 3 hrs practical per week, 2 days field work)
Assessment: 1 theory examination; 1 practical examination; 1 essay; practical exercises in the field and laboratory.

This course is designed to provide a sound basis in many aspects of the study of fossils.

Morphology, classification, evolution, ecology and biogeography of principle invertebrate, vertebrate and plant macrofossil groups, as well as selected microfossil groups. Important theoretical aspects of palaeontology.

Practical: Study of fossils to illustrate the lecture course.

TEXTBOOKS


GEOL225 RESOURCE GEOLOGY I

Second session; 6 credit points (2 hrs lectures, 1 hr tutorial, 2 hrs practical per week, including field work)
Assessment: 1 theory examination; essays and tutorial presentations; practical exercises.

The importance of Earth's resources is such that an understanding of these resources and the problems of their exploitation is fundamental to survival. The role of minerals and fuels in modern society will be discussed, along with the complexity of mineral and fuel supply. The nature and geographic distribution of economic deposits, including fuels, metals, industrial and construction materials, groundwater and geothermal energy will be outlined. Ore reserves assessment techniques, together with aspects of infrastructure costs, marketing procedures and cash flow considerations are important components of this subject. Problems of exploitation and processing — including environmental impact and alienation of reserves — must be considered in present economies and societies. Limits to world reserves will be assessed in the light of contemporary knowledge.

Practical: Tutorial and practical work will include the study of suites of samples from ore deposits. Essay preparation and tutorial presentation of mineral economics and related problems will be arranged so that students will present material to complement the work of others. Fieldwork will include inspection of mineral extraction industries.

TEXTBOOKS

GEOL252 GEOLOGY FOR ENGINEERS I

First session; (3 hrs lectures and 2.5 hrs practical per week and 2 days of field work)

Assessment: 1 theory examination; 3 multiple choice tests; 1 essay; 1 practical examination; 1 field tutorial essay.

The subject presents an introduction to: theories on the origin, age and structure of the earth; minerals and rocks; plate tectonics; the geological cycle; earth resources; and the origin of life. The study of crystal symmetry, forms and systems provides the basis for describing the physical properties of minerals. The mode of occurrence and lithological characters of igneous and sedimentary rocks and the classification of igneous rocks is presented.

Practical: This involves the study of crystals, the identification and description of common minerals and igneous rocks, an introduction to the interpretation of geological maps and the use of simple geological instruments. Two days of field tutorials will be conducted to illustrate lecture and practical work.

TEXTBOOKS


300-LEVEL

GEOL331 MINERALOGY AND PETROLOGY

Second session; 8 credit points (2 hrs lectures and 4 hrs practical per week; up to 2 days field work)

Assessment: 1 theory examination; practical exercises; 1 practical examination.

This course takes up some more advanced aspects of topics covered in GEOL221 and GEOL222.

In Mineralogy one main topic introduces oil immersion techniques and mineral determination by dispersion of R.I. liquids. The other major topic concerns the theory and practice of X-ray determinative techniques.

Crystal Chemistry deals with topics such as: phase transitions involving transformations of primary and secondary co-ordination; crystal pathology; order-disorder reactions and exsolution in the feldspars.

In Theoretical Petrology the following topics are dealt with: the phase rule; systems of one, two and three components; experimental and theoretical petrology as applied to metamorphic rocks; direct determination of equilibrium curves.

The course in Igneous Petrology outlines: some rock textures; the concept of primary and derivative magmas; crustal anatexis; magma generation in the upper mantle; partial melting; and the description of some rock associations.

In Metamorphic Petrology discussion is based on topics such as: the types of metamorphism; metamorphic zones; facies and facies series; metamorphic reactions in carbonate rocks; the development of hornfelses; metasomatism; and retrograde metamorphism.

TEXTBOOKS


**GEOL332 SEDIMENTOLOGY**

*First session; 8 credit points (2 hrs lectures and 3 hrs practical per week and 4 days of field work)*  
*Assessment: 1 theory examination; 4 assignments; 1 seminar.*

This subject includes a study of the physical characteristics of sedimentary particles and the mechanics and results of erosion, transportation and deposition of granular solids by fluid media and mass flows. The distribution and character of deep ocean sediments is discussed. The above information is integrated in the delineation of sedimentary facies, in the study of tectonic controls upon sedimentation and in sedimentary basin analysis.

*Practical: Sediment size analysis. Examination of sedimentary structures in the laboratory. Field experiments on erosion, transportation and deposition of sand by water and wind. Field examination of sedimentary structures, vectorial properties and environmental interpretation of Permian and Triassic rocks.*

**TEXTBOOKS**


**GEOL333 GEOLOGICAL MAPPING AND STRATIGRAPHY II**

*First session; 8 credit points (1 hr lecture and 2 hrs practical work per week and up to 10 days of field work)*  
*Assessment: 1 theory examination; field mapping assignment and seminar; practical exercises.*

*Geological Practice: Field work will normally be conducted at the end of the vacation before first session. Students intending to enrol in GEOL333 should consult the Chairman of the Department during the previous session.*

*Description: Aerial and satellite photographs will be used in the compilation of a detailed geological map of a geologically complex area. Map compilation and progress reports are required after each day of field work. The geological interpretation of the area will be undertaken in the laboratory tutorials and will include petrographic, structural and facies analysis.*

*Stratigraphy: A systematic study of type sections, together with other important overseas and Australian successions, will be used as a basis for describing the history of the Tasman, Caledonian and Alpine Geosynclines and other classical sequences.*

*Practical: Field mapping together with petrographic, structural and facies analysis of field data. Demonstrations of suites of rocks and fossils from type stratigraphic sections.*

**TEXTBOOKS**

GEOL334 ECONOMIC GEOLOGY

Second session; 8 credit points (2 hrs lectures, 4 hrs practical per week)
Assessment: 1 theory examination; practical examination, assignments, practical exercises.

Ore Deposits: This subject will commence with an outline of the scope of economic geology. This will be followed by discussion of the need for concentration of elements to form ore deposits. Processes of concentration of economically important elements and minerals will be described — which leads to discussion of the main types of ore deposits in igneous, sedimentary metamorphic rocks, and the effects of metamorphism. Metallogenic analysis and the exploration for ore deposits using geochemical techniques will be discussed. Emphasis will be on Australian ore deposits as examples where appropriate.

Fuels: The formation and occurrences of peat and coals will be described. Rank and type concepts in coal studies will be emphasized. Discussion of macerals and minerals in coals and the microscopy of coal and coal products will outline the role of coal petrography in coal assessment.

The generation, migration and accumulation of petroleum will be discussed and this treatment will lead to descriptions of petroleum exploration methods and to evaluation of petroleum deposits. Australian occurrences will be described.

Practical: Practical work will include the following: reflected and transmitted light ore microscopy; reflected and transmitted light microscopy of coals, including oil immersion techniques and reflectivity studies; the study of cores, rotary drill cuttings, geophysical logs, data on petroleum prospects (including maps and sections), and map exercises.

TEXTBOOKS


GEOL335 RESOURCE GEOLOGY II

Second session; 8 credit points (2 hrs lectures; 2 hrs tutorials; 2 hrs practical per week, including field work)
Assessment: 1 theory examination; essays and tutorial presentations; practical exercises.

The importance of Earth's resources is such that geologists should have an understanding of these resources and the problems of their exploitation, as this knowledge is fundamental to future development. The role of minerals and fuels in modern society will be discussed, along with the complexity of mineral and fuel supply. The nature and geographic distribution of economic deposits, including fuels, metals, industrial and construction materials, groundwater and geothermal energy will be outlined. Reserves assessment techniques for metals, non-metals and fuels deposits, together with aspects of infrastructure costs, marketing procedures and cash flow considerations are important components of this subject. Problems of exploitation and processing — including environmental impact and alienation of reserves — must be considered in present economies and societies. Limits to world reserves will be assessed in the light of contemporary knowledge.
Practical: Tutorial and practical work will include the study of suites of samples from ore deposits. Reserve assessment exercises will be carried out for different commodities, with essay preparation and discussion of resource project assessment exercises. Fieldwork will include inspection of mineral extraction industries.

TEXTBOOKS


GEOL336 GEOPHYSICS

First session; 8 credit points (2 hrs lectures, 1 hr tutorial, 3 hrs practical per week including field work)
Assessment: 1 theory examination; 2 essays, seminar, practical exercises.

This subject outlines the geophysical characteristics of the Earth and describes most of the techniques used in Exploration Geophysics. The topics covered include: the Earth, as part of the Solar System; seismology - earthquakes and the study of the Earth's interior, and various aspects of seismic exploration; gravity and geodesy - the study of the shape of the Earth and its gravitational field and gravity exploration; geomagnetism - the Earth's magnetic field and its variation in space and time and its use in exploration; geochronology, especially radiometric dating; radiometric exploration; electrical and electromagnetic methods of exploration using natural and artificial fields; downhole logging; geothermy - thermal properties of the Earth and heat flow. Where the study of Geophysics in Australia requires special considerations these will be emphasized.

Practical: Calculation of real and theoretical problems and study of Australian (and other) case histories will be major aspects of the practical work. Field work will be carried out using available instrumentation and the results will be interpreted.

TEXTBOOKS


GEOL337 STRUCTURAL GEOLOGY AND MATHEMATICAL GEOLOGY

Second session; 8 credit points (2 hrs lectures, 4 hrs practical per week, up to 2 days field work)
Assessment: 1 theory examination; laboratory practical exercises and assignments.

This subject combines both an "old" and a "new" branch of Geology - including study of mountain building, and mathematical manipulation of geological data.

Mathematical Geology: This deals with computer based mathematical analysis of geological data. The subject is concerned with scale, mathematical and conceptual geological models, attributes of types of data, and accuracy and precision. The calculation of means, standard deviations and variance and the testing of some distributions commonly found in geological phenomena, are described. Response surface analysis in stratigraphic, geochemical and mineralogical studies is described, along with classification methods, discriminant functions, factor analysis and time series analysis. The important application of mathematical geology to aspects of reserve estimation and problem solving is then pointed out.

Structural Geology: This deals with aspects of the deformation of rocks, and structures in rocks. Large scale deformations to be discussed include the structural
evolution of mountain chains such as the European Alps and the Himalayas. The study of folds, folding and superposed folding will be related to structural analysis — geometrical, kinematic and dynamic analysis. The importance of stress and strain in rocks will be outlined, especially in the context of the development of fractures — faults, joints and cleavage in rocks. Much of the course will be considered in the context of plate tectonics.

**Practical:**

**Mathematical Geology:** This part of the practical work will involve the use of computer programs to solve geological problems.

**Structural Geology:** This practical work will include map problems and stereographic projection problems. Study of deformed rocks in hand-specimen and under the microscope is an important part of the work.

**TEXTBOOKS**


**GEOL352 GEOLOGY FOR ENGINEERS II**

First session: (3 hrs lectures, 1 hr lecture/tutorial and 2 hrs practical per week and 3 days of field work)

Assessment: 1 theory examination; 1 multiple choice test, 3 exercises; 1 practical examination; 1 field tutorial essay.

This subject includes an introduction to the study of minerals in thin-section and is followed by a study of igneous, sedimentary and metamorphic rocks. A study of structural geology, introductory geophysics, slope and mine stability and the methods of assessing ore, coal, oil and natural gas reserves is presented. The evolution of the main animal and plant phyla is discussed. The study of fossils and rocks leads to an interpretation of the stratigraphy and geological history of the Australian continent and, more specifically, of New South Wales and the Sydney Basin.

**Practical Work:** This involves the study of minerals, rocks and fossils, and the interpretation and preparation of geological maps and cross-sections. Field tutorials will be conducted to illustrate lecture and practical work.

**TEXTBOOKS**


**GEOL360 SPECIAL TOPICS IN GEOLOGY A**

First session: 4 credit points (normally 1 hr lecture and 2 hrs practical per week, which may include or involve additional field work)

Assessment: 1 theory examination, essays, practical work and test.

**NOTE:** This subject is only available to students who have difficulties of enrolment consequent on the introduction of new 200- and 300-level courses in Geology in 1981. Enrolment in this course is restricted to students in transition between subjects available during 1975 to 1980 (inclusive) and those subjects available during 1981 and subsequently. Approval must be given by the Chairman of the Department of Geology to enrol in this course.
Description of Subjects - Geology

Subject Description; Practical and Textbooks.

This subject is intended to be normally one-half of one of the subjects GEOL224, 331, 332, 334, or 337. Subject description, etc., are to be found under the appropriate subject heading.

GEOL361 SPECIAL TOPICS IN GEOLOGY B

First session; 4 credit points (normally 1 hr lecture and 2 hrs practical per week, which may include field work)
Assessment: 1 theory examination, practical work and test.

NOTE: This subject is only available to students who have difficulties of enrolment consequent on the introduction of new 200- and 300-level courses in Geology in 1981. Enrolment in this course is restricted to students in transition between subjects available during 1975 to 1980 (inclusive) and those subjects available during 1981 and subsequently. Approval must be given by the Chairman of the Department of Geology to enrol in this course.

Subject Description; Practical and Textbooks.

This subject is intended to be normally one-half of one of the subjects GEOL224, 331, 332, 334, or 337. Subject descriptions, etc., are to be found under the appropriate subject heading.

GEOL362 SPECIAL TOPICS IN GEOLOGY C

Second session; 4 credit points (normally 1 hr lecture and 2 hrs practical per week, which may involve additional field work)
Assessment: 1 theory examination, essays, practical work and test.

NOTE: This subject is only available to students who have difficulties of enrolment consequent on the introduction of new 200- and 300-level courses in Geology in 1981. Enrolment in this course is restricted to students in transition between subjects available during 1975 to 1980 (inclusive) and those subjects available during 1981 and subsequently. Approval must be given by the Chairman of the Department of Geology to enrol in this course.

Subject Description; Practical and Textbooks.

This subject is intended to be normally one-half of one of the subjects GEOL224, 331, 332, 334, or 337. Subject descriptions, etc., are to be found under the appropriate subject heading.

GEOL363 SPECIAL TOPICS IN GEOLOGY D

Second session; 4 credit points (normally 1 hr lecture and 2 hrs practical per week, which may include field work)
Assessment: 1 theory examination, practical work and test.

NOTE: This subject is only available to students who have difficulties of enrolment consequent on the introduction of new 200- and 300-level courses in Geology in 1981. Enrolment in this course is restricted to students in transition between subjects available during 1975 to 1980 (inclusive) and those subjects available during 1981 and subsequently. Approval must be given by the Chairman of the Department of Geology to enrol in this course.

Subject Description; Practical and Textbooks.

This subject is intended to be normally one-half of one of the subjects GEOL224, 331, 332, 334, or 337. Subject descriptions, etc., are to be found under the appropriate subject heading.
DESCRIPTION OF SUBJECTS - GEOLOGY

400-LEVEL

GEOL401 GEOLOGY HONOURS

Double session; 48 credit points
Pre-requisites: Students must satisfy requirements for the award of the degree of BSc. in the Faculty of Science or another appropriate degree. Normally a student should have satisfactorily completed at least four 200-level and at least six 300-level Geology subjects (48 credit points at 300-level).
Assessment: 2 theses; 4 theory examinations; 4 seminars.

Description: The formal parts of this subject will consist of at least four courses to be offered each year from the following: history of geological thought; some topical aspects of geology; mineral paragenesis; rock magnetism; biostratigraphy; mathematical geology; coal and petroleum geology; sedimentology. The other parts of the course will be field and laboratory projects, seminars and study of selected references.

GEOL402 GEOLOGY JOINT HONOURS

Double session; 24 credit points (Note 24 credit points will be required from the honours programme of another Department, normally a member Department in the Faculty of Science.)
Pre-requisites: Students must satisfy requirements for the award of the degree of BSc in the Faculty of Science or another appropriate degree. Normally a student should have satisfactorily completed at least three 300-level Geology subjects (24 credit points at 300-level).

Description: The formal parts of this subject will consist of at least two courses to be offered each year from the following: history of geological thought; some topical aspects of geology; mineral paragenesis; rock magnetism; biostratigraphy; mathematical geology; coal and petroleum geology; sedimentology. The other parts of the course will be a field or laboratory project as appropriate, seminars and study of selected references.
Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

100-LEVEL

HIST102 ENGLISH SOCIAL HISTORY, 1815 - 1945

Double session; 12 credit points (1 lecture, 2 tutorials per week)
Assessment: 3 essays: total number 1,000 words, 2,000 words and 3,000 words; 2 tutorial papers; 750 words each.

This subject is concerned with the shape of English society and in particular with changes in the class structure and in political, religious, legal and educational institutions. The other, and related, areas of concern are industrialisation, popular taste and culture in the 19th century, crime and public order, Victorian respectability, the emergence of the welfare state, and the social impact of the two world wars.

PRELIMINARY READING


HIST103 ITALIAN HISTORY, 1849 - 1968

Double session; 12 credit points (3 hrs per week: lectures and tutorials)
Assessment: 3 essays: total number of words 7,500; 2 tutorial presentations; participation in tutorials

This subject deals with the leadership of the national movement; national unification and international relations; the development of Italian society and economy since unification; political life and parliamentary behaviour; nationalism; colonialism; Italy’s participation in World War I; socialism; fascism; imperialism; World War II and the resistance movement; contemporary Italy. Emigration from Italy to Australia will also receive attention.

TEXTBOOK


HIST104 AUSTRALIA BEFORE 1900

Double session; 12 credit points (1 lecture, 2 tutorials per week)
Assessment: 3 essays: 1,000 words, 1,500 words, and 2,500 words; six tutorial papers, 500 words each.

This subject surveys Australian history from the time of the aboriginal immigration to the federation of the Australian colonies, concentrating on the events of the nineteenth century. It deals with the conquest of Aboriginal society by white settlers, and the transition of colonial society from bond to free. It examines the economic basis of this latter change, and the political institutions that the change produced. It is also concerned with related features of Australian society, especially the differentiation of male and female roles, the forms of racial prejudice, and the emergence of Australian nationalism. It compares trends in the development of Australian society with similar movements overseas.
TEXTBOOKS


200-LEVEL

**HIST204 HISTORY AND POLITICS**

Second session; 8 credit points (3 hrs per week; lectures and seminars)

Assessment: 1 essay of 5,000 words; participation in seminars

Definition of Politics. Ideology, power, institutions, behaviour. Decision making process, political parties, interest groups. Elites and political participation. Social stratification, political personality, political culture. These concepts will be studied within an historical context.

**TEXTBOOK**


**HIST221 AUSTRALIAN SOCIAL HISTORY, 1850 - 1939 A**

Double session; 16 credit points (1 lecture, 2 tutorials per week)

Assessment: Four 2,000 word essays and tutorial performance.

**Other Details:** This subject combines the content of HIST235 and HIST238.

**HIST222 FRENCH HISTORY, 1700 - 1940 A**

Double session; 16 credit points (1 lecture, 2 tutorials per week)

Assessment: Essays: total number of words 7,500 (normally three 2,500 word essays)

Session 1 - 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 French Revolution.

Session 2 - The approach will be the same as in Session 1, 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.

**TEXTBOOKS**


**HIST223 RELIGION AND SOCIETY FROM THE REFORMATION A**

Double session; 16 credit points (1 lecture, 2 tutorials per week)

Assessment: Two 2,500 word essays, 2 reports on documents and 6 summaries of selected extracts
DESCRIPTION OF SUBJECTS - HISTORY

Other Details: This subject combines the content of HIST226 and HIST227.

HIST224 MODERN SOUTHEAST ASIAN HISTORY A

Double session; 16 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,000 word essays, one 3,500 word essay, two brief tutorial papers

Other Details: This subject combines the content of HIST236 and HIST237.

HIST226 REFORMATION AND REVOLUTION, 1517 - 1660 A

First session; 8 credit points (1 lecture, 2 tutorials per week)
Assessment: One 2,500 word essay, 1 report on a document and 3 summaries of selected extracts

This subject deals with the history of religion in relation to three revolutionary movements: (i) Theological Revolution - The Protestant Reformation (Luther, Calvin) and the Catholic Counter-Reformation (Ignatius Loyola). (ii) Governmental Revolution - the Reformation in England under Henry VIII, the Elizabethan Church Settlement and the Puritan Revolution (Oliver Cromwell). (iii) Social Revolution - Religion and the rise of capitalism; changing patterns of family life.

TEXTBOOKS

HIST227 RELIGION AND SOCIETY, 1738 - 1860 A

First session; 8 credit points (1 lecture, 2 tutorials per week)
Assessment: One 2,500 word essay plus 1 report on documents and 3 summaries of selected extracts

This course on the Church in the eighteenth and nineteenth centuries is designed as a sequel to HIST226. It begins with the revival and expansion of the Church (the Evangelical Revival in Britain, the Great Awakening in America, the modern missionary movement, and the Catholic Revival). This is followed by an analysis of Church/State conflict: the persecuted Church in the French Revolution, the movement towards disestablishment of the Church in Britain, and civil religion in America. Challenges to traditional belief and practice from industrialisation and scientific progress are also studies.

TEXTBOOKS

HIST231 RUSSIA, THE SOVIET UNION AND INTERNATIONAL COMMUNISM, 1885 - 1962 A

Double session; 16 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,000 word seminar papers per session and one 2,000 word essay during the year plus one critical commentary on tutorial papers per week

Session 1 will be devoted to a discussion of the collapse of the Tsarist Empire, the rise of Social-Democracy in Russia, its links with the International Socialist movement and the formation of the Soviet Union. Session 2 will concentrate on the development of the Soviet Union, the origins of the Cold War and the establishment and activities of the Communist International. Throughout, class relat-
ionships will be explored and economic development and its implications for society and politics will be emphasized.

Credit for completion of the first session will be given only after successful completion of the second session.

**TEXTBOOKS**


**HIST 232 THE SOVIET UNION AND INTERNATIONAL COMMUNISM, 1917 - 1970 A**

*Second session; 8 credit points (1 lecture, 2 tutorials per week)*

*Assessment:* Two 1,000 word seminar papers and one 1,000 word essay

This subject will concentrate on the development of the Soviet Union, the origins of the Cold War and the establishment and activities of the Communist International. Throughout, class relationships will be explored and economic development and its implications for society and politics will be emphasized.

**TEXTBOOKS**


**HIST233 HISTORY OF RUSSIA FROM THE EARLIEST TIMES TO THE PRESENT DAY A**

*Double session; 16 credit points (1 lecture, 2 tutorials per week)*

*Assessment:* Five 2,000 word essays, tutorial papers and discussion.

This course is designed to provide students with an outline of Russian history from the formation of the earliest princely states, through the rise of the Muscovite empire until the collapse of the autocracy in 1917. The latter part of the course will deal with the formation and development of the U.S.S.R.

**PRELIMINARY READING**


**HIST234 FRENCH HISTORY, 1700 - 1799 A**

*First session; 8 credit points (1 lecture, 2 tutorials per week)*

*Assessment:* Two 2,000 word essays and tutorial performance

The subject is concerned with the relations of state and society, from the reign of Louis XIV to the French Revolution, and political change until the end of the eighteenth century. Particular attention will be given to the role of the French Enlightenment in social and political developments.

**PRELIMINARY READING**


HIST235 AUSTRALIAN SOCIAL HISTORY, 1850 - 1900 A

First session; 8 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,000 word essays and tutorial performance

The subject studies society in Australia from the making of the colonial self-governing constitutions to the formation of the Commonwealth. It examines relations between social groups affected by the gold rushes, land policy, urban development, education and social welfare.

PRELIMINARY READING


HIST236 MODERN INDONESIAN AND MALAYSIAN HISTORY A

First session; 8 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,000 word essays plus one tutorial paper

This course is designed to provide a brief introduction to the modern history of the Malay countries of Southeast Asia, with particular emphasis on the Western colonial impact (political, social, and economic) and the emergence of nationalism.

TEXTBOOKS


HIST237 HISTORY OF MODERN MAINLAND SOUTHEAST ASIA A

Second session; 8 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,000 word essays plus one tutorial paper

This course is designed to build on the foundation in non-western history provided by HIST236. It involves a brief examination of the modern history of the Buddhist countries of Southeast Asia, with special emphasis on the Western colonial impact and resulting patterns of nationalism. In the final weeks of the course this historical background is related to current problems in the region.

TEXTBOOKS


HIST238 AUSTRALIAN SOCIAL HISTORY, 1900 - 1939 A

Second session; 8 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,000 word essays and tutorial performance
The subject studies Australian society from the formation of the Commonwealth to the eve of the Second World War. It examines the social effects of the Arbitration System, female suffrage, the First World War and the Conscription plebiscites, post-war development, the Great Depression and its aftermath.

**PRELIMINARY READING**


**HIST240 FRENCH HISTORY, 1800 - 1871 A**

*Second session; 8 credit points (1 lecture, 2 tutorials per week)*

Assessment: Two 2,000 word essays and tutorial performance

The subject examines the relation of state and society from the First Empire of Napoleon I to the fall of the second Empire of Napoleon III. Matters for particular attention will include the revolutions of 1830 and 1848, and the Paris Commune of 1871.

**PRELIMINARY READING**


**HIST241 EUROCOMMUNISM A**

*First session; 8 credit points (3 hrs per week lectures, seminars, tutorials)*

Assessment: One 3,500 word essay, 1 tutorial paper of 1,500 words, tutorial participation.

History of the International Communist Movement and of the Communist Parties of France, Italy and Spain. The Eurocommunist model, Reactions to Eurocommunism.

**TEXTBOOK**


**HIST242 ITALY AND UNIFICATION TO WORLD POWER, 1871 - 1914 A**

*First session; 8 credit points (3 hrs per week; lectures and tutorials)*

Assessment: 1 essay of 3,000 words; 2 tutorial papers, each of 1,000 words; participation in tutorials

This subject deals with the social, economic, and political developments in Italy from the time unification was finally accomplished to Italy's involvement in the First World War. The following topics receive particular attention:

- The fall of the Right and the coming to power of the Left
- De Pretis and Transformism
- The Triple Alliance
- The agricultural crisis
- Financial scandals and political corruption
- The workers' movement and the birth of the Italian Socialist Party
- Colonialism
- The industrial take-off
- Demographic growth and emigration
- The Southern Question
- The political crisis at the turn of the century
- The Socialist Party between reformism and extremism
- The Catholic movement
- Sonnino and Giolitti

**TEXTBOOK**


**HIST243 CONTEMPORARY ITALY, 1943 - 1980 A**

*Second session; 8 credit points (3 hrs per week; lectures and tutorials)*

**Assessment:** 1 essay of 3,000 words; 2 tutorial papers, each of 1,000 words; participation in tutorials.

The course begins with a political history of contemporary Italy subdivided in the following periods:

- Armistice, resistance, liberation, 1943 - 45
- The post-war period, 1945 - 48
- The years of quadripartite government, 1948 - 58
- The years of centre-left government, 1958 - 72
- The years of the debate about historic compromise, 1972 - 80

In the second part of the course the following topics will be dealt with in some depth:

- The rules of the political game
- State participation in the economy
- Extreme left-wing groups
- Political terrorism
- The radical movement

**TEXTBOOK**


**300-LEVEL**

**HIST310 AUSTRALIAN SOCIAL HISTORY, 1850 - 1939 B**

*Double session; 24 credit points (1 lecture, 2 tutorials per week)*

**Assessment:** Four 2,500 word essays and tutorial performance

**Other details:** As for HIST 221.

**HIST311 FRENCH HISTORY, 1700 - 1940 B**

*Double session; 24 credit points (1 lecture, 2 tutorials per week)*

**Assessment:** Four 2,500 word essays

**Other details:** As for HIST222

**HIST312 MODERN SOUTHEAST ASIAN HISTORY B**

*Double session; 24 credit points (1 lecture, 2 tutorials per week)*

**Assessment:** Three 2,500 word essays, one 4,500 word essay, two brief tutorial papers

**Other details:** As for HIST224
HIST313 RELIGION AND SOCIETY FROM THE REFORMATION B

*Double session; 24 credit points (1 lecture, 2 tutorials per week)*

**Assessment:** Two 5,000 word essays, 4 reports on documents and 8 summaries of selected extracts

**Other details:** As for HIST223

HIST314 AUSTRALIAN SOCIAL HISTORY SINCE THE DEPRESSION B

*Double session, 24 credit points*

This subject will be concerned with the description and analysis of changes in Australian society since 1930. Its principal topics of study are:

1. Changes in the quality and quantity of the population, with special reference to immigration.
2. The changing role of women.
3. Changes in the purposes and activities of trade unions.
4. Policy and structural changes within the Labour Party.
5. The "New Nationalism", with special reference to Australian attitudes to Asia.
6. The adaptation of the non-Labour parties to social change.
7. Changing leisure patterns, and attitudes towards work.
8. The history of education.
9. The shares of wealth and the problem of poverty.
10. The relationship between social class and political control.
11. Urbanization and its social results.
12. The "new consciousness" of aborigines.

The study of these topics will involve some comparison between their Australian context and that of some other country, usually the United Kingdom. Students will be expected to draw principally on primary sources for their evidence.

For details of textbooks and reference books students are advised to contact the Department.

HIST316 REFORMATION AND REVOLUTION, 1517 - 1660 B

*First session; 12 credit points (1 lecture, 2 tutorials per week)*

**Assessment:** One 5,000 word essay, 2 reports on a document and 4 summaries of selected extracts

**Other details:** As for HIST226

HIST317 RELIGION AND SOCIETY, 1738 - 1860 B

*First session; 12 credit points (1 lecture, 2 tutorials per week)*

**Assessment:** One 5,000 word essay, 2 reports on documents and 4 summaries of selected extracts

**Other details:** As for HIST227

HIST318 ENGLISH POLITICAL HISTORY, 1884 - 1914

*Double session; 24 credit points (two 1 1/2 seminars per week)*

**Other details:** This subject combines the content of HIST329 and HIST331

HIST319 MODERN INDONESIAN AND MALAYSIAN HISTORY B

*First session; 12 credit points (1 lecture, 2 tutorials per week)*

**Assessment:** Two 2,500 word essays plus a tutorial paper

**Other details:** As for HIST236
HIST320 HISTORY OF MODERN MAINLAND SOUTHEAST ASIA B

Second session; 12 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,500 word essays and one tutorial paper
Other details: As for HIST237

HIST321 RUSSIA, THE SOVIET UNION AND INTERNATIONAL COMMUNISM, 1885 - 1962 B

Double session; 24 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 2,500 word seminar papers per session; one 2,500 word essay, plus one critical commentary on tutorial papers per week
Other details: As for HIST231

HIST325 THEORY AND METHOD OF HISTORY (ADVANCED)

Second session; 8 credit points (1 tutorial per week)
Assessment: One long essay (5,000 - 7,000 words)

NOTE: This subject will normally be a pre-requisite for entry to History IV Honours.

A detailed study of the nature of historical enquiry.

HIST326 THE SOVIET UNION AND INTERNATIONAL COMMUNISM, 1917 - 1970 B

Second session; 12 credit points (1 lecture, 2 tutorials per week)
Assessment: Two 1,500 word seminar papers and one 1,500 word essay
Other details: As for HIST232

HIST327 FRENCH HISTORY, 1700 - 1799 B

First session; 12 credit points (1 lecture, one 2 hour seminar per week)
Assessment: Two 2,500 word essays and seminar performance
Other details: As for HIST234

HIST328 AUSTRALIAN SOCIAL HISTORY, 1850 - 1900 B

First session; 12 credit points (1 lecture, one 2 hour seminar per week)
Assessment: Two 2,500 word essays and seminar performance.
Other details: As for HIST235

HIST329 ENGLISH POLITICAL HISTORY, 1884 - 1906

First session; 12 credit points (two 1 1/2 hr seminars per week)
Assessment: One 5,000 word essay, plus tutorial attendance and performance plus one 1,000 word tutorial paper

The subject is concerned with the personalities and political impacts of major politicians of the period covered by the course. The role of each in the decline of the Liberal party is discussed in depth.

PRELIMINARY READING

Neither textbooks nor reference books are recommended for this course. Students are expected to do their own bibliographical work. However, the following books which contain useful bibliographies, and are available in the campus bookshop, are suggested for preliminary reading.


**HIST330 AUSTRALIAN SOCIAL HISTORY, 1900 - 1939 B**

*Second session; 12 credit points (1 lecture, one 2 hour seminar per week)*

*Assessment*: Two 2,500 word essays and seminar performance

*Other details*: As for HIST238

**HIST331 ENGLISH POLITICAL HISTORY, 1906 - 1914**

*Second session; 12 credit points (two 1 1/2 hr seminars per week)*

*Assessment*: One 5,000 word essay, plus tutorial attendance and performance plus one 1,000 word tutorial paper

This subject, designed as a sequel to HIST329, which provides a background to it, is concerned with the personalities and political impacts of major politicians of the period covered by the course. The attitudes of each to party affiliations and social reform will receive particular attention, as will the decline of the Liberal Party.

**PRELIMINARY READING**

Neither textbooks nor reference books are recommended for this course. Students are expected to do their own bibliographical work. However, the following book, which contains useful bibliographies, is available in the campus bookshop, and is suggested for preliminary reading.


**HIST332 FRENCH HISTORY, 1800 - 1871 B**

*Second session; 12 credit points (1 lecture, one 2 hour seminar per week)*

*Assessment*: Two 2,500 word essays and seminar performance

*Other details*: As for HIST240

**HIST333 HISTORY OF RUSSIA FROM THE EARLIEST TIMES TO THE PRESENT DAY B**

*Double session; 24 credit points (1 lecture, 2 tutorials per week)*

*Assessment*: Six 2,500 word essays, tutorial papers and discussion.

*Other details*: As for HIST233

**HIST334 EUROCOMMUNISM B**

*First session; 12 credit points (3 hrs per week; lectures, seminars, tutorials)*

*Assessment*: 1 essay of 4,500 words, 1 tutorial paper of 2,500 words, participation in seminars and tutorials.

*Other details*: As for HIST241

**HIST335 ITALY FROM UNIFICATION TO WORLD POWER, 1871 - 1914 B**

*First session; 12 credit points (3 hrs per week; lectures and tutorials)*

*Assessment*: 1 essay of 4,500 words; 2 tutorial papers, each of 1,500 words; participation in tutorials.

*Other details*: As for HIST242.

**HIST336 CONTEMPORARY ITALY, 1943 - 1980 B**

*Second session; 12 credit points (3 hrs per week; lectures and tutorials)*

*Assessment*: 1 essay of 4,500 words; 2 tutorial papers, each of 1,500 words; participation in tutorials.

*Other details*: As for HIST243.
HIST401 HISTORY IV (HONOURS)

Double session; 48 credit points

Students are advised to contact the Department. The major requirement of the course is a thesis of 15,000 - 20,000 words; students are also required to complete three essays, each of 5,000 words, on historical method, the work of a historian, and their own thesis topic.
DESCRIPTION OF SUBJECTS - H.P.S.

HISTORY AND PHILOSOPHY OF SCIENCE

Schedule Entries

Refer to the schedule entries for further details of subjects, pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

100-LEVEL

HPS110 THE INDUSTRIAL REVOLUTION: TECHNOLOGY AND SOCIAL CHANGE A

First session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: 2 essays, 1 tutorial paper and 1 examination

The objectives of this course are:

i) To develop an understanding of the nature of technology;
ii) To examine the role of technology in social change and the form of its relationship with economic, political, industrial, scientific and cultural forces;
iii) To attempt to develop a language and concepts suitable for analysing technology in critical terms;
iv) To determine the role of technology in a significant time and place - the Industrial Revolution in England
v) To assess the extent to which values and assumptions held without question today have their roots in decidedly un-natural events in the Industrial Revolution.

The major part of this course is concerned with a detailed analysis of the processes of industrialisation at the time of the Industrial Revolution. The major technological developments of the period are examined along with their relationship to levels of production, form and organisation of work, and social order.

A detailed assessment is made of various factors which might have contributed to industrialisation, including science, technical inventions, changes in labour, land, capital and markets, and the influence of various philosophical ideas. There follows a study of the consequences ranging from working conditions and the state of public health to the development of the factory system and the emergence of a market society. In conclusion the nature of technology and its relationship to society is re-examined in the light of the case study.

TEXTBOOKS

Mathias, P. The First Industrial Nation, Methuen, 1969.

HPS120 TECHNOLOGY AND THE MODERN INDUSTRIAL STATE A

Second session; 6 credit points (2 lectures, 1 tutorial per week)
Assessment: 2 essays and 1 examination

The contemporary social system of science and technology in the industrially advanced countries (capitalist and socialist) has two distinguishing characteristics. Firstly, the process of development and application of technology has become highly differentiated, specialised and capital intensive, involving scientists and engineers with diverse skills in the research and development (R and D) laboratories of industry, the universities and government. Secondly, R and D activities are undertaken in relation to three, inter-related objectives: the survival and development of industry, the development of military weapons, and the development
of prestigious 'high technology' (e.g. nuclear, space, aircraft, advanced electronics).

Topics include patterns of industrial innovation and their contribution to industrial growth, the emergence of science-based industries, the rise of science-based industries, the military-industrial complex, technology and war, growth of State involvement in the support and direction of technology, post-industrial society, social effects of technological change.

**TEXTBOOKS**


**HPS130 THE ORIGINS OF MODERN EUROPEAN SCIENCE 1500 - 1700 A**

*Double session; 12 credit points (2 lectures, 1 tutorial per week)*

*Assessment:* 2 examinations; 4 essays.

In the sixteenth and seventeenth centuries a major upheaval occurred in the way European man approached the study and exploitation of Nature. This 'Scientific Revolution' was a unique event in world history, breaking with traditional (Western and Oriental) modes of natural inquiry and laying the framework for modern science and technology. Within three generations the traditional mathematical and medical sciences had been revolutionised: a new mathematical physics created: magic, alchemy and astrology pushed to the margins of culture; the Copernican world-view established; and the institutionalisation and professionalisation of modern science begun.

This subject is intended to explore and explain the Scientific Revolution as a coherent historical process in which social, institutional, technical and intellectual factors were inextricably combined.

Specific topics will include: The mathematical and natural philosophical heritage of Antiquity and the Latin Middle Ages. Social, economic and intellectual factors in the erosion of Scholastic Aristotelianism and in the rejuvenation of magical, alchemical and neo-Platonic visions of man and nature in the sixteenth century. Historical and philosophical analysis of the revolution in astronomy, cosmology and physics promoted by Copernicus, Kepler, Galileo, Descartes Huygens and Newton. The social, intellectual and religious roots of the 'mechanical philosophy' of Descartes, Hobbes and Boyle and of the Baconian ideology of experiment. Causes and consequences of the late seventeenth century institutional consensus merging 'mechanism' and Baconianism, especially in England and France. The practice of the sciences (including medicine and physiology) under the 'metaphysics' of mechanism and experimentalism. The consensus-destroying work of Newton in physics, natural philosophy and optics, and its consequences for eighteenth century science and natural philosophy.

The subject also serves as an introduction to such general problems in the field of HPS as: the explanation of theory change in science; the integration of historical, sociological and 'internal' perspective in the history of science; the demystification of such scientific concepts as 'method', 'objectivity', 'value-neutrality' and 'progress'.

**TEXTBOOKS**


Hall, A.R. The Scientific Revolution, Beacon Press, Boston, 1966
DESCRIPTION OF SUBJECTS - H.P.S.


200-LEVEL

HPS210 THE INDUSTRIAL REVOLUTION: TECHNOLOGY AND SOCIAL CHANGE B

*First session; 8 credit points (2 lectures, 1 tutorial, 1 seminar per week)*
*Assessment: 1 essay, 1 seminar paper and 1 examination*

*Description and Textbooks: See HPS110 The Industrial Revolution: Technology and Social Change A*

HPS220 TECHNOLOGY AND THE MODERN INDUSTRIAL STATE B

*Second session; 8 credit points (2 lectures, 1 tutorial, 1 seminar per week)*
*Assessment: 2 essays, 1 seminar paper and 1 examination.*

*Description and Textbooks: See HPS120 Technology and the Modern Industrial State A.*

HPS230 THE ORIGINS OF MODERN EUROPEAN SCIENCE 1500 - 1700 B

*Double session; 16 credit points (2 lectures, 1 seminar per week)*
*Assessment: 1 examination; 2 essays; 2 seminar papers*

*Description and Textbooks: See HPS130 The Origins of Modern European Science 1500 - 1700 A.*

HPS232 THE DARWINIAN REVOLUTION A

*Double session; 16 credit points (2 lectures, 1 tutorial per week)*
*Assessment: 1 examination; 2 essays.*

The intense public debate on man’s place in nature in the nineteenth century centred on Charles Darwin’s theory of evolution by natural selection. ‘Darwinism’, it is generally claimed, not only revolutionised the linked sciences of biology and geology, but profoundly altered our conceptions of man, God, nature and society.

This course aims to examine and explain the substance of the Darwinian debate in its context of nineteenth century industrial capitalism, and the structure of political, economic and related theories erected on the basis of extrapolations from and rationalizations of evolutionary theory. The intent is not only to arrive at a coherent historical explanation of the sources, content and social and political roles of Darwinism, but at a deeper understanding of the interplay between science and society.

Topics to be explored include: the social and intellectual roots of evolutionary theory; the state of pre-Darwinian biology and geology; evolution and the politics of science in the French Revolution; natural theology, Malthus and the “Struggle for existence”; the sources and arguments of the *Origin*; the scientific and theological response; *The Descent of Man* and Social Darwinism; Liberal and Radical Darwinism; Lysenkoism; biological determinism and reductionism; evolution and ideology, then and now.
TEXTBOOKS


HPS233 KNOWLEDGE AND POWER: THE POLITICS OF SCIENCE AND TECHNOLOGY

Double session; 16 credit points (2 lectures, 1 tutorial, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers, 1 research project.

An examination of the political and economic dimensions of science and technology in the modern industrial state.

Topics to be studied will include: the nature of contemporary science and technology; critiques of the role of science and technology; the environmental attack and responses to it; controversies over the applications of contemporary technology (including nuclear power, genetic engineering, chemicals and cancer, weapons technology, automation and the changing nature of work); social, economic and political factors in the present and future development of science and technology; the role of military, government and corporations, and national and global trends in the world economy; political and social implications of current technological developments; proposals for the control of science and technology from within the technical community and outside it; and proposals for socio-technical developments which could provide alternatives to current trends.

TEXTBOOKS


HPS231 GREEK SCIENCE

Double session; 16 credit points (2 lectures, 1 seminar per week)
Assessment: 1 examination; 2 essays; 2 seminar papers.

It is commonly stated that natural science as an intellectual discipline had its origins in Greece about 600B.C. The subject begins with a brief account of Egyptian and Babylonian science and civilizations and examines in detail the following topics: presocratic philosophy; the metaphysics of Socrates; Plato and Aristotle and the influence these views had on the development of science; Aristotle and his scientific thought; Hellenistic science and the decline of Greek Science. Each topic is discussed in the context of political, social, religious and economic developments which influenced the progress of science itself and which were influenced in turn by that progress. The course does not require any previous training in science or mathematics.

TEXTBOOKS

HPS214 METHODOLOGY OF THE NATURAL AND SOCIAL SCIENCES

First session; 8 credit points (one 2-hour lecture/seminar, 1 hour tutorial per week)
Assessment: One essay, one examination, 1 seminar paper

A critical examination of theories of scientific method in various philosophical systems. The course will explore the classical views of scientific method of Bacon, Galileo and Descartes, leading to an examination of the methodologies of natural and social science offered by 20th century Positivism and Falsificationism. The criticism of such methodological doctrines made by Kuhn and others will be discussed and an analysis made of recent historically and sociologically grounded insights concerning the production and assessment of knowledge in the sciences.

This subject is to be taught jointly by the departments of History and Philosophy of Science and Philosophy.

TEXTBOOKS


HPS217 MATERIALS IN THE TWENTIETH CENTURY

Double session; 12 credit points (1 lecture, 1 tutorial/seminar per week)
Assessment: 2 essays, 1 seminar paper, 1 examination

In the first session the course will examine the historical development of technology in industry and the way that technologies, particularly in the area of materials, have transformed the patterns of industrial production, the form and organisation of work and the social order. This will include a study of the process of industrial innovation, and the role of research and development.

This will lead on to a study of the diversification of materials in the twentieth century, the various factors which have shaped their development, including state of knowledge and technology, available raw material and economic demand. The impact of these materials on society and the likely patterns of use of materials in the future will be explored.

TEXTBOOKS


HPS234 SCIENTIFIC CHANGE IN THE TWENTIETH CENTURY

Double session; 12 credit points (1 lecture, 1 tutorial/seminar per week)
Assessment: 3 essays (or 2 essays and 1 project) and 1 final three hour written examination

This subject is intended to develop in students an awareness of the dramatic intellectual and social changes that science has undergone in the twentieth century.
Through an examination of developments in theories, concepts and techniques, such as probabilistic and statistical modes of explanation, atomic theory, molecular structure and electronic instrumentation, the more significant factors in shaping changes in scientific knowledge will be explored. The effect of the sheer growth of science on its organisation, forms of research practice and communication, patterns of funding and relationship with government will also be studied.

In Session 2, topics drawn from the following list will be explored in more depth: the chemistry of life and the 'Double Helix' adventure; the effects of changing patterns of funding; philosophical and ethical implications of advances in the life sciences; Lysenkoism; the control of recombinant DNA research; assessment of the risk of toxic chemicals; sociobiology; the growth of science-based industries; and the role of scientific knowledge in public issues such as uranium mining, civil nuclear power, fluoridation, food additives, leaded petrol and asbestos.

Students will be expected to read extensively and critically, to develop and discuss their own ideas, to produce coherent written argument and to engage in an assessment of the strengths and weaknesses of an inter-disciplinary approach.

**TEXTBOOKS**


**HPS228 COMPUTERS IN SOCIETY**

*Second session; 8 credit points (2 hours lecture/seminar and 1 hour tutorial per week)*

**Assessment:** 1 seminar paper and 1 long essay

This course examines the development, role and implications of computers in contemporary and future society. Issues to be examined include the history of computing, the development of computers through mechanical, valve, transistor and integrated circuit technology; defence and space programs as catalysts for development; applications of computers in corporate decision-making, government planning, education and health-care; automation, robotics, information processing, databanks; implications for privacy and surveillance; the nature of work, employment, social management and control; the power of the State; machine intelligence and human identity.

**TEXTBOOKS**


**300-LEVEL**

**HPS332 THE DARWINIAN REVOLUTION B**

*Double session; 24 credit points (2 lectures, 1 tutorial, 1 seminar per week)*

**Assessment:** 1 essay and 2 seminar papers

An advanced subject in the historical and philosophical development of the idea of biological evolution and its impact on Western thought.

**Description and Textbooks:** See HPS232 the Darwinian Revolution A.
HPS333 KNOWLEDGE AND POWER: THE POLITICS OF SCIENCE AND TECHNOLOGY B

Double session: 24 credit points (2 lectures, 1 tutorial, 1 seminar per week)
Assessment: 1 essay; 2 seminar papers; 1 research project.

Description and Textbooks: See HPS233 Knowledge and Power: The Politics of Science and Technology A.

HPS316 GENETICS: ITS HISTORY AND SOCIAL IMPLICATIONS

First session: 12 credit points (2 lectures, 1 tutorial/seminar per week)
Assessment: One 5,000 word essay and one tutorial paper

A major biological revolution has taken place in the twentieth century. Although this has its roots in nineteenth century classical genetics, the elucidation of the chemical structure of DNA opens up possibilities which can only be described as revolutionary. While the precise effects of this chemical identification of the genetic material are only emerging, understandings based on genetics have assisted in the recognition of the effects on living organisms of x-rays, radioactive substances, chlorinated hydrocarbons and other mutagens.

This course will look at the historical origins of genetics; at its development during this century and at the direction of possible further developments. Techniques utilized by researchers and their exploitation in medicine and industry will be discussed. The problems encountered in assessing the mutagenic action of agents released in the environment will be considered.

TEXTBOOKS
No single suitable text.

HPS319 THE POLITICS OF ENERGY

First session: 12 credit points (two 2 hour lecture/seminars per week)
Assessment: 2 essays and 1 seminar paper

This subject focuses on the factors and issues underlying the major debate that has developed throughout the industrialised world over the generation and use of energy.

Through an examination of the political and economic factors which underly the debate and influence the choice of different energy technologies, the possibilities of, and constraints on different energy paths will be explored.

Topics studied will include: global energy resources, available energy technologies, the flow of energy through the modern industrial economy, the assessment of risk for different energy options, the energy resources in world trade, role of the major oil corporations, horizontal and vertical integration and trends in the global economy, the economics and diseconomies of scale, the role of government, community, corporations and other social structures and forces in shaping energy developments, the extent of social change necessary to incorporate different energy paths, and the social environmental and political implications of different energy options.

Students will be expected to read extensively and critically, to engage in coherent and documented argument and to approach the problems raised on the basis of multi-disciplinary analysis.

TEXTBOOKS

**HPS324 THE POLITICS OF MEDICINE AND HEALTH**

*Second session; 12 credit points (two 2-hour lecture/seminars per week)*

**Assessment:** 1 essay and 2 seminars.

This course explores the socio-economic and political dimensions of medicine and health care in modern society.

An initial examination of western medicine and health care in the nineteenth and twentieth centuries will provide a foundation for the analysis of the forces shaping modern medical knowledge and practice and health care, their social implications and limitations. Themes to be explored include: the concepts of health and sickness; institutionalized medicine and health care and free-market medicine and health; curable and non-curable illness and drug-induced illness; profit and risk assessment of new remedies; automation in medicine and health care; health and medical policy; the politics of cancer; health in the work place; ethical and moral considerations; critiques of contemporary medicine and health care (Illich, the women's movement, workers' health action groups); the response to the critiques (medical reform, deprofessionalization, alternative medicine, the bare-foot doctors).

**TEXTBOOKS**


**HPS317 ARISTOTELIAN THOUGHT IN THE MIDDLE AGES**

*First session; 12 credit points (1 lecture, 1 two hour seminar per week)*

**Assessment:** 1 essay; 2 seminar papers.

During the so-called Dark Ages, Greek philosophy and science were almost completely unknown in Western Europe. Towards the end of the period, however, the educational innovations of Charlemagne began to revive interest in dialectic, which in the hands of thinkers such as Anselm, Abelard and John of Salisbury, proved a powerful intellectual weapon. After about 1100, Greek learning gradually became available to the West via the Arabs who had colonized the frontier zones of Spain and Sicily. Aristotelian thought in particular was examined in great detail by Roger Bacon, Albert, Bonaventure and others. This examination and the problems it produced culminated in the great synthesis of Thomas Aquinas which was soon attacked by the corrosive analysis of William of Ockham, which in turn led directly to a renewal of interest in physical science. In the work of Buridan and Oresme we see the signs of impending scientific revolution of the fifteenth and sixteenth centuries.

The rise and decline of Aristotelianism in the Middle Ages is studied in the context of educational reform, the development of universities, the growth of religious orders, and the interest taken in the debates by men of letters, particularly the poet Dante.

**TEXTBOOK**

HPS327 MEDIEVAL SCIENCE

Second session; 12 credit points (2 lectures, 1 two hour seminar per week)
Assessment: 1 essay; 2 seminar papers

Until recently historians have agreed with Kant that, with the conceptions and methods of science put into practice by Galileo and his contemporaries 'a new light flashed upon all students of nature' compared with which previous studies have been mere groping in the dark. The work of Duhem and his successors has clearly shown that this view is far too harsh when applied to the medieval period. While the precise relationship between medieval science and seventeenth century science is still a matter of dispute, it is clear that many of the most important developments in astronomy, physics and scientific thought which occurred during the renaissance had their intellectual roots in the middle ages.

The subject examines medieval ideas about the nature of science, its relationship to mathematics and the methods appropriated to it. It studies the growth of interest in such fields as alchemy, astrology, and magic as well as the development of physics, astronomy and medicine. Finally, an attempt is made to unravel the complex problem of the relationship between medieval science and medieval technology.

TEXTBOOKS

No single suitable book.

HPS329 ADVANCED TOPICS IN THE HISTORY OF SCIENCE

Second session; 12 credit points (1 two-hour tutorial/seminar per week)
Assessment: 2 seminar papers

This course will deal in depth with 3 or 4 selected topics in the history of European science since the 16th century. Topics will be chosen for their relevance to these themes:

(1) discipline-formation and the growth and replacement of theories;
(2) major historiographical debates in the history of science;
(3) the application of philosophical or sociological perspectives to the study of the history of science.

Within these themes, topics will be selected from among:

(1) Galileo and the creation of classical physics; Formation of experimental disciplines - cases of electricity, heat, or physiology in the 18th and 19th centuries; Historical epistemology of the chemical revolution;
(2) The 'social explanation' of the rise of modern science; Yates Thesis - Magic and alchemy in the Scientific Revolution; New perspectives in the study of major scientific figures - Newton, Harvey, Descartes, Dalton, Faraday;
(3) Kuhn and the post-Kuhnian debate; The new sociology of knowledge and the history of recent science; French historical epistemology of science: Bachelard, Canguilhem, Clavelin; History and sociology of 'deviant' or 'fringe' science; Critical study of "Doctrines of Method" and "Systems of Nature" as theoretical discourses and as ideologies.

If possible the topics will be selected in consultation with students in respect of their interests and prior experience in HPS. The aim of the course is to introduce students to the skills involved in

(1) the critical analysis of primary texts;
(2) the interpretation of broad historiographical theses;
(3) the application of philosophical or sociological perspectives to historical cases.
TEXTBOOKS

No single suitable textbook.

400-LEVEL

HPS400 HISTORY AND PHILOSOPHY OF SCIENCE IV

Double session; 48 credit points

Students are advised to contact the Department. The course consists of a thesis worth 24 credit points, a course on the Theory and Methods of History and Philosophy of Science worth 12 credit points, and two specialist courses, each worth 6 credit points.

All candidates are required to attend and contribute to a series of regular informal seminars and discussion meetings held within the Department of History and Philosophy of Science during Sessions 1 and 2.

HPS430 JOINT HONOURS IN HISTORY AND PHILOSOPHY OF SCIENCE AND ANOTHER DISCIPLINE

Double session; 48 credit points

Admission: (Calendar 1980, 22.1):

Where in this clause it is required that the student seeking admission as a candidate for the degree with honours shall be qualified for the award of a bachelor degree of the University in the same course, the course in question will include a combination of the two disciplines approved by the two chairmen of departments as a substantial and coherent study. For this purpose a substantial and coherent study in HPS (including 24 credit points in approved subjects at 300-level) may include a 300-level subject in another discipline accepted as relevant to the programme of study in HPS by the chairman of the HPS department.

Course Content (Calendar 1980, 23.1 - 23.2.2):

The content of the course for joint honours will include subject components selected from the 400-level programmes of the two disciplines to form a joint honours programme of 48 credit points.

In coursework and research the nature and manner of combination of the two disciplines will require the approval of the two chairmen of departments. Approval will imply:

(a) the substantial and coherent nature of the proposed programme
(b) the availability of supervision
(c) the availability of source material
(d) dependence of the whole study programme on the two disciplines.

Interdisciplinary Seminar

All candidates are required to attend and contribute to a series of regular informal seminars and discussion meetings held within the Department of History and Philosophy of Science during Sessions 1 and 2.
Students wishing to take a major sequence of Mathematics should enrol in a Bachelor of Mathematics Degree. The only requirement relating to compulsory subjects in this degree is that a student must take at least 84 credit points (*) of subjects selected from Schedule F (24 of which must form a substantial and coherent study at the 300-level). By virtue of pre- and co-requisites, MATH101 - Mathematics IA will need to be included, and it is strongly advised that MATH102 - Mathematics IB should also be included.

(*) It is possible to take only 72 credit points of subjects from Schedule F (24 of which must form a substantial and coherent study at the 300-level), provided a further minimum of 48 credit points are taken from subjects offered by, or on behalf of, one other department of the University (24 of which must form a substantial and coherent study at the 300-level).

When planning a programme and course of study in Mathematics, students are strongly advised to consult with the Departmental Academic Advisors before enrolment, and at any time during the course when the need arises.

Academic Advisors

Professor John Blake
Dr. Tom Horner
Dr. Grahame Morris

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. The subjects described in this section are included in the following schedules:

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DESCRIPTION OF SUBJECTS - MATHEMATICS 385

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MATH373  A & F
MATH401  A & F
MATH411  A

Textbooks

Students will be advised on the appropriate textbooks for each subject in the first lecture of the subject. In all cases, the lecturer should be consulted before textbooks are purchased.

Method of Assessment

Unless otherwise indicated, all 100-, 200-, 300- and 400-level subjects offered by the Department of Mathematics will be assessed by attendance at classes, formal examination, tests and assignments.

Students who have particular questions regarding an individual subject are asked to refer their questions to the subject co-ordinator(s) for that subject.

100-LEVEL

MATH101 MATHEMATICS IA

Double session; 12 credit points (6 hrs per week)
Assumed knowledge for the subject Mathematics IA is the 3 unit N.S.W. H.S.C. course.
Subject co-ordinator: F. Prokop

(a) Calculus Methods (Functions, differentiation, integration and applications)

(b) Algebra Methods (Complex numbers, matrices, determinants, systems of equations, i, j, k vectors).

(c) Numerical Analysis (Finite difference calculus, iterative techniques, elementary FORTRAN).

(d) Further Calculus Methods (Polar co-ordinates, introduction to sequences and series, first and second order differential equations).

MATH102 MATHEMATICS IB

Double session; 12 credit points (6 hrs per week)
Subject co-ordinator: F. Prokop

This subject is normally taken by students who intend to major in any branch of Mathematics. It presents the fundamentals as a background for further study at higher levels in Mathematics. The subject is recommended for intending teachers in Mathematics.

(a) Linear Algebra (Real numbers, functions, real n-dimensional space, bases, linear functions, matrices, applications to eigenvalues, difference equations, differential equations).
(b) Introduction to Analysis (Further properties of integers, rational, real and complex numbers, sequences, series, limits, continuity, Riemann integration and the fundamental theorem of calculus).

(c) Introduction to Probability Theory and Operations Research (Basic probability theory, sample space, discrete random variable, discrete probability distributions, introduction to linear programming and simplex method).

(d) Introduction to Statistics (Continuous distributions, probability density function, normal, exponential and uniform distributions, conditional and marginal distributions, function of a random variable, expected value and moment generating function).

MATH131 MATHEMATICS IC

Double session; 12 credit points (6 hrs per week)
Assumed knowledge for the subject Mathematics IC is the 3 unit N.S.W. H.S.C. Mathematics course.
Subject co-ordinator: F. Prokop

(a) Calculus (Functions, differentiation, integration and applications)
(b) Algebra (Complex numbers, matrices, determinants, systems of equations, i, j, k vectors).
(c) Introduction to Probability Theory and Operations Research (Basic probability theory, sample space, discrete random variable, discrete probability distributions, introduction to linear programming and simplex method).
(d) Introduction to Statistics (Continuous distributions, probability density function, normal, exponential and uniform distributions, conditional and marginal distributions, function of a random variable, expected value and moment generating function).

MATH132 MATHEMATICS ID

Double session; 12 credit points (6 hrs per week)
Assumed knowledge for the subject Mathematics ID is the 2 unit N.S.W. H.S.C. Mathematics course.
Subject co-ordinator: F. Prokop

(a) Preliminary (Polynomials, surds, indices, logarithms, properties of straight line and circle, arithmetic and geometric series, the binomial theorem, trigonometric formulae).
(b) Calculus (Functions, differentiation, integration and applications)
(c) Algebra (Complex numbers, matrices, determinants, systems of equations, i, j, k vectors).
(d) Descriptive Statistics (Frequency distributions, histograms, measures of central tendency and dispersion; mean, mode, median, range, standard deviation, probability, normal distribution, testing of hypothesis, one sample case).
(e) Inferential Statistics (Testing of Hypothesis: Two sample test, χ² test of independence, Non-Parametric tests; Mann-Whitney U test, sign test, Wilcoxon matched pairs signed rank test, power of a test, regression and correlation, one way analysis of variance).
DESCRIPTION OF SUBJECTS - MATHEMATICS 387

MATH187 MATHEMATICS IA Part 1

First session; (6 hrs per week)
Assumed knowledge for this subject is the 3 unit Mathematics course at the N.S.W. H.S.C.
Subject Co-ordinator: F. Prokop

(a) Algebra (Matrices, systems of equations, determinants).
(b) Calculus (Functions, differentiation and applications).
(c) Numerical Analysis (Finite difference calculus, iterative techniques, elementary FORTRAN).

MATH188 MATHEMATICS IA Part 2

Second session; (6 hrs per week)
Subject Co-ordinator: F. Prokop

(a) Algebra (Determinants, complex numbers, i, j, k vectors).
(b) Calculus (Integration and applications).
(c) Further Calculus (Polar co-ordinates, introduction to sequences and series, first and second order differential equations).

200-LEVEL

MATH201 MATHEMATICS IIA

Double session; 12 credit points (4 hrs per week)
Subject co-ordinator: G. Morris

(a) (i) Multivariable Calculus (Partial derivatives and their applications, multiple integrals).
     (ii) Fourier Series.
(b) Complex Variable (Complex functions, analytic functions, Laurent series, singularities, residues, contour integrals and applications, conformal transformations).
(c) Integral Transforms (Introduction to Laplace and Fourier transforms, and their applications to the solution of differential and integral equations, inverse transforms).

MATH211 MATHEMATICS IIB

Double session; 12 credit points (4 hrs per week)
(Essential for majors in Applied Mathematics)
Subject co-ordinator: T. Horner

(a) Vector Calculus (Vector functions of several variables, general integral theorems).
(b) Matrix Analysis (Further properties of matrices, eigenvalues, eigenvectors, quadratic forms).
(c) Numerical Analysis (Numerical processes applied to functions, equations, differential equations, integration, matrices).
(d) Dynamical Systems (Examples of modelling dynamical systems drawn from mechanical and electrical systems and particle dynamics, data analysis, fluid mechanics).
MATH221 MATHEMATICS IIC

Double session; 12 credit points (4 hrs per week)
(Essential for majors in Pure Mathematics)
Subject co-ordinator: P. Laird

(a) Linear Analysis (Linear Algebra, eigenvalues and eigenvectors, diagonalization and canonical forms, inner product spaces, orthogonalization, application to Fourier series and linear differential equations).

(b) Multivariate Differential Analysis (Differentiable functions between $\mathbb{R}^n$ and $\mathbb{R}^m$, the derivative as a linear function, the chain rule, implicit and inverse function theorems).

(c) Real Analysis (Sequences and series of functions, uniform convergence).

(d) Elementary theory of finite groups.

MATH231 MATHEMATICS IID

Double session; 12 credit points (4 hrs per week)
(Essential for majors in Probability, Statistics, or Operations Research)
Subject co-ordinator: K. Tognetti

(a) Statistics (Estimation, sampling distributions, chi-square distribution, $t$ distribution, $F$ distribution, testing of hypotheses, UMP tests, contingency tables, non-parametric statistics, linear regression).

(b) Finite Mathematics and Combinatorics (Network theory, graph theory).

MATH233 MATHEMATICS IIP

Double session; 6 credit points (2 hrs per week)
Subject co-ordinator: P. Castle

Probability, discrete and continuous distributions, random variables and expected values, sampling distributions, estimation, testing of hypotheses, regression analysis and analysis of variance.

MATH234 STATISTICAL METHODS

Double session; 6 credit points (2 hrs per week: 1 lecture & 1 tutorial)
Subject co-ordinator: C. Gulati

Session 1: Frequency distributions, histograms, measures of central tendency and dispersion; Mean, Mode, Median, Range, Standard Deviation, Probability, Normal Distribution, Testing of Hypothesis, one sample case.

Session 2: Testing of hypothesis: Two sample Test, $\chi^2$ test of independence, Non-Parametric Tests: Mann-Whitney $U$ test, sign test, Wilcoxon matched pairs signed rank test, Power of a test, Regression and Correlation, one way Analysis of Variance.

TEXTBOOK

MATH282 MATHEMATICS IIM

First session; (4 hrs per week)
Subject co-ordinator: T. Horner

Partial differentiation, multiple integrals, Fourier series, further work in the solution of differential equations of the first and second order.
MATH286 MATHEMATICS IIZ

Double session; 8 credit points (2 2/3 hrs per week)
Subject co-ordinator: T. Horner

(a) Vector Calculus (Vector functions of several variables, general integral theorems).

(b) Matrix Analysis (Further properties of matrices, eigenvalues, eigenvectors, quadratic forms).

(c) Numerical Analysis (Numerical processes applied to functions, equations, differential equations, integration, matrices).

MATH287 MATHEMATICS IIE PART 1

First session; (5 hrs per week)
Subject Co-ordinator: T. Horner

Partial differentiation, multiple integrals, Fourier series, special functions, further differential equations, series solutions, Laplace transforms, numerical solution of differential equations.

MATH288 MATHEMATICS IIE PART 2

Second session; (5 hours per week)
Subject Co-ordinator: T. Horner

Complex variable; matrix algebra, eigenvalues, eigenvectors, numerical methods of eigenvalues, solution of systems of differential equations; vector algebra, vector calculus, general integral theorems; further numerical analysis, solution of algebraic and differential equations.

300-LEVEL

MATH311 MATHEMATICAL METHODS: DIFFERENTIAL EQUATIONS AND SPECIAL FUNCTIONS

AVAILABLE FROM 1982

First session; 6 credit points (3 hrs per week)
Subject co-ordinator: G. Morris

(a) Differential Equations (Taylor and Frobenius series solutions, introduction to partial differential equations and boundary value problems, separation of variables and applications).

(b) Special Functions (Error, gamma, beta, Bessel, hypergeometric, Legendre, Hermite and Laguerre functions).

MATH312 NUMERICAL ANALYSIS A

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: G. Doherty

The course attempts to give the student a further exposure to the numerical techniques applied in computer solutions of mathematical problems. Topics include: curve fitting and non-linear optimisation techniques; the use of orthogonal polynomials, splines, and rational approximations in the representation of functions.
MATH313 NUMERICAL ANALYSIS B

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: T. Horner

Numerical processes in linear algebra: LU, QR decomposition of a matrix, eigenvalues and eigenvectors of a matrix, power method, Sturm sequences, LR and QR algorithms, inverse iteration, special methods for symmetric matrices.

MATH314 OCEAN DYNAMICS

Second session; 6 credit points (3 hrs per week)
Subject co-ordinator: D. Clarke

Properties of water waves and ocean currents.

MATH315 VARIATIONAL CALCULUS AND ASYMPTOTIC ANALYSIS

Second session; 6 credit points (3 hrs per week)
Subject Co-ordinator: J. Blake

Lagrange multiplier methods, variational problems with fixed and moving boundaries, approximate methods, regular and singular asymptotic expansions, methods of Laplace, stationary phase and steepest descents.

MATH321 FUNCTIONAL ANALYSIS

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: R. Nillsen

Hilbert and Banach spaces, linear operators, dual spaces, application to (some of) Fourier series, differential and integral equations, quadrature formulae, orthogonal functions and expansions.

MATH322 ABSTRACT ALGEBRA

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: P. Laird

Algebraic structures such as groups, rings, fields, Boolean algebras and their quotient structures, embedding of integral domains, construction of the reals, introduction to Galois theory and number theory.

MATH323 LOGIC AND SET THEORY

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: M. Bunder

Axiomatic, propositional, and predicate calculus; axiomatic set theory, cardinal and ordinal numbers, the axiom of choice, Zorn’s Lemma and applications.

MATH324 TOPOLOGY AND COMPLEX ANALYSIS

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: F. Prokop

Elementary general topology, open sets, closed sets, connected sets, continuous functions, curves in the plane, winding numbers, Cauchy’s theorem, entire and meromorphic functions, application to differential equations and approximation theory.
MATH31 TIME SERIES

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: B. Quinn

Autocorrelation function, models for stationary and non-stationary models, identification and estimation of ARIMA models, seasonal models, analysis of residuals.

MATH32 MULTIPLE REGRESSION AND ANALYSIS OF VARIANCE

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: C. Gulati

Linear regression, multiple regression, Gauss Markov Theorem, stepwise regression, model building, analysis of residuals, analysis of variance and covariance.

MATH34 DESIGN AND ANALYSIS

Double session; 6 credit points (2 hrs per week: 1 lecture & 1 tutorial)
Subject co-ordinator: B. Quinn

Topics will include the structure and planning of experiments: one way analysis of variance; two-way analysis of variance; three way analysis of variance; multiple comparison procedures; non-parametric analysis of variance - the Kruskal-Wallis test; analysis of co-variance; regression analysis; multiple correlation and multiple regression; correlations involving ranks and dichotomous data; and introduction to factor analysis.

MATH35 STATISTICAL INFERENCE

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: B. Quinn

Statistical information, likelihood ration test, sequential analysis, multivariate analysis, robust estimation, sampling theory.

MATH36 APPLIED PROBABILITY MODELS

First or second session; 6 credit points (3 hrs per week)
Subject Co-ordinator: K. Tognetti

Branching processes, renewal processes, Markov chains, birth and death processes, queueing theory.

MATH37 OPERATIONS RESEARCH

First session or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: K. Tognetti

Linear, non-linear and dynamic programming, game theory.

MATH31 DIFFERENTIAL EQUATIONS

First or second session; 6 credit points (3 hrs per week)
Subject Co-ordinator: G. Morris

Qualitative theory of ordinary differential equations.

MATH32 VISCIOUS FLUIDS

Second session; (3 hrs per week)
Subject Co-ordinator: J.R. Blake
DESCRIPTION OF SUBJECTS - MATHEMATICS

Equations of motion of a viscous fluid, exact solutions, low Reynolds number flows, boundary layers, matched asymptotic expansions.

MATH363 MATHEMATICAL MODELLING

First or second session; 6 credit points (3 hrs per week)
Subject Co-ordinator: J.R. Blake

Casebook study of applications of differential and integral equations to problems from science and industry.

MATH364 CONTINUUM MECHANICS

First or second session; 6 credit points (3 hrs per week)
Subject Co-ordinator: J. Hill

Elementary continuum mechanics with selected problems from elasticity theory.

MATH365 DECISION THEORY

First or second session; 6 credit points (3 hrs per week)
Subject Co-ordinator: C. Gulati

Subjective probability, utility theory, conjugate prior distributions, decision making under uncertainty, Bayesian decision making, sequential sampling, search theory.

MATH366 POPULATION DYNAMICS

First or second session; 6 credit points (3 hrs per week)
Subject co-ordinator: K. Tognetti

The mathematical modelling of demographic and biological populations which will range over ordinary, partial and delay differential equations as well as integral equations. Stochastic and deterministic (Leslie matrix) formulations will be described. Interactions between populations such as competition and predation. Age dependent processes. Diffusion approximations. Stability analysis.

MATH371 ADVANCED TOPICS IN APPLIED MATHEMATICS

First or second session; (3 hrs per week)
Subject Co-ordinator: Various

Topics will be selected from the areas of interest of staff members or visiting staff members of the Department.

MATH372 ADVANCED TOPICS IN PURE MATHEMATICS

First or second session; (3 hrs per week)
Subject Co-ordinator: Various

Topics will be selected from the areas of interest of staff members or visiting members of the Department. These may include topics in Analysis, Algebra, Logic or Number Theory.

MATH373 ADVANCED TOPICS IN STATISTICS

First or second session; (3 hrs per week)
Subject Co-ordinator: Various

Topics will be selected from the areas of interest of staff members or visiting staff members of the Department.
DESCRIPTION OF SUBJECTS - MATHEMATICS 393

400-LEVEL

MATH401 MATHEMATICS IV (HONOURS)

Double session; 48 credit points
Subject co-ordinator: K. Tognetti

A student taking Honours would normally take a selection of topics at 4th year level (subject to approval by the Chairman of the Department) and a minor thesis, under the supervision of an appropriate member of staff.

The subject may include topics from: Numerical Analysis; Ocean Dynamics; Nuclear Reactor Theory; Computing Science; Statistics; Probability; Operations Research; Functional Analysis; Measure Theory; Abstract Algebra; Logic; Set Theory; Topology; Perturbation Theory; Matrix Analysis; Continuum Mechanics; Non-Linear Partial Differential Equations; Mathematical Methods; or Classical Analysis.

MATH411 MATHEMATICS HONOURS SEMINAR

Double session; 12 credit points
Subject co-ordinator: K. Tognetti

The Honours Seminar, which is available as a separate subject to candidates for MSc or DipMath only, requires the undertaking of a reading course in the appropriate field of study and the presentation of a substantial essay together with a Seminar to the Department of Mathematics.

The method of assessment of the Mathematics Honours Seminar will be on the quality of the essay and of the Seminar and will be made by the relevant departmental staff.

COHERENT STUDIES IN MATHEMATICS

One of the following methods must normally be used by Mathematics students to declare the 24 credit points of substantial and coherent study at the 300-level as required by the Bachelor Degree Regulations 16.2, 20A.2.2 and 20A.3.1.

(a) MATHEMATICS
By the successful completion of any 24 credit points of 300-level Schedule F Mathematics subjects.

(b) PHYSICAL OCEANOGRAPHY (Regulation 16.2 only)
By the successful completion of each of: MATH311, MATH314, GEOG313

NOTE: Subjects MATH311 to MATH337 will be on offer each year. A selection of additional subjects MATH361 through to MATH373 will also be on offer from time to time.

SUGGESTED UNDERGRADUATE DEGREE PROGRAMMES IN MATHEMATICS

The following information is intended as a guideline to the student in selecting suitable supplementary subjects to do to make a reasonable pattern for Mathematics degrees in the various fields of Mathematics.

All students are expected to consult with the Mathematics Department and Faculty advisors before committing themselves completely to any particular pattern, whether outlined below or not.

It is emphasised that the following programmes are based on the usual 48 credit points per year, totalling 144 credit points over 3 years.
PROGRAMME 1: APPLIED MATHEMATICS (General)

First year - Mathematics I A and I B (and 24 other credit points normally being CSC101 and PHYS141 and PHYS142.
Second year - Mathematics II A, II B (at least 1 other Schedule F Mathematics subject, and 12 other credit points)
Third year - A substantial and coherent study in Applied Mathematics (and 24 other credit points of Schedule F Mathematics).

Programme 2: NUMERICAL ANALYSIS

First year - Mathematics I A
Second year - Mathematics II A, II B
Third year - A substantial and coherent study in Applied Mathematics including the subjects MATH312 and MATH313.

Supplementary Subjects:

For a Mathematics major it is suggested that the completed course should include Computing Science subjects and Mathematics II B.

PROGRAMME 3: OCEAN DYNAMICS

(a) Mathematical

First year - Mathematics I A, I B
Second year - Mathematics II A, II B, IID
Third year - MATH311, MATH312, MATH313, MATH314 (and 24 other credit points of Schedule F Mathematics subjects, possibly including 300-level Schedule F statistics subjects).

Supporting Programmes:

36 credit points chosen from 100-level Physics, Geography, Geology; 200-level GEOG212 Biogeography (8 credit points), GEOL211 Basin Analysis and Oceanography (6 credit points); 300-level GEOG313 Coastal Geomorphology (12 credit points)

(b) Mathematics and Coastal Dynamics

First year - Mathematics I A, GEOG112 & 102, GEOL101, & 102, BIOL102
Second year - Mathematics II A, II B, IIP (6 credit points), GEOL211
Third year - MATH311, MATH312, MATH313, MATH314; GEOG313, GEOG 311 plus 4 credit points which could be achieved by replacing Mathematics IIP with Mathematics I B

PROGRAMME 4: STATISTICS

First year - Mathematics I A and I B (and 24 other credit points)
Second year - Mathematics II A, IID (and at least 1 other Schedule F Mathematics subject, and 12 other credit points)
Third year - A substantial and coherent study in Statistics and Operations Research (and 24 other credit points of Schedule F Mathematics, possibly including MATH312, MATH313).

PROGRAMME 5: PURE MATHEMATICS (GENERAL)

First Year - Mathematics I A and I B (and 24 credit points)
Second Year - Mathematics II A, IIC (and at least 1 other Schedule F Mathematics subject, and 12 other credit points)
Third Year - A substantial and coherent study in Pure Mathematics (and 24 other credit points of Schedule F Mathematics)
DESCRIPTION OF SUBJECTS - MATHEMATICS

PROGRAMME 6: INTENDING HIGH SCHOOL TEACHERS IN MATHEMATICS

First year - Mathematics IA and IB (and 24 other credit points, possibly including Computing Science I)
Second year - 48 credit points at 200-level of Schedule F Mathematics subjects
Alternative - 36 credit points at 200-level of Schedule F Mathematics subjects
Second year (and 12 other credit points)
Third year - 48 credit points at 300-level of Schedule F Mathematics subjects
Alternative - 36 credit points at 300-level of Schedule F Mathematics subjects (and 12 other credit points)

Notes on PROGRAMME 6 for Students who are on N.S.W. Teacher Education Mathematics Scholarships:

1. The minimum requirement for these students is 60 credit points of Mathematics, including a coherent study at 300-level, although a student is encouraged to do a Mathematics degree (through Schedule F), which requires either

   (a) 84 credit points of Schedule F Mathematics subjects as a minimum; or

   (b) 72 credit points of Schedule F Mathematics subjects, together with 48 credit points of subjects offered by, or on behalf or, one other Department in the University.

2. In order to gain increments in the "Teachers College Scholarships" allowance, students should seek advice on the possibility of including some 200- and 300-level Education subjects in their programme.

3. These students should get written approval for their programme from the Education Department's advisory office before embarking on any programme in mathematical studies.

PROGRAMME 7: MATHEMATICS/PSYCHOLOGY

First year - Mathematics IA and IB, Psychology IA and IB (and 12 other credit points)
Second year - Any 24 credit points of 200-level Schedule F Mathematics Subjects, and any 18 credit points 200-level Psychology subjects, (and 6 other credit points)
Third year - A substantial and coherent study in Mathematics, together with any 24 credit points 300-level Psychology subjects.

Notes on PROGRAMME 7:

A student wishing to take this combined programme (e.g. under degree regulations 20A.3.1 and 20A.3.2) should consult jointly with the Departments of Mathematics and Psychology to determine the best possible combinations of 200- and 300-level subjects for the type of employment the student may be requiring at the completion of the degree.

PROGRAMME 8: LOGIC (AND PHILOSOPHY)

First year - Mathematics IA and IB, PHIL112 Logic A (6 credit points) and 18 other credit points at least 12 of which should be in Philosophy
Second year - Mathematics IIA and IIC, PHIL231 Formal Logic A and PHIL222 Set Theory (8 credit points each) and 8 other credit points (e.g. PHIL211 or 212)
Third year - PHIL381 Formal Logic D (8 credit points) and PHIL362 Modal Logic (12 credit points), and 24 credit points of Schedule F Mathematics (probably including MATH321 and MATH324), and 4 other credit points.
PROGRAMME 9: MATHEMATICS/GEOGRAPHY

(a) Physical Geography

First year  - Mathematics IA and IB, GEOG102 and GEOG112 (and 12 other credit points)
Second year - Mathematics IIA and IIB, GEOG212 and GEOG206 (and 8 other credit points)
Third year  - A coherent study in Applied Mathematics, including the subjects MATH311 and MATH314, together with GEOG311 and GEOG313

(b) Human Geography

First year  - Mathematics IA and Mathematics IB, GEOG102 and GEOG112 (and 12 other credit points)
Second year - Mathematics IIA and IID, GEOG202 and GEOG220 (and 2 other credit points, which could be achieved by including Mathematics IIB)
Third year  - A coherent study in Statistics and Operations Research, together with GEOG320 and GEOG322.

Notes on PROGRAMME 9:
A student wishing to take this combined programme (e.g. under degree regulations 20A.3.1 and 20A.3.2) should consult jointly with the Departments of Mathematics and Geography to determine other possible combinations of 200- and 300-level subjects depending on the type of employment the student may be requiring at the completion of the degree.

PROGRAMME 10: MATHEMATICS/PHYSICAL CHEMISTRY

First year  - Mathematics IA and IB, CHEM101, CHEM102 (and 12 other credit points)
Second year - Mathematics IIA and IIB, CHEM212, CHEM213, CHEM219 (and 6 other credit points)
Third year  - A coherent study in Applied mathematics, including the subjects MATH311, MATH312, and MATH313, together with CHEM322, CHEM323 and CHEM324.

Notes on PROGRAMME 10:
A student wishing to take this combined programme (e.g. under degree regulations 20A.3.1 and 20A.3.2) should consult jointly with the Departments of Mathematics and Chemistry to determine other possible combinations of 200- and 300-level subjects depending on the type of employment the student may be contemplating at the completion of the degree.
MECHANICAL ENGINEERING

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule C.

100-LEVEL

MECH101 STATICS

First session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at the end of course. Other short examinations and tutorial performances may be incorporated in the final assessment.

Introduction to statics; force systems, equilibrium, structures, distributed forces; friction.

TEXTBOOK

MECH102 DYNAMICS

Second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and assignments may be incorporated in the final assessment.

Kinematics of a particle; kinetics of a particle; equations of motion; dynamic equilibrium; work and energy; impulse and momentum.

TEXTBOOK

MECH 103 STATICS

Second session;
All details, with the exception of the session offered, are identical with MECH101 Statics.

MECH121 ENGINEERING DRAWING AND GRAPHICS

First session; (14 hrs lectures; 28 hrs tutorials)
Assessment: Parts (a) and (b) by class examinations.

(a) Engineering Drawing and Design

Introduction and standards information; geometrical constructions; the production of a mechanical drawing; pictorial drawing (isometric and oblique parallel projection); drawing analysis; elementary ideas of design.

(b) Descriptive Geometry.

Fundamental principles of projection; visibility; applications of the fundamental principles of orthographic projection including true length of a line segment, bearing and grade of a line, point view of a line, edge view of a plane surface and true shape of a plane surface; angle between plane surfaces; angle between intersecting and skew lines; angle between a line and a plane.

Developments including prisms, cylinders, pyramids, cones, and transition pieces; intersection of solids bounded by plane surfaces; intersection of conics.
TEXTBOOKS


MECH122 INTRODUCTION TO DESIGN

Second session; (14 hrs lectures; 28 hrs tutorials)
Assessment: One mid-session examination, one final examination and a creative design project.

The phases of design; design processes; design models; design economics; decision processes; creative design.

Advanced exercises in drawing analysis; advanced exercises in orthographic projection.

Graphical presentation of data including nomograms; graphical integration; graphical differentiation; empirical equations including semi-log and log-log plots.

TEXTBOOKS

AS 1100, Part 9, Drawing Practice-Dimensioning and Tolerancing of Size. Standards Association of Australia.

MECH131 ENGINEERING PROCESSES AND PRACTICE

First session; (42 hrs lectures and tutorials)
Assessment: Assignments during session and one 3 hour examination at end of the course

A series of lectures, tutorials and plant visits to engineering establishments arranged to familiarise students with engineering processes and practice. Topics covered include the workshop practices of forging, fitting and welding, numerically controlled machine tools, casting and foundry practice, heat treatment, computer-aided drafting and environmental considerations in the practice of engineering.

MECH198 INDUSTRIAL EXPERIENCE I
MECH199 INDUSTRIAL EXPERIENCE II
MECH298 INDUSTRIAL EXPERIENCE III
MECH299 INDUSTRIAL EXPERIENCE IV
MECH398 INDUSTRIAL EXPERIENCE V
MECH399 INDUSTRIAL EXPERIENCE VI

For students in full-time employment who are enrolled in a part-time programme, each year of appropriate employment will be credited as one elective with a maximum accreditation of six electives for the course.

In the last week of Session 2 of each stage of the course students must submit a report on their industrial activities during the foregoing year. The report should be approximately 1000 words long.

Accreditation is granted if the report is passed as satisfactory by the Chairman of Department.
MECH201 MECHANICS OF SOLIDS I

First session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at the end of course. Other short examinations and tutorials may be incorporated in the final assessment


TEXTBOOK

MECH202 ENGINEERING MATERIALS I

Second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and assignments may be incorporated in the final assessment

Explanation of the difference between theoretical strength and actual strength of material; Relationship between microstructure and properties of engineering materials; Control and modification of microstructure; Relationship between microstructure and properties of special purpose metals; Relationship between the microstructure and properties of non-metallic materials; Modes of failure; Theories of failure; Materials Selection; New developments in materials.

MECH213 MECHANICAL ENGINEERING DESIGN I

Second session; (42 hrs lectures and Drawing Office)
Assessment: Assignments, one 3 hour class examination during the session and one 3 hour examination at end of the course

Limits and fits; Bolted and welded connections; Power screws; Keys; Spur gear design; Brakes; Clutches; Rolling contact bearings.

TEXTBOOK

MECH223 ENGINEERING DYNAMICS

First session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment.

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.

TEXTBOOK

MECH224 SYSTEM DYNAMICS

Second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment.

System modelling and classification; system representation and reduction; equations of motion; system excitation; system transfer functions; linear systems;
free and forced time response of simple linear systems; system response using Laplace Transforms.

TEXTBOOK

Ogata, K. *Modern Control Engineering*. Prentice-Hall.

MECH225 MACHINE DYNAMICS

Second session; (28 hrs lectures, 14 hrs tutorials)  
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment.


MECH231 FLUID MECHANICS I

First session; (28 hrs lectures; 14 hrs tutorials)  
Assessment: One 2 hour examination at end of course. One mid-session test and assignments may be incorporated in the final assessment

Fluid properties and definitions; fluid statics; conservation of mass in fluid flow; momentum principle and applications; Bernoulli equation; energy equation for steady flow; effects of viscosity; dimensional analysis; fluid flow measurements.

TEXTBOOK


MECH241 THERMODYNAMICS I

Second session; (28 hrs lectures; 14 hrs tutorials)  
Assessment: One 2 hour examination at end of course. Other short examinations and tutorial performances may be incorporated in the final assessment


TEXTBOOKS


MECH251 EXPERIMENTAL ENGINEERING I

First session; (12 hrs lectures; 30 hrs tutorials and laboratory)  
Assessment: No formal examination. Assessment will be based on laboratory reports, all of which are compulsory.


MECH281 ENVIRONMENTAL ENGINEERING I

First session; (28 hrs lectures; 14 hrs tutorials)  
Assessment: Tutorial problems, assignments and one 3 hour examination at end of course
An introduction to the following topics:

(a) The environmental crisis.
   Air pollution: its causes and control.
   Water pollution: its causes and control.
   Noise pollution: its causes and control.
   Solid-Waste: its generation and disposal.

(b) The energy crisis.

300-LEVEL

MECH313 MECHANICAL ENGINEERING DESIGN II

First session: (42 hrs lectures and Drawing Office)
Assessment: Assignments, one 3 hour class examination during session and one 3 hour examination at the end of the course

Design of helical gears, worm gears and epicyclic gears. Shaft design; Design of springs; Curved beam design.

TEXTBOOK

MECH314 MECHANICAL ENGINEERING DESIGN IIIA

Second session: (42 hrs lectures and Drawing Office)
Assessment: Assignments, one 3 hour class examination during the session and one 3 hour examination at the end of the course.

Application of the design of machine elements to mechanical engineering systems using codes of practice such as the Crane and Hoist Code.

MECH332 FLUID MECHANICS II

First session: (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorial performances may be incorporated in the final assessment.

Laminar and turbulent flows; dynamic equations for viscous flow; elementary boundary layer theory; resistance to flow in pipes and conduits; one dimensional compressible flow with friction and heat transfer; normal shock waves; elements of turbomachinery.

TEXTBOOK

MECH342 THERMODYNAMICS II

First session: (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour paper at mid-session and one 2 hour paper at end of course.

Vapour, gas power and refrigeration cycles. Thermodynamic relations. Mixtures. Psychrometry.

TEXTBOOK
MECH344 HEAT TRANSFER

Second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment.


TEXTBOOK

MECH353 EXPERIMENTAL ENGINEERING II

Second session; (14 hrs lectures; 28 hrs laboratory)
Assessment: No formal examinations. Assessment will be based on laboratory reports, all of which are compulsory.

Testing of reciprocating and rotodynamic machine, refrigeration plant, nozzles; heat exchangers.

MECH361 CONTROL SYSTEMS I

First session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour paper at end of course. Other short examinations and assignments may be incorporated in the final assessment.

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.

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

MECH362 CONTROL SYSTEMS II

Second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour paper at end of course. Other short examinations and assignments may be incorporated in the final assessment.

Further analogue computing; design and compensation techniques; introduction to non-linear systems and methods of analysis; introduction to state-space methods.

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

MECH363 SYSTEMS ANALYSIS I

Second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and assignments may be incorporated in the final assessment.

Linear programming; network analysis; dynamic programming; queueing theory.

TEXTBOOK
MECH364 MECHANICAL ENGINEERING APPLICATIONS OF COMPUTERS

First session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment.

Review of Fortran-programming; introduction to other computer languages; graphics; numerical methods.

Application of computers in industry. Topics to be selected from critical path analysis, distribution of materials in blast furnaces, finite element analysis of pressure vessels, temperature profiles in blast furnace stoves and computer control of an industrial process.

MECH391 HEAT TRANSFER FOR CIVIL ENGINEERS

Second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment.

One- and two-dimensional steady state conduction; radiation; applications in Civil Engineering.

TEXTBOOK

MECH392 INTRODUCTORY THERMOFLUID DYNAMICS

First session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment.

Concepts and definitions; energy transfer and the first law; fluid properties; control mass and control volume analysis; dimensional analysis; dynamic similarity; boundary layer theory; flow around bluff bodies; flow of real fluids in ducts; some practical demonstrations.

TEXTBOOKS

400-LEVEL

MECH401 THESIS

Double session;

During the final year of study for the Bachelor of Engineering Degree, each student is required to prepare a thesis on a subject or topic approved by the Chairman of the Department. Two bound copies of the completed thesis must be lodged with the Chairman of the Department by the due date posted.

The subject of a thesis may cover:

(a) A critical literature survey of a topic, design or installation in the Mechanical Engineering field,
(b) a theoretical, computational and/or experimental investigation of a Mechanical Engineering problem,

(c) a set of drawings and calculations covering a Mechanical Engineering design.

The aim of the thesis is for the student to learn how to examine published and experimental data, set objectives, organize a programme of work, and analyse results and evaluate these in relation to existing knowledge. Each student is required to deliver a seminar paper on the results of his thesis work. The thesis will be judged on the extent and quality of the student's work, and particularly how critical, perceptive and constructive he has been in assessing his own work and the work of others.

**MECH402 ENGINEERING MATERIALS II**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment

Phase equilibrium; alloying; diffusion; grain growth; heat treatment; thermal, magnetic and special properties of engineering materials; selection of materials for special application, high strength, high temperature, wear, bearing, impact and corrosion resistant; use of specifications; composite materials.

**MECH403 MECHANICS OF SOLIDS III**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment

Bending of flat plates; membrane stresses in shells; torsion of non-circular shafts; membrane analogy; application of strain energy methods to thin-walled curved tubes and plates and to buckling problems; bending of thick curved beams; real and complex stress functions; stress concentrations; stress waves; introduction to finite element method; bounds for plastic collapse loads in two-dimensional structures.

**MECH404 MECHANICS OF SOLIDS II**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in the final assessment

Bending of curved beams; statically indeterminate structures, plastic analysis methods; strain energy methods; struts; deformation symmetrical about an axis; residual stresses; dynamic loading; introduction to elasticity theory.

**TEXTBOOK**


**MECH413 MECHANICAL ENGINEERING DESIGN IV**

*First or second session; (14 hrs lectures; 28 hrs tutorials)*

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

Design of process and industrial machinery with reference to internal combustion engines, turbo-machines, air pollution control equipment, heat transfer apparatus, etc.

**TEXTBOOKS**

To be advised during course, depending on projects undertaken.
DESCRIPTION OF SUBJECTS - MECHANICAL ENGINEERING

MECH415 OPTIMUM DESIGN

First or second session; (14 hrs lectures; 28 hrs tutorials)
Assessment: No formal examination. Assessment will be based on drawing office assignments

The use of computers for mechanical engineering design. Optimization techniques and their application to selected machine elements. Case studies and assignments to exemplify the principles of optimum design.

TEXTBOOK


MECH416 STRUCTURAL DESIGN FOR MECHANICAL ENGINEERS

First or second session; (28 hrs lectures, 14 hrs tutorials)
Assessment: One 3 hour class examination during session and one 3 hour examination at end of course.

Basic design of structures. Bolted and welded connections between structural members. Structural design using aluminium alloys (course literature supplied).

TEXTBOOKS


MECH423 APPLIED DYNAMICS I

First or second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorial performances may be incorporated in the final assessment

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.

TEXTBOOKS

To be advised.

MECH424 APPLIED DYNAMICS II

First or second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorial performances may be incorporated in the final assessment

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.

TEXTBOOKS

To be advised.

MECH425 HYDRAULIC AND PNEUMATIC SYSTEMS

First or second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course. Other short examinations and tutorials may be incorporated in final assessment.
Analysis of hydraulic, pneumatic and vacuum power units for the provision of power and/or control in machines; circuit component characteristics; safety features, synthesis of systems.

**MECH433 LUBRICATION**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

*Assessment:* One 2 hour paper at end of course. Other short examinations and tutorials may be incorporated in the final assessment.

Navier-Stokes and energy equations of fluid flow and their application to hydrodynamic lubrication. Characteristics of hydrodynamic and hydrostatic bearings.


**MECH434 FLUID MECHANICS IIIA**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

*Assessment:* One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Application of potential flow theory; forces on slender bodies and thin aerofoils; elements of channel flow; lubrication theory.

**TEXTBOOKS**

Vallentine, H.R. *Applied Hydrodynamics*; Butterworths.


**MECH435 FLUID MECHANICS IIIB**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

*Assessment:* One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Applications of fluid mechanics to the following engineering systems: Air flow equipment; ventilation systems; fluid power systems; hydraulic machinery; pipe networks.

**TEXTBOOK**


**MECH443 THERMODYNAMICS III**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

*Assessment:* One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

DESCRIPTION OF SUBJECTS - MECHANICAL ENGINEERING 407

MECH444 THERMODYNAMICS IV

First or second session; (28 hrs lectures; 14 hrs tutorials)

Assessment: One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Thermodynamic analysis of combustion engines, steam turbines and complete power systems.

MECH445 REFRIGERATION AND AIR CONDITIONING

First or second session; (28 hrs lectures; 14 hrs tutorials)

Assessment: One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Studies of components used in refrigeration and air conditioning systems. Industrial applications.

TEXTBOOK

MECH451 EXPERIMENTAL ENGINEERING III

First or second session; (14 hrs lectures; 28 hrs laboratory)

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

Case studies in experimental engineering; advanced testing of engineering systems in such areas as thermodynamics, fluid dynamics, environmental engineering, materials handling and/or process control.

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

MECH463 CONTROL SYSTEMS III

First or second session; (28 hrs lectures; 14 hrs tutorials)

Assessment: One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Review of classical control techniques; matrix calculus, multi-input multi-output systems; state-space analysis; stability; optimal control; interaction; Inverse Nyquist array.

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

MECH464 SYSTEMS ANALYSIS II

First or second session; (28 hrs lectures; 14 hrs tutorials)

Assessment: One 2 hour paper at end of course. Other short examinations and assignments may be incorporated in the final assessment.

Probabilistic models; simulation; reliability and inventory theory; non-linear programming.

TEXTBOOK

MECH465 SYSTEM IDENTIFICATION

First or second session; (28 hrs lectures; 14 hrs tutorials)

Assessment: One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.
Random signal analysis; experimental identification; analytical modelling; solution of equations; optimisation; computer applications.

**TEXTBOOK**


**MECH473 MATERIALS HANDLING SYSTEMS I**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

*Assessment:* One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Principles of granular mechanics; flow patterns in hoppers and bins; measurement of flow properties in relation to hopper design; feeders; flow rate prediction; prediction of pressures on bin walls.

*TEXTBOOK*


**MECH474 MATERIALS HANDLING SYSTEMS II**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

*Assessment:* One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Advanced techniques for predicting bin loads; methods for improving hopper flow characteristics; flow of fine powders from storage; considerations of failure criteria for granular materials; solids mixing; dust hazards.

**MECH475 FLUID TRANSPORT OF BULK SOLIDS**

*First or second session; (28 hrs lectures; 14 hrs tutorials)*

*Assessment:* One 2 hour examination at end of session. Other short examinations and tutorials may be incorporated in the final assessment.

Classification of systems for the hydraulic or pneumatic transport of bulk solids; fluid/solid flow studies; friction losses; conveying equipment; system design; economics; wear of plant and degradation of materials.

**MECH481 SPECIAL TOPICS IN MECHANICAL ENGINEERING I**

*First or second session; (42 hrs lectures and tutorials)*

There is no set syllabus for this subject. It is intended that it normally be offered on a specialised mechanical engineering topic given by members of the Department or visiting academic staff or engineering consultants.

**MECH482 SPECIAL TOPICS IN MECHANICAL ENGINEERING II**

*First or second session; (42 hrs lectures and tutorials)*

There is no set syllabus for this subject. It is intended that it normally be offered on a specialised mechanical engineering topic given by members of the Department or visiting academic staff or engineering consultants.
MECH483 ENVIRONMENTAL ENGINEERING II

First or second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course together with one 2 hour class examination held during the course

The course aims to examine in detail industrial water pollution identification and control.

MECH484 ENVIRONMENTAL ENGINEERING III

First or second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course together with one 2 hour class examination held during the course

The course aims to examine in detail the causes and control of air pollution.

MECH485 ENVIRONMENTAL ENGINEERING IV

First or second session; (28 hrs lectures; 14 hrs tutorials)
Assessment: One 2 hour examination at end of course together with one 2 hour examination held during the course

The course aims to discuss in detail the causes and control of noise pollution.

MECH488 SPECIAL TOPICS IN MECHANICAL ENGINEERING III

First or second session; (42 hrs lectures and tutorials)

There is no set syllabus for this subject. It is intended that it will normally be offered on a specialised mechanical engineering topic by members of the Department or visiting academic staff or engineering consultants.

MECH491 PROFESSIONAL ORIENTATION

First or second session;
Assessment: Three 1000-word essays and one 2 hour examination at the end of the course.

Professional responsibility, social effects and ethical aspects of engineering practice; history of engineering and famous engineers; general engineering topics.

The subject is based on a reading list; there will be no formal lectures or tutorials but three seminars will be held at which students will present and discuss 1000 word essays in small groups.

TEXTBOOKS
To be advised.

MECH497 INDUSTRIAL TRAINING

When enrolling in the full-time Mechanical Engineering course students are required to obtain an aggregate of at least twelve weeks of relevant practical experience during the summer recesses. This training period must be spent in a suitable industrial environment outside the University.

Upon completion of their industrial training students must prepare a report on their training activities for submission to the Department for assessment.

An exemption in this subject is given to students who have completed one of the Industrial Experience subjects taken by part-time students.
Society uses a very wide variety of materials; metals, plastics, semiconductor materials and ceramics, to mention only the most familiar. Metallurgy is an applied science concerned with the extraction of metals from their ores and with the processes used to convert them into useful products. Although metallurgists are particularly concerned with metallic materials, they pursue their profession in the broad context of materials generally. Accordingly, the course is a diverse one and is divided into several branches. The fundamental principle guiding physical metallurgy is that the properties of all materials are determined by their detailed atomic architecture, so that if the relationship between structure and properties is understood it is possible to synthesize materials suited to any particular application. This relationship is investigated mainly by the methods of the physical sciences such as optical and electron-optical microscopy, x-ray and electron diffraction.

In extractive metallurgy the methods of chemistry and chemical engineering are used to develop processes for "extracting" metals from their ores and refining them to a satisfactory purity. Topics of special interest include high-temperature physical chemistry, heat transfer and the flow of liquids and gases.

The course provided in the Department of Metallurgy is broadly based and prepares a graduate for later specialization in any chosen branch of the profession. While the course is largely prescribed, options are provided and are chosen in consultation with the Chairman of the Department.

Assessment: Subjects are assessed by written examinations at the end of session and the performance in assignments and laboratory work. The subjects Metallurgy Project 1 and 2 are assessed by thesis and performance in seminars.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre- and co-requisites. All subjects described in this section are included in Schedule D (with the exception of METL106). Subjects which also appear in other schedules are:

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100-LEVEL

**METL105 NATURE OF MATERIALS**

First or second session; 6 credit points


**TEXTBOOKS**


**METL106 MATERIALS FOR ENGINEERS**

First or second session
DESCRIPTION OF SUBJECTS - METALLURGY 411

Crystal structures; electrical, magnetic and elastic properties. Plastic deformation, strain hardening. Structures of polymers, ceramics. Microstructures of metals, alloys; heat treatment. Mechanical properties, testing.

Chemical properties, corrosion, oxidation, corrosion protection. Structures and properties of ferrous and non-ferrous alloys, alloys, polymers and ceramics.

Property and service requirements for selection, manufacturing, design and economic constraints.

METL131 MECHANICS OF DEFORMATION I

First or second session

Introduction to continuum mechanics, introduction to micromechanisms of deformation, fundamental mechanical properties, elementary mechanical behaviour.

TEXTBOOK


METL181 INTRODUCTORY EXTRACTIVE METALLURGY

First or second session

An introduction to the principles of thermo-dynamics and their application to various processes of extraction and refining of metals.

TEXTBOOKS


METL195 TECHNICAL COMMUNICATIONS 1

First or second session

The student in metallurgy: note taking, study methods, use of library facilities, examinations and assessments.

METL196 TECHNICAL COMMUNICATIONS 2

First or second session

Written communication: essentials of technical writing, nature of reports, essays, theses etc., laboratory note books, recording and presentation of experimental data, introduction to metallurgical laboratory practice.

METL197 TECHNICAL COMMUNICATIONS 3

Oral communication: essentials of lecture preparation and presentation, lecture aids.

200-LEVEL

METL211 THERMODYNAMICS 1

First or second session

Revision of basic thermodynamical concepts; solution thermodynamics, interaction co-efficients, alternative standard states.
TEXTBOOK


**METL231 MECHANICS OF DEFORMATION 2**

First or second session

Principles of elastic theory, yield criteria; dislocation strain field, dislocation motion and interaction; introduction to anelasticity, straining rate sensitivity, strain softening, strain hardening and ductility.

TEXTBOOK


**METL245 TRANSPORT PROCESSES 1**

First or second session

Introduction to transport processes: fundamentals of transport, molecular and turbulent transport, formulation of the transport equations, steady and unsteady state transport, solutions to the equations for simple boundary conditions. Dimensional analysis.

**METL255 STRUCTURE OF METALS 1**

First or second session


TEXTBOOKS


**300-LEVEL**

**METL301 CERAMICS**

First or second session

Crystal structures of oxides and silicates. Non-crystalline phases. Phase equilibria in ceramic systems. Structural changes during processing and in service. Properties and their control. Classification of refractories, significant properties and service behaviour, testing.

**METL302 THE MATERIALS INDUSTRY I**

First or second session

Development in the materials industries; criteria for technological decisions; economic and social factors; consideration of examples particularly from the steel and coal industries.
METL306 POLYMERIC MATERIALS

First or second session

Source of raw materials; classification of polymers; structure and properties of natural polymers, thermosets, thermoplastics and synthetic fibres; effects of additives; composite materials, applications and competition between materials.

METL308 MATERIALS SELECTION

First or second session

Classification of materials, general properties of main groups of materials, specifications and standards. Property requirements of materials for particular applications, environmental constraints, manufacturing constraints. Bases for materials choice, testing and evaluation.

METL311 THERMODYNAMICS 2

First or second session

Thermodynamics of phase equilibria, experimental methods, estimation of data, applications.

TEXTBOOK


METL315 CORROSION

First or second session

Chemistry, thermodynamics and kinetics of aqueous and dry corrosion. Mechanical, environmental and design effects. Protection, prevention and testing. Associated processes.

TEXTBOOK


METL321 PHYSICS OF METALS

First or second session


TEXTBOOK


METL323 MECHANICAL BEHAVIOUR I

First or second session

Slip in metal crystals, orientation of slip systems, stereographic projection, grain boundary effects, dislocation reactions, strain hardening, ductility.

TEXTBOOK

First or second session

Deformation processing with steady state and non-steady state flow, calculation of working stress, friction effects.

TEXTBOOK

**METL332 FRACTURE I**

*First or second session*

Stress-strain concentration, Griffith and Orowan theories of crack extension, crack nucleation, crack blunting, toughness, effects of stress state, introduction to fracture mechanics.

TEXTBOOK

**METL345 TRANSPORT PROCESSES 2**

*First or second session*

Solid state diffusion: solution to the transport equation for various boundary conditions, calculations. Heat transfer mechanisms; conduction, convection and radiation. Applications in metallurgical processes.

TEXTBOOK

**METL346 TRANSPORT PROCESSES 3**

*First or second session*

Momentum and mass transport: flow regimes, boundary layers, flow of fluids in process equipment, dimensionless groups. Mass transport with and without chemical reaction in process vessels.

TEXTBOOKS

**METL355 STRUCTURE OF METALS 2**

*First or second session*


TEXTBOOK
DESCRIPTION OF SUBJECTS - METALLURGY

METL365 COMPUTING IN METALLURGY

First or second session

Applications of computing techniques to problems in metallurgy.

METL375 TRANSFORMATIONS 1

First or second session


TEXTBOOK


METL376 SOLIDIFICATION 1

First or second session


TEXTBOOK


METL385 EXTRACTIVE METALLURGY 1

First or second session

Application of scientific principles to the unit processes involved in the extraction and refining of metals by pyrometallurgical, hydrometallurgical and electrometallurgical processes.

TEXTBOOK


METL386 CHEMICAL REACTION ENGINEERING

First or second session

Review of chemical kinetics, search for a rate equation. Introduction to reactor design: single ideal reactors, multiple reactor systems, temperature and pressure effects, non-ideal flow, mixing and segregation.

TEXTBOOK


METL387 MINERAL PROCESSING

First or second session

416 DESCRIPTION OF SUBJECTS - METALLURGY

TEXTBOOK

400-LEVEL

**METL402 THE MATERIALS INDUSTRIES 2**

*First or second session*

Factors influencing development in the materials industries; criteria for complex technological decisions; consideration of examples chosen with special reference to the energy economy.

**METL421 DIFFRACTION TECHNIQUES**

*First or second session*

Advanced theory and practice of X-ray diffraction and electron metallography.

**METL423 MECHANICAL BEHAVIOUR 2**

*First or second session*

Thermally activated mechanical processes: climb of dislocations, stage III strain hardening, recovery, ageing creep, superplasticity, hot working.

TEXTBOOK

**METL424 MECHANICAL BEHAVIOUR 3**

*First or second session*

Applications of mechanical metallurgy principles to study of selected topics.

**METL431 MECHANICS OF DEFORMATION 4**

*First or second session*

Fundamentals of sheet metal forming, plastic properties of sheet metals, ductility in biaxial stress states, testing methods.

**METL432 FRACTURE 2**

*First or second session*


**METL441 TRANSPORT PROCESSES 4**

*First or second session*

Discussion of selected topics to illustrate particular applications of transport phenomena in extractive metallurgy; e.g. heat transfer in continuous casting and hot metal ladles, fluid flow in nozzles, jets and tuyeres.

**METL455 RECRYSTALLISATION**

*First or second session*
Microstructures of deformed metals, mechanisms and kinetics of recovery and recrystallisation in single phase alloys. Recrystallisation in two phase alloys.

**METL456 ALLOY DESIGN**

*First or second session*

Alloy strengthening and softening mechanisms. Relationships between microstructure and strength, toughness, formability, abrasion resistance, weldability. Control of microstructure and properties by thermomechanical treatments.

**TEXTBOOK**


**METL457 METAL JOINING**

*First or second session*


**METL465 PROCESS MODELLING 1**

*First or second session*

Studies of metallurgical processes by simulation and mathematical modelling.

**METL471 TRANSFORMATIONS 2**

*First or second session*

Detailed considerations of kinetic, crystallographic and structural characteristics of phase transformations in metals and alloys.

**METL472 SOLIDIFICATION 2**

*First or second session*

Cast structure development and control: grain refinement and modification, transport phenomena, microsegregation, macrosegregation. Thermodynamics of solidification. Processing and properties.

**METL485 EXTRACTIVE METALLURGY 2**

*First or second session*

Applications of metallurgical engineering principles of heat and mass transport, thermodynamics and reaction engineering to iron-ore reduction in direct reduction processes and in blast furnaces.

**METL486 EXTRACTIVE METALLURGY 3**

*First or second session*

Detailed study of iron making; thermodynamics and kinetics of iron ore reduction and of coke gasification, fundamentals of the blast furnace process, blast furnace models, Rist diagrams, process efficiency and burden distribution, bell-less charging.

**METL487 EXTRACTIVE PROCESS ENGINEERING**

*First or second session*
Development of an understanding of the fundamental bases and criteria involved in interpreting the performance of extractive processes in relation to the kinetics, contacting pattern, state of aggregation and degree of segregation of the reactants.

**METL488 REFINING PROCESSES**

*First or second session*

Detailed consideration of selected refining processes

**METL495 METALLURGY PROJECT 1**

*Second session*

A literature survey, experimental investigation and preparation of a thesis on a topic in metallurgy approved by the Chairman of the Department.

**METL496 METALLURGY PROJECT 2**

*Double session*

A literature survey, extensive experimental investigation and preparation of a thesis on an advanced topic in metallurgy approved by the Chairman of the Department.
Philosophy studies those problems which cannot be solved by the methods of the natural sciences; i.e. which cannot be solved by carrying out a physical experiment, making an observation, or doing a mathematical calculation. Examples of these non-scientific but nonetheless real problems are (1) Is there a God beyond the physical world? (2) Do moral distinctions rest on objective foundations or are good and bad matters of subjective preference? (3) How should I relate to other individuals and to institutions such as the state? (4) Am I a purely material being or does my having a mind set me apart from nature? (5) Is free will a reality or an illusion? and (6) the nature of truth and the methods by which it can be approached. The two main reasons for studying philosophy are firstly to attempt to formulate and justify one's own solutions to these and many other problems (and to find out and understand what others have said), and secondly to unearth and critically examine the many unstated assumptions implicit in our everyday thought and conduct. The study of philosophy does not depend upon any discipline or body of information acquired in secondary education.

Philosophy may be studied at first, second, third, and fourth year (Honours) levels, and at the postgraduate level. Various degrees of specialization are possible. Students who find that their interest in Philosophy is keen, and whose early work shows promise, are strongly recommended to plan a course of study which leaves open the possibility of taking a fourth (Honours) year, either exclusively in Philosophy (‘Pure’ Honours) or in conjunction with some other discipline (‘Combined’ Honours). An increasing number of other departments within the university do permit the possibility of an Honours degree combined with Philosophy, and students interested in combining the study of Philosophy with the study of a discipline offered by another Department to Honours level should contact both departments at the earliest opportunity, in order to ensure that they undertake a planned course of study which makes this possible at 400-level. Admission to the Honours year (400-level) in Philosophy (whether pure or combined) depends upon the quantity and quality of the student's philosophical studies at the 100-, 200-, and 300-levels, and compliance with the guidelines set out under (a) to (d) below.

Students contemplating progressing to Honours in Philosophy (pure or combined) should discuss their proposed programme of study with the Philosophy Honours (400-level) co-ordinator at the beginning of each year of enrolment. (Students contemplating combined Honours should also consult the equivalent person in the other department at the beginning of each year of enrolment.) Entry to Philosophy Honours is determined by the Academic Senate on the advice of the Chairman of the Department of Philosophy in the case of ‘pure’ Honours candidates, and on the joint advice of the Chairmen of both departments in the case of ‘combined’ Honours candidates. Students may be expected to be recommended for admission to ‘pure’ Philosophy Honours candidature if they:

(a) complete at least 48 of their 144 credit points in PHIL subjects, including at least 24 credit points at 300-level, and
(b) attain an average of Credit or better in post 100-level PHIL subjects, and
(c) acquire a basic competence in Logic (e.g. as certified by at least a pass in PHIL112 or PHIL113 or PHIL153 or PHIL216 or PHIL231 or PHIL253 or PHIL361 or (for students enrolled prior to 1978) PHIL103 or PHIL123), and
(d) acquire a basic competence in Metaphysics and Epistemology (e.g. as certified by at least a pass in PHIL262 or PHIL322 or PHIL321 or PHIL323).

Students may be expected to be recommended for admission to ‘combined’ Honours candidature (including Philosophy) if, in addition to meeting the above requirements, they also meet such requirements as are laid down by the other Department in which Honours candidature is proposed.
Notwithstanding these provisions the Chairman of the Department of Philosophy may, in respect of any applicant for entry to Honours, request written work and/or the opinions of the applicant's previous teachers as further evidence of the applicant's capacity to undertake the study of Philosophy at advanced level.

Official departmental announcements concerning the details of subject requirements (e.g. deadlines for essays, procedures for applying for extensions etc.) and teaching arrangements (e.g. class times, locations, and variations) are made from time to time on the Philosophy departmental noticeboard, adjacent to the departmental office. Students are expected to consult the departmental noticeboard regularly (at least once a week) and should note that failure to meet departmental requirements through not consulting the noticeboard will not be viewed sympathetically.

Assessment requirements vary from subject to subject and are set out in general terms in each of the subject entries. It should be noted that, notwithstanding any of these provisions, the Philosophy Departmental Assessment Committee may, in respect of any subject in which assessment is by a combination of (a) in-session work and (b) end of session or end of year examinations, attach greater weight to (b) than the aggregate of (a) and (b), should the level of performance under (b) disclose significant evidence of improvement in respect of the subject as a whole.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.


All approved subjects are listed in the subject descriptions which follow. However, staffing restrictions make it impossible for the Department to offer every subject every year. Accordingly, some subjects will not be available in 1982, but will be available, on present planning, in 1983. To help students plan their courses ahead, the following table gives an indication of the Department's planned offerings in 1982, 1983 and 1984. Please understand that circumstances may prevent us from adhering completely to these plans: the following information is provided as a guide only.

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DESCRIPTION OF SUBJECTS - PHILOSOPHY

PHIL273 YES YES YES
PHIL281 NO YES NO
PHIL282 YES NO YES
PHIL292 YES NO YES
PHIL293 YES YES YES
PHIL301 YFS YES YES
PHIL302 NO YES NO
PHIL303 Uncertain YES* Uncertain
PHIL305 YES YES YES
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PHIL321 YES YES YES
PHIL322 YES* YES* YES
PHIL323 YES YES YES
PHIL342 NO Uncertain NO
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PHIL361 YES YES YES
PHIL362 YES Uncertain YES
PHIL371 Uncertain Uncertain Uncertain
PHIL381 Uncertain Uncertain Uncertain
PHIL392 YES NO YES
PHIL403 YES YES YES
PHIL413 YES YES YES

Please Note:

(1) Where a subject is marked ‘Uncertain’ in a given year, students interested in studying that subject in the year concerned should consult with a member of the staff of the Department of Philosophy.

(2) * indicates that, even if the subject as described in this Calendar is not on offer in the year concerned, a subject with a very similar content is very likely to be offered instead.

100-LEVEL

PHIL103 PHILOSOPHY 103

Double session; 12 credit points (2 lectures, 1 tutorial per week)
Assessment: Two 1,500 word essays - 50%; a 3-hour examination at the end of second session - 50%.

An introduction to Philosophy through the study of selected philosophical writings and important philosophical problems.

The first session begins with an examination of some issues Socrates raised at his trial and problems he discussed with his friends while awaiting execution. Special attention is given to Plato's dialogue, the Crito, and to such questions as whether one should ever return evil for evil and whether it may sometimes be justifiable to disobey the laws enacted by the state to which one belongs. After this introduction to philosophical techniques, the remainder of the session is devoted to a critical study of Descartes' Meditations. Issues for consideration include epistemological questions (can anything be known with certainty? how is it possible for us to understand the nature of an 'external world' which exists independently of us? what is the role of sensory experience in the achievement of knowledge?) and metaphysical questions (what is the essential nature of the self? is the mind capable of existence independently of the body? does the existence of God need proof, or is theistic belief just a matter of faith?). A contrast is drawn between rationalist and empiricist emphases in the theory of knowledge and some recent developments discussed. The session's work includes a brief introduction to philosophical vocabulary and the fundamental concepts of modern logic.
The second session builds on concerns introduced in the first. A critical study of David Hume's contributions to the philosophy of religion serves both to further issues raised by Descartes about belief in God and to provide an empiricist contrast to Descartes' rationalism. Special attention will be paid to the argument from evil (which maintains that the existence of evil entails that there cannot exist a deity who is both all-good and all-powerful) and to the question of the rationality of belief in miracles. Finally, Descartes' concern with the self is taken up again in a critical study of Jean-Paul Sartre's essay, 'Existentialism is a Humanism'. The character of existentialism will be discussed, including such topics as self-realisation, self-deception and bad faith. Sartre's essay raises intriguing problems in two areas: (1) problems of free will and determinism: if human actions are subject to the laws of nature, can they be genuinely free?; and (2) problems concerning morality, including whether morality is 'objective' or 'subjective', 'absolute' or 'relative', whether everything is permitted if God does not exist, and the nature of the relationship between moral responsibility and freedom.

**TEXTBOOKS**


Textbook for Hume section of this subject is to be advised.

**PHIL112 LOGIC A**

Second session; 6 credit points (2 lectures per week; 1 tutorial per week)

Assessment: 4 written assignments during the session - 40%, and one test paper at end of session 2 - 60%; or one 3 hour examination paper at the end of session 2 - 100%

A second session introduction to elementary logic and its relation to natural language and reasoning. Topics dealt with include: demonstrative and problematic arguments, logical form, propositional calculus, introduction to predicate calculus. Natural deduction techniques will be used in proof construction. No mathematical or technical knowledge is presupposed and connections will be made with everyday thought and language.

**TEXTBOOK**

To be advised.

**PHIL143 POLITICAL THEORY**

Double session; 12 credit points (2 lectures, 1 tutorial per week)

Assessment: Tutorial assessment - 10%; 2 essays (2,000 words each) - 40%; one 3 hour examination - 50%.

A full year introduction to the study of politics covering three closely related areas: political science, theory of democracy, and democracy in Australia. The course aims to develop skills in the analysis of conceptual, empirical, and normative issues in politics. The topics of the course include some central concepts of politics, classical and pluralist theory of democracy and their conservative and radical critiques, and Australia's political institutions.

**TEXTBOOKS**


PHIL153 CLEAR THINKING AND ARGUMENTS

Double session; 12 credit points (2 lectures per week; 1 tutorial per week)
Assessment: 8 written assignments during the year - 40% and 2 test papers (1 at the end of each session) - 60%; or one 3 hour examination paper at the end of session 2 - 100%.

An elementary full-year course in (i) clarity of expression of thought, and (ii) sound reasoning. Under (i) consideration is given to different types of definition, precision and vagueness, ambiguity, and open texture. Under (ii) special attention is paid to the distinctions between truth and validity, and demonstrative versus problematical reasoning (including deduction and induction). Students will be trained in spotting bad inferences and in the recognition of common techniques of persuasion. The course is designed to be of general interest, and of use to students irrespective of whether they intend to proceed to further studies within the Department of Philosophy. Students will be given a working knowledge of the propositional calculus and predicate calculus, and invited to consider the relationship between formal logical systems and ordinary thought, reasoning, and language. No technical knowledge of mathematics is presupposed.

TEXTBOOKS

To be advised.

PHIL173 PHILOSOPHY 173

Double session; 12 credit points (2 lectures, 1 tutorial per week)
Assessment: One 1,500 word essay (25%), four logic assignments (25%) and a 3-hour examination at the end of second session (50%).

An introduction to Philosophy and Logic, designed to combine one session of introductory Philosophy with one session of introductory Logic.

In the first session, critical studies will be undertaken of a Platonic dialogue and the Meditations of Descartes. Students will be introduced to problems in epistemology (what can be known with certainty? How is knowledge of an independant external world possible?), in metaphysics (what is the essential nature of the self? How is the self related to the body? Can God’s existence be proved or disproved?) and in ethics and political philosophy (is it right to harm those who wrong us? Is it right under any circumstances for a citizen to disobey the laws of the state to which he belongs?)

The second session consists of an introduction to elementary logic, and its relation to natural language and reasoning. Topics dealt with include: demonstrative and problematic arguments, logical form, propositional calculus, and introductory predicate calculus. Natural deduction techniques will be used in proof construction. No technical or mathematical knowledge is presupposed, and connections will be made with everyday thought and language.

TEXTBOOKS


Note: The timetable for lectures will be changed at the beginning of second session. The textbook for second session will be advised.

PHIL193 HISTORY OF IDEAS

Double session; 12 credit points (2 lectures, 1 tutorial per week)
Assessment: Written assignments through the year (50%) together with either 2
DESCRIPTION OF SUBJECTS - PHILOSOPHY

end of session 1½ hr tests or 1 three hour end of year examination (50%).

A full year critical selection of the most influential doctrines in Philosophy through a study, in the context of scientific, economic and other changes, of its evolution from ancient Greece to the present day. The course examines briefly the teachings of the influential pre-Socratics, Socrates and the Sophists, the Stoics, Plato and his theory of Forms and of the soul, and the logic of Aristotle.

It then proceeds to a consideration of some of the major philosophical contributions of Mediaeval Catholicism, and in particular of St. Thomas Aquinas. Post-Renaissance Continental Rationalism (Descartes, Spinoza, and Leibniz) is compared with British Empiricism (Locke, Berkeley, and Hume). Kant’s impact in ethics and metaphysics is considered in relation to the subsequent dialectical philosophy of Hegel and the historical materialism of Marx. The political philosophies of Hobbes, Locke, Rousseau and Bentham are also discussed. Nineteenth century American pragmatism (James, Peirce) is contrasted with Italian and British Absolute Idealism of the early twentieth century. Special attention is given to the relationship between philosophical and scientific developments.

The Vienna Circle’s logical positivism and its English versions (Popper, Ayer), Cambridge analytical philosophy (Moore, Russell, Wittgenstein), Oxford linguistic philosophy (Ryle, Hare, Strawson) and European existentialism and phenomenology (Husserl, Jaspers, Sartre) are considered as introducing students to contemporary philosophy. The course concludes with a survey of contemporary Australian philosophy. Students will be required to make use of available primary sources.

Note: Students should note that PHIL193 does not satisfy the pre-requisites for certain 200-level subjects in Philosophy. Those contemplating specializing in Philosophy should take PHIL103 instead of, or in addition to this subject.

TEXTBOOK

200-LEVEL

PHIL203 PHILOSOPHY 203

Double session; 16 credit points (2 lectures, 1 tutorial per week)
Assessment: Two, 2,500-word essays (40%), a 3-hour examination at the end of second session (60%).

This full year subject provides a basic study in philosophy, based on a critical examination of several famous philosophical texts (Plato’s Euthyphro, Apology, Crito and Phaedo; Descartes’ Meditations; Hume’s Dialogues Concerning Natural Religion and Sartre’s ‘Existentialism is a Humanism’) and a sustained discussion of several central philosophical problems, including the problem of knowledge, the problem of free will, determinism and responsibility, and problems in the philosophy of religion.

TEXTBOOKS
The textbook for the Hume section of this subject is to be advised.

PHIL211 CLASSICAL PHILOSOPHY

First session; 8 credit points (three 1 hr lecture/discussions per week)
Assessment: 3-hour examination at the end of session one (60%); Essay of 2,500 words (30%) and tutorial assessment (10%).

A detailed examination of Plato's Republic and an assessment of Plato's opinions on such questions as the point of morality, the nature of knowledge, knowledge of the universal as well as the particular, assessment and evaluation by standards of ideals, the perfect form of government, the purposes of education, and the responsibilities of the philosopher.

TEXTBOOKS


PHIL216 LOGIC B

Second session; 8 credit points (2 lectures per week; 1 tutorial per week)
Assessment: 4 written assignments during the session (40%) and 1 test paper at the end of session 2 (60%); or one 3 hour examination at the end of the year (100%).

The subject is an introduction to elementary formal logic. Students will be introduced to the nature of reasoning, the propositional and predicate calculi and methods of proof in these logical systems. Particular attention will be paid to the techniques of natural deduction. Topics discussed will also include translation of sentences into the languages of the propositional and predicate calculi and the relationship between these languages and natural language. The subject does not presuppose any mathematical or technical knowledge.

TEXTBOOK


PHIL222 SET THEORY 222

Second session; 8 credit points (three 1 hr lecture/discussions per week)
Assessment: 60% - 3 hr examination paper at the end of session 2; 10% - essay of 2,000 words; 20% - two sets of revision exercises; 10% - teacher's assessment

An examination of the origins and developments of the general theory of classes sufficient (1) to understand and consider philosophical controversies surrounding the foundations of mathematics number theory, and infinity, and (2) to comprehend applications of set theory to model theory in general and semantics in particular. This course assumes a working knowledge of the propositional and predicate calculi, and is assumed by the Advanced Formal Logic option in fourth year honours. The approach will generally be discursive and critical and will not emphasise the finer technicalities of proof construction. The system taught is a variant of von Neumann-Bernays-Gödel set theory, however Zermelo-Fraenkel and Russellian variations are noted. Topics discussed include (i) Paradoxes, (ii) Relations and their formal properties, (iii) Cardinals and Ordinals, (iv) Infinities, and (v) The Axiom of Choice.

(Students who have passed MATH321 are welcome to attend but cannot claim credit for this subject.)

TEXTBOOK


PHIL231 FORMAL LOGIC A

First session; 8 credit points (three 1 hr lecture/discussions per week. Additional practice classes optional)
Assessment: 50% - 3 hour examination paper at end of session 1; 50% - exercises submitted during the session.
The course consists of (i) an examination of some of the fundamental concepts involved in the study of logic and (ii) an introduction to some systems of truth-functional and quantificational logic. Topics discussed will include some basic set theory, the development of formal languages, properties of these languages and their relation to natural languages, translation into formal languages, the development of systems of sentential and predicate calculi and a study of methods of proof within these systems. A brief introduction to axiomatics will be included. Particular attention will be given to the role of formal logic in elucidating the nature of ordinary reasoning and in evaluating such reasoning.

PRELIMINARY READING


TEXTBOOK


PHIL232 POLITICAL PHILOSOPHY A

Second session; 8 credit points (3 lecture/discussions per week )
Assessment: Tutorial assessment - 10%; one 2,500 word essay - 30%; one 3 hour examination - 60%.

A critical introduction to the writings of some of the main classical political philosophers. Particular emphasis will be given to Plato, Aristotle, Hobbes, Locke, Marx and Engels. The subject covers conservative, liberal and radical views of the nature of the state and is especially suitable for students with a limited philosophy background.

TEXTBOOKS


PHIL242 MODAL LOGIC A

Second session; 8 credit points (3 lecture/discussions per week )
Assessment: Exercises submitted during the session (50%); and one three hour examination at the end of session (50%).

This subject consists of a study of the extention of propositional and predicate calculi to include modal operators. Different systems of modal logic will be developed and compared, the possible world semantics and its philosophical interpretation will receive particular attention. Other topics discussed will include; validity testing procedures for arguments involving claims and possibility; the doctrine of essentialism (the doctrine that we have at least some of the properties that we do have as a matter of necessity); semantic interpretation of qualified modalities; and a brief introduction to the logic of counterfactual conditions.

TEXTBOOKS


PHIL243 POLITICAL THEORY A

Double session; 16 credit points (2 lectures, 1 tutorial per week )
Assessment: Tutorial assessment - 10%; 2 essays (2,500 words each) - 40%; one 3 hour examination - 50%.

A study of elementary principles of political science, democratic theory; and democracy in Australia. Topics include a selection of central political concepts,
classical and pluralist theories of democracy and their conservative and radical critiques and Australia's political institutions.

**TEXTBOOKS**


**PHIL251 ETHICS A**

*First session; 8 credit points (3 lecture/discussions per week)*

**Assessment:** Tutorial assessment - 10%; one 2,500 word essay - 30%; one 3 hour examination - 60%.

By what moral principles, if any, ought we to live? Are there objective moral values or is morality subjective? How, if at all, can one rationally support moral judgements? How is morality to be defined? Is morality culturally relative? What do we mean by 'good', 'right', 'ought', 'obligation', 'duty'? Is the moral rightness of an action determined by moral rules or by its consequences? Does morality have to do with the welfare of oneself, that of others or that of everyone?

**TEXTBOOKS**


**PHIL252 AESTHETICS A**

*Second session; 8 credit points (3 lecture/discussions per week)*

**Assessment:** One 3 hour examination (70%); One 2,500 word essay (20%); teacher's assessment (10%)

An examination in second session of concepts of natural and artistic beauty, the nature and value of a work of art, the relation between artistic creation and artistic intentions, artistic communication and aesthetic evaluation. No special artistic knowledge or practical artistic ability is presupposed. The views of the German philosopher Immanuel Kant, and of the recent Italian idealist philosopher Benedetto Croce, and in particular his version of expressionism, will be given special attention.

**TEXTBOOKS**


**PHIL253 INTRODUCTION TO LOGIC**

*Double session; 16 credit points (2 lectures, 1 tutorial per week)*

**Assessment:** 8 written assignments during the year (40%) and 2 test papers (one at the end of session) (60%); or one 3-hour examination at the end of the year (100%).

A full-year subject investigating the nature of argument and reasoning in ordinary and scientific discourse. Consideration is given to different types of definition, precision and vagueness, ambiguity and open texture. Special attention is paid to the notions of truth and validity and to the distinction between deductive and non-deductive reasoning. Students will become skilled in detecting
bad inferences and in recognizing common techniques of persuasion. Students will be given a working knowledge of the propositional calculus and predicate calculus and will be invited to consider the relationship between formal logic systems and ordinary language, thought and reasoning. No previous knowledge of mathematics or science is presupposed.

**TEXTBOOK**

To be advised.

**PHIL254 PHILOSOPHY OF VALUE A**

*Double session; 16 credit points (3 lectures/discussions per week)*

*Assessment:* Tutorial assessment - 10%; two 2,500 word essays (20%); one three hour examination at the end of the year (70%).

A critical appraisal of the status of moral and aesthetic judgements. The first part of the year will be devoted to moral values; and such issues as alleged moral relativity, the possibility of moral knowledge, moral subjectivism, morality and reasons, and principles and consequences. In the second part of the year consideration will be given to aesthetic values; and such issues as beauty in nature and art, artistic value, creative and artistic intention, beauty and concepts, intuition and expression.

**TEXTBOOKS**


**PHIL257 MORAL AND SOCIAL PHILOSOPHY A**

*Double session; 16 credit points (3 lectures/discussions per week)*

*Assessment:* Tutorial assessment (10%); two 2,500 word essays (40%); one three hour examination at the end of the year (50%).

A full year critical appraisal of both the nature of morality, and of particular moral statements and judgements. The first half of the course is designed to provide an awareness of the theoretical issues basic to discussion of contemporary ethical questions. In the second half of the course, some important controversies over claimed rights (e.g. those arising from the right to life, and the right to freedom and autonomy) will be discussed against this background.

**TEXTBOOKS**


**PHIL259 MORAL AND POLITICAL PHILOSOPHY A**

*Double session; 16 credit points (3 lectures/discussions per week)*

*Assessment:* Tutorial assessment - 10%; two 2,500 word essays - 30%; one 3 hour examination at the end of the year - 60%

A full year study of basic issues in moral and political philosophy, including the relationship between the two. The questions considered include: What distinguishes morality from other guides to action: Are moral judgements absolute or relative, objective or subjective? What are the basic assumptions which distinguish
DESCRIPTION OF SUBJECTS - PHILOSOPHY

conservative, liberal and radical political philosophies? Which of these assumptions are the most plausible?

TEXTBOOKS


PHIL262 EMPIRICISM A

Second session; 8 credit points (3 lecture/discussions per week)
Assessment: One 3 hour examination paper (80%); one essay of 2,500 words (10%); teacher's assessment (10%)

An examination in the second session of the metaphysical, epistemological and linguistic doctrines of the British Empiricists of the seventeenth and eighteenth centuries; particular attention will be given to the views of the English philosopher John Lock, the Irish philosopher George Berkeley, and the Scottish philosopher David Hume. Questions considered include (i) How do words relate to things and to ideas? (ii) Might the so-called material world exist entirely in our minds (the debate between Idealists, Representationalists, and Realists)? (iii) What is a cause? (iv) Must the world have a Creator? (v) What gives a thing or a person its identity through a period of change?

TEXTBOOKS


PHIL271 SPECIAL PHILOSOPHICAL QUESTIONS IA

First session; 8 credit points (3 lecture/discussions per week)
Assessment: Either two 1,500 word essays or a 3 hour examination at the end of session or combination of essays and examination

A detailed, supervised investigation of an approved philosophical topic, author, period, or school of thought.

PHIL272 SPECIAL PHILOSOPHICAL QUESTIONS IIA

Second session; 8 credit points (3 lectures/discussions per week)
Assessment: As for PHIL271
Description: As for PHIL271

PHIL273 PHILOSOPHY 273

Double session; 16 credit points (2 lectures, 1 tutorial per week)
Assessment: One 2,500-word essay (20%), four logic assignments (20%), a 3-hour examination at the end of second session (60%)

This full year subject provides a basic study in philosophy and logic. In the first session, students undertake a critical examination of some Platonic dialogues and
Descartes' *Meditations.* Philosophical problems dealt with include the problem of the relationship of the individual citizen to the state, the problem of knowledge, the question of the nature of the self and its relationship to the body, and an examination of some theistic proofs. In the second session, an introduction to elementary formal logic is undertaken. Topics include: the nature of reasoning, the propositional and predicate calculi and methods of proof in these logical systems. No previous technical or mathematical knowledge is required.

**TEXTBOOKS**


Note: The timetable for lectures will be changed at the beginning of second session.

**PHIL281 HISTORY OF TRADITIONAL LOGIC A**

*Second session: 8 credit points (three 1 hour lecture/discussions per week)*

*Assessment:* One 2,000 word essay - 20%; classwork - 20%; end of session examination - 60%

This one-session subject examines the history of logic from its beginnings in the dialogues of Plato through the *Organon* of Aristotle and Stoic logic to the logic of the medieval universities.

**TEXTBOOKS**


**PHIL282 HISTORY OF MODERN LOGIC A**

*Second session: 8 credit points (3 lecture/discussions per week)*

*Assessment:* One 2,000 word essay - 20%; classwork - 20%; final examination - 60%

This one-session subject examines the history of logic from the seventeenth century to the mid-twentieth century. Special attention is paid to Leibniz, J.S. Mill, de Morgan, Boole, Pierce, Frege and Russell.

**TEXTBOOK**


**PHIL292 SOCIAL PHILOSOPHY A**

*Second session: 8 credit points (3 lecture/discussions per week)*

*Assessment:* Tutorial assessment (10%); two 2,500 word essays (40%); one 2 hour examination (50%)

A critical examination of the status of rights and the nature of rights-talk, together with a detailed examination of two claimed basic rights - the right of life, and the right to autonomy. Discussions of the morality of terminating life, and of issues arising from claims to particular freedoms, will include topics from the following range: abortion, euthanasia and suicide; warfare; punishment; animal rights; civil disobediences and conscientious objection; reverse discrimination; group self-determination; privacy.
DESCRIPTION OF SUBJECTS - PHILOSOPHY 431

PHIL293 HISTORY OF IDEAS A

Double session; 16 credit points (2 lectures, 1 tutorial per week)
Assessment: Two 2,500 word essays (40%) and a 3 hour examination at the end of second session (60%).

A full year critical study of some of the most influential doctrines in philosophical thought from the ancient world to the present day, in the context of scientific, religious, political, economic, and other changes. Special attention is given to the Pre-Socratics, Plato, Aristotle, Aquinas, Hobbes, the Rationalists and Empiricists, Kant, and certain nineteenth and twentieth century movements including Utilitarianism, Marxism, Freudianism, and Positivism. A special section will be devoted to Australian philosophy.

TEXTBOOKS


NOTE: HPS214 Methodology of the Natural and Social Sciences is to be taught jointly by the Departments of History and Philosophy of Science and Philosophy.

300-LEVEL

NOTE: A substantial and coherent study in Philosophy at 300-level is obtained by successfully completing any 24 credit point 300-level subject, or any combination of 300-level PHIL subjects with a total value of at least 24 credit points.

PHIL301 ETHICS B

First session; 12 credit points (3 lecture/discussions and one two-hour seminar per week)
Assessment: Tutorial assessment - 10%; one 3,000 word essay - 30%; one 3 hour examination - 60%

A critical study for senior students of the fundamental issues in moral philosophy. How ought a person to live? Is morality objective or subjective? Is morality culturally relative? Does morality have to do with the welfare of oneself, of others or of everyone? What is the meaning of such key concepts of moral discourse as good, right, ought, obligation and duty. What distinguishes morality as a guide to action from, say, law and cookbooks?

TEXTBOOKS


PHIL302 AESTHETICS B

Second session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: One 3 hour examination paper (70%); one 3,000 word essay (20%); teacher's assessment (10%)

A second session subject for senior students concerning beauty in nature and art, artistic value, creativity and artistic intention, beauty and concepts (Kant), intuition and expression (Croce).
DESCRIPTION OF SUBJECTS - PHILOSOPHY

TEXTBOOKS

As for PHIL252.

PHIL303 IMMANUEL KANT'S CRITIQUE OF PURE REASON

Double session; 16 credit points (2 lecture/discussions per week; one 2 hour seminar per week)
Assessment: One 3 hour examination at end of session 2 - 50%; two 2,300 word essays - 40%; teacher's assessment - 10%

An examination of Immanuel Kant's seminal work on the theory of knowledge and the nature of metaphysics.

TEXTBOOKS


PHIL305 SPECIAL PHILOSOPHICAL QUESTIONS IIB

First session; 12 credit points (3 hrs lecture/discussions per week; one 2 hour seminar)
Assessment: Either two 3,000 word essays or a 3 hour end of session examination or an equivalent approved combination of essay(s) and examination(s)

A detailed, supervised investigation at an advanced level of an approved philosophical topic, author, period, or school of thought.

PHIL306 SPECIAL PHILOSOPHICAL QUESTIONS IIIB

Second session; 12 credit points (3 hrs lecture/discussions per week; one 2 hour seminar)
Assessment: Either two 3,000 word essays or a 3 hour end of session examination or an equivalent approved combination of essay(s) and examination(s)

A detailed, supervised investigation at an advanced level of an approved philosophical topic, author, period, or school of thought.

PHIL315 HISTORY OF TRADITIONAL LOGIC B

Second session; 12 credit points (3 lecture/discussions and 1 seminar per week)
Assessment: Two 2,000 word essays (20% each); classwork (10%); end of session exam (50%)

This one-session subject examines the history of logic from its beginnings in the dialogues of Plato through the Organon of Aristotle and Stoic logic to the logic of the medieval universities.

TEXTBOOKS


PHIL316 HISTORY OF MODERN LOGIC B

Second session; 12 credit points (3 lecture/discussions and 1 seminar per week)
Assessment: Two 2,000 word essays (20% each); classwork (10%); end of session examination (50%)

This one-session subject examines the history of logic from the seventeenth century to the mid-twentieth century. Special attention is paid to Leibniz, J.S.
DESCRIPTION OF SUBJECTS - PHILOSOPHY

Mill, de Morgan, Boole, Pierce, Frege and Russell.

TEXTBOOK


PHIL321 LOGICAL ANALYSIS

First session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: Either one 2,500 word essay (30%) plus a 3-hour examination at the end of first session (70%), or two 3,000 word essays.

This first session subject deals with the modern Empiricist development of the philosophy of language. Topics considered include: G.E. Moore’s “commonsense” philosophy, Bertrand Russell’s Logical Atomism and Theory of Descriptions, Verificationism and the contemporary ideas of W.V. Quine.

PRELIMINARY READING


TEXTBOOKS


PHIL322 EMPIRICISM B

Second session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: Two 2,000 word essay (40%); one 3-hour examination (60%)

A second session study of the metaphysical and epistemological principles and doctrines of the British empiricists (John Locke, George Berkeley, and David Hume) and their relationship to contemporary philosophical issues.

TEXTBOOKS

As for PHIL262.

PHIL323 CONTEMPORARY ANALYTICAL PHILOSOPHY

Double session; 24 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: Either two 2,500 word essays (30%) and a 3-hour examination paper (70%), or four 3,000 word essays.

This full year subject examines the development of the most important parts of contemporary philosophy. In the first session, the programme of analysis is introduced by way of the “commonsense” philosophy of G.E. Moore and the logical atomism of Bertrand Russell, both of whom may be seen as reacting to the Idealism of F.H. Bradley and others. In the remainder of the session the Empiricist tradition, championed by Russell, is traced through the later works of the Logical Positivists and, in our own day, W.V. Quine. In the second session, attention is focused on those philosophers who, by and large, opposed that tradition - the later Wittgenstein, J.L. Austin, Gilbert Ryle and again in our own day, P.F. Strawson. The last part of the subject will be devoted to a brief study of the late nineteenth century philosopher, Gottlob Frege, who in recent times, has been hailed as one of the Fathers of modern philosophy.
PRELIMINARY READING


TEXTBOOKS


PHIL332 POLITICAL PHILOSOPHY B

Second session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: Tutorial assessment - 10%; one 3,000-word essay - 30%; one 3-hour examination - 60%

The subject has three basic aims. (1) To find the essential differences between conservative, liberal, and radical political philosophies. (2) To find the claims and assumptions which explain these differences. (3) To critically examine these claims and assumptions. The relevant writings of Plato, Aristotle, Hobbes, Locke, Marx and Engels, among others, will be discussed.

TEXTBOOKS


PHIL342 PROBABILITY AND INDUCTION

First session; 12 credit points (three 1 hour lecture/discussions; one 2 hour seminar per week)
Assessment: Either one 3 hour examination paper at the end of session 1 or three essays of 3,000 words each

Some central questions in philosophy of science will be discussed in detail. In particular, distinctions will be drawn between different concepts of probability and proposed accounts of each of these concepts will be critically analysed. Considerable attention will be given to the concept of probability involved in inductive arguments. Classical and recent accounts will be presented and their ramifications regarding the characterisation of inductive arguments, inductive logic and the problem of induction will be discussed.

TEXTBOOKS


PHIL354 PHILOSOPHY OF VALUE B

Double session; 24 credit points (3 lecture/discussions per week; one 3 hour seminar per week)
Assessment: Tutorial assessment (10%); two 3,000 word essays (20%); one 3 hour examination at the end of the year (70%)
A full year study for senior students of fundamental issues in moral and aesthetic philosophy, with special reference to such questions as whether goodness, rightness, duty, and beauty in nature and art are absolute or relative, objective or subjective; whether reasons may be given for judgements in these fields and how they support their conclusions; and the respective roles of principles and intuition in moral and aesthetic evaluation.

**TEXTBOOKS**

As for PHIL254.

**PHIL357 MORAL AND SOCIAL PHILOSOPHY B**

*Double session; 24 credit points (3 lecture/discussions per week; one 2 hour seminar per week)*

*Assessment: Tutorial assessment (10%); two 3,000 word essays (40%); one three hour examination at the end of the year (50%)*

A full year subject for senior students involving discussion of the fundamental issues of moral philosophy, and a critical appraisal of important contemporary moral issues which arise in the context of two claimed basic rights - the right to life and the right to autonomy.

**TEXTBOOKS**

As for PHIL257.

**PHIL359 MORAL AND POLITICAL PHILOSOPHY B**

*Double session; 24 credit points (3 lecture/discussions and one 2-hour seminar per week)*

*Assessment: Tutorial assessment - 10%; two 3,000 word essays - 30%; one 3 hour examination at the end of the year - 60%*

A full year study for senior students of basic issues in moral and political philosophy, including the relationship between the two. The questions considered include: What distinguishes morality from other guides to action: Are moral judgements absolute or relative, objective or subjective? What are the basic assumptions which distinguish conservative, liberal and radical political philosophies? Which of these assumptions are the most plausible?

**TEXTBOOKS**

As for PHIL259.

**PHIL361 FORMAL LOGIC B**

*First session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)*

*Assessment: One 3 hour examination at end of session 1 (50%) and written work submitted during the year (50%)*

An introduction to the nature and use of the techniques of formal logic for evaluating philosophical argument. The course is a study of fundamental concepts of logic leading to the development of various systems of propositional and predicate logic; and a discussion of related issues.

**PRELIMINARY READING AND TEXTBOOK**

As for PHIL231 Formal Logic A.
PHIL362 MODAL LOGIC B

Second session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: One 3 hour examination paper at end of session 2 (50%); exercises submitted during the session (50%)

The subject consists of a study of the development of modal logic and how recent developments in this area bear on some fundamental philosophical problems. The lectures will consist of a discussion of various systems of modal logic, uses of these systems and decision procedures for them. Particular emphasis will be placed on the development of possible world semantics for modal logic and philosophical interpretations of these semantics. Alternative semantics will also be considered. Extending these systems to systems of predicate modal logic raises questions about de re and de dicto modalities and the relationship between them; and the doctrine of essentialism. These questions will be discussed along with considerations relating to choosing between systems and semantical interpretations of quantified modal operators. A brief introduction to the logic of counter-factuals will be included.

TEXTBOOK

PHIL371 FORMAL LOGIC C

First session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: One 3 hour examination paper (40%); four written assignments (40%); teacher's assessment (20%)

A rigorous and critical treatment of the fundamentals of logic and meta-logic. A working knowledge of the propositional calculus and predicate calculus is assumed, together with a modest acquaintance with set theory.

TEXTBOOK

PHIL381 FORMAL LOGIC D

First session; 8 credit points (3 lecture/discussions per week)
Details as for PHIL371 FORMAL LOGIC C minus the weekly 2 hour seminar.

PHIL392 SOCIAL PHILOSOPHY B

Second session; 12 credit points (3 lecture/discussions per week; one 2 hour seminar per week)
Assessment: Tutorial assessment - 10%; two 2,500 word essays - 40%; one 2 hour examination at the end of session - 50%.

A critical examination at senior level of the status of rights and the nature of rights-talk, together with a detailed examination of two claimed basic rights - the right to life, and the right to autonomy. Discussions of the morality of terminating life, and of issues arising from claims to particular freedoms, will include topics from the following range: abortion, euthanasia and suicide; warfare; punishment; animal rights; civil disobedience and conscientious objection; reverse discrimination; group self-determination; privacy.
PHIL403 PHILOSOPHY HONOURS

Double session; 48 credit points (five 2 hour seminars and one hour of personal supervision per week.)

Assessment: Dissertation - 25%; four electives - 75%. At least one of the examiners of the dissertation shall be external to the University. The method of assessment in each of the electives shall be by essay(s) and/or written examination(s) as determined by the students to be assessed in the elective in conjunction with the academic staff responsible for the elective, such determination to be made during the first four weeks of session, subject to endorsement by the Philosophy Departmental Committee. All candidates may be required, in addition, to attend for a *viva voce* examination.

REQUIREMENTS

All candidates are expected to show in their work a high level of analytical, critical, and scholarly development, and evidence of significant independence of thought.

1. **Dissertation**

Candidates shall present a dissertation, recommended to be no longer than 8,000 to 10,000 words, embodying a sustained and semi-independent study of the work of a major philosopher, period of philosophical thought, or philosophical problem. The choice of area or topic is subject to the availability of a member of the department willing and able to supervise and assess the candidate's progress, and the accessibility to the candidate of a substantial proportion of the relevant literature.

The candidate shall submit to the Department two copies of the dissertation, suitably presented for assessment, no later than on August 31st of the year in which the final Honours examination is to be taken.

2. **Philosophical Inquiry Seminar**

Candidates shall attend regularly, and present at least two prepared papers to the weekly PHILOSOPHICAL INQUIRY SEMINAR.

3. **Electives**

Candidates shall regularly attend and participate in at least four of the following weekly two-hour seminars, and must be assessed in each of four as part of their overall Honours assessment. (Not every seminar will be offered in every year).

**Philosophy of Value**

An examination of contemporary discussions of selected problems in ethics, aesthetics, and moral psychology, against the background of a detailed examination of two of Aristotle's major contributions.

**Preliminary Reading**


**Textbooks**


Osborne, H. ed. *Aesthetics*. Oxford U.P.

Wertheimer, R. *Significance of Sense: Meaning, Modality, and Morality*. Methuen.
SOCIAL, LEGAL AND POLITICAL PHILOSOPHY

An examination in the light of three classical texts, of a selection of current controversies relating to such issues as the proper form and extent of government, political ideals (e.g. equality, justice), and the function, nature and legitimacy of law.

PRELIMINARY READING

Mabbott, J.D. The State and the Citizen. Hutchinson.

TEXTBOOKS


MENTAL PHILOSOPHY

A study of a selection of philosophical problems relating to the nature of the human person, the characteristics of mind and perception, and issues to do with action and agency.

PRELIMINARY READING

Shaffer, J. Philosophy of Mind. Prentice-Hall.

TEXTBOOKS


EPISTEMOLOGY AND METHODOLOGY

An examination of a selection of problems to do with the justification of belief, the conditions for knowledge, and erecting, testing, confirming and falsifying hypotheses. Satisfactory participation in the General Studies interdisciplinary subject Epistemology and Comparative Methodology, may be taken in partial satisfaction of the requirements for this elective, subject in each case to the prior approval of the Departmental Chairman on the advice of the Departmental Assessment Committee.

PRELIMINARY READING

Chisholm, R. Theory of Knowledge. Prentice-Hall.
Hempel, C. Philosophy of Natural Science. Prentice-Hall.
Salmon, W. Logic. Prentice-Hall.

TEXTBOOKS

Swinburne, R. Introduction to Confirmation Theory. Methuen.
Unger, P. Ignorance. Oxford U.P.

FREE WILL, RESPONSIBILITY AND LIBERTY

An investigation of the nature of free will and socio-political liberty and the relation between them; and a detailed examination of one of the fundamental
presuppositions of a system of morality, that persons are responsible for their actions.

ADVANCED FORMAL LOGIC

A selection of advanced topics in formal logic, including a study of the development of modal logic; an introduction to some systems of modal logic, uses of these systems and proofs of some metatheoretic results. A detailed discussion of semantics for modal logic and the philosophical interpretation of such semantics; and of philosophical problems arising from a study of predicate modal logic.

NOTE: This elective is not available to candidates who have passed PHIL351 or PHIL352 or PHIL362 or PHIL371 or PHIL381.

PRELIMINARY READING


TEXTBOOKS


CONTEMPORARY PHILOSOPHY OF LANGUAGE

An enquiry into recent work in the philosophy of language, with emphasis on theories of truth and meaning.

NOTE: Candidates taking this elective should have attained at least a pass in PHIL321 or PHIL323.

PRELIMINARY READING


TEXTBOOKS

There are no set texts; selected articles will be prescribed by the Lecturer.

PHILOSOPHICAL LOGIC

An investigation of a selection of theories dealing with the concepts of existence, reference and prediction.

NOTE: Candidates taking this elective should have attained at least a pass in PHIL321 or PHIL323.

TEXTBOOKS


KANT

A detailed study of selected areas in Kant’s Critical Philosophy.

NOTE: This elective is not available to candidates who have passed PHIL311 or PHIL303.
TEXTBOOKS


WITTGENSTEIN

A critical examination of Wittgenstein's contribution to philosophy, with special reference to his views on method, epistemology, philosophy of mind, judgement, logic, and mathematics.

TEXTBOOKS


PHI413 COMBINED PHILOSOPHY HONOURS

Double session; 24 credit points (three 2 hour seminars per week and the equivalent of one hour of personal supervision per fortnight).
Assessment: Dissertation - 25%; two Philosophy electives - 75%. At least one of the examiners of the dissertation shall be external to the University. The dissertation may also be credited in part towards the requirements of the other Department through which the combined honours degree is being undertaken. The method of assessment in each of the Philosophy electives shall be by essay(s) and/or written examination(s) as determined by the students to be assessed in the elective in conjunction with the academic staff responsible for the elective, such determination to be made during the first four weeks of session, subject to endorsement by the Philosophy Departmental Committee. All candidates may be required, in addition to attend for a viva voce examination.

REQUIREMENTS

All candidates are expected to show in their work a high level of analytical, critical, and scholarly development, and evidence of significant independence of thought. Candidates should endeavour to bring out in their work the relevant relationships between their study of Philosophy and of the discipline with which it is combined, as appropriate.

1. DISSERTATION

Candidates shall present a dissertation, recommended to be no longer than 8,000 to 10,000 words embodying a sustained and semi-independent study of the work of, or relevance of, a major philosopher, period of philosophical thought, or philosophical problem, with special reference to a position, development, problem, or method arising from the discipline with which the study of Philosophy is combined. The dissertation may also be submitted as partial fulfilment of the requirements set by the other Department within which Honours studies are being undertaken. In all cases approval of the topic shall be obtained from the Chairmen of both departments.
2. PHILOSOPHICAL INQUIRY SEMINAR

Candidates shall attend regularly and present at least one prepared paper to the weekly PHILOSOPHICAL INQUIRY SEMINAR.

3. ELECTIVES

Candidates shall take two of the electives set out in the prescription for PHIL403 PHILOSOPHY HONOURS 403, subject to the approval of the Chairman of the two departments in which Honours studies are being undertaken.
Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section (with the exception of PHYS120 and PHYS121) are included in Schedule A. Subjects which also appear in other schedules are:

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100-LEVEL

PHYS120 FUNDAMENTALS OF ELECTRICITY AND MAGNETISM

*First or second session; (21 hrs lectures, 7 hrs tutorials and 14 hrs laboratory)*

Assessment: Will be carried out according to performance in homework assignments, practical work, tests and sessional examinations

Charge and matter; electric field; Gauss’ Law; electric potential; capacitance; current and resistance; Emf and circuits; magnetic fields; Ampere’s Law; Faraday’s Law; inductance.

**TEXTBOOK**

PHYS121 THE PHYSICS OF WAVES AND PARTICLES

*Second session; (21 hrs lectures, 7 hrs tutorials and 14 hrs laboratory)*

Assessment: Will be carried out according to performance in homework assignments, practical work, tests and sessional examinations

Simple harmonic motion; waves; reflection and refraction; interference; diffraction; polarization; optical instruments; quantum physics; waves and particles; atomic physics; the Bohr atom; special relativity; nuclear physics.

**TEXTBOOK**

PHYS131 PHYSICS FOR THE ENVIRONMENTAL AND LIFE SCIENCES A

*First session; 6 credit points (42 hrs of lectures, 28 hrs of practical and 14 hrs of tutorials)*

Assessment: Sessional written examination, written test, one essay, performance in laboratory and tutorials.

Vectors; vector algebra; kinematics; forces and Newton’s laws; energy and power; momentum and impulse; rotational kinematics; fluid flow; transport phenomena and thermodynamics; the energy cycle; elasticity; molecular model of matter and the kinetic theory of gases.

**TEXTBOOKS**
Department of Physics. Laboratory Manual for PHYS131/132.


Assessment: Continuous assessment through quizzes, laboratory participation and home project reports

This subject consists of five independent parts. The content of each topic is indicated below.

**SOLAR SYSTEM ASTRONOMY**

Planetary motion; moon phases; the Zodiac; the seasons; sun; moon; planets; comets; meteorites.

**ORDER AND CHAOS IN MOTION AND MEASUREMENT**

Force; pressure; Bernoulli Principle; energy and energy dissipation; thermodynamics and kinetic theory; time measurement and the direction of time; music and noise; extracting information from noise.

**PHYSICS OF COMMUNICATION**

Electric charges and currents; electric and magnetic fields with applications to modern devices; electromagnetic waves with consideration of radio and TV transmission.

**MODERN PHYSICS**

Relativity; atomic structure and spectra; nuclear forces and energy with modern applications.

**ASTROPHYSICS**

Stars; galaxies; unusual extra-terrestrial objects.

**TEXTBOOK**


**200-LEVEL**

**PHYS201 INTERMEDIATE PHYSICS A**

*Double session; 12 credit points (98 hrs lectures, 14 hrs tutorials and 56 hrs practical)*

Assessment: Each section (see below) will be assessed separately and a final evaluation determined using a weighting factor based on contact hours. The individual assessments will be made using an appropriate combination of performance in homework assignments, tests, laboratory and sessional examinations

The subject consists of electricity and magnetism, modern physics, mechanics and practical classes. The topics, and their disposition, are as follows:

**ELECTRICITY AND MAGNETISM (First session topic; 28 hrs lectures and 7 hrs tutorials)**

Vector algebra and calculus; electrostatics; electric field and potential; electric dipole; charge cluster; integral and differential forms of Gauss’ Law; Poisson’s and Laplace’s Equations; method of electrostatic images; dielectric theory; polarization fields; electrical susceptibility and dielectric constant; boundary conditions; cavities; Clausius-Mossotti Equation; electro-static energy; forces on charge distributions; magnetostatics; Ampere’s Law; Lorentz force; magnetic vector potential; integral and differential form of Ampere’s Law; magnetic dipole; magnetic properties of matter; magnetization; H; dia- and paramagnetism; boundary conditions; electromagnetic induction; differential form of Faraday’s Law; self and mutual induction; electric current; equation of continuity; Maxwell’s Equations; direct current circuits; transients; alternating current circuits.
DESCRIPTION OF SUBJECTS - PHYSICS 445

TEXTBOOK


MODERN PHYSICS (Double session topic; 42 hrs lectures)

Special theory of relativity; the experimental basis of relativity; alternate theories; Lorentz transformations; consequences for the measurement of length, time, energy and mass; quantum effects; constituents and structure of the atom; wave particle duality; black body radiation; photo-electric effect; pair production; bremsstrahlung; Compton effect; production, scattering and absorption of X-rays; de Broglie hypothesis; diffraction of particles; quantum mechanics; wave packets; uncertainty principle; Schrodinger Equation; correspondence principle; particle in a box; qualitative description of the wave functions of the hydrogen atom; discovery and properties of \( \alpha, \beta, \gamma, \mu, \rho, \sigma \); decay laws; binding energies of nucleons; nuclear reactions; fission and fusion; cosmic rays; origin of the elements; statistical distribution functions; particle in a potential well; energy bands; impurity states; physics of the p-n junction and transistor.

TEXTBOOK


MECHANICS (Second session topic; 28 hrs lectures and 7 hrs tutorials)

Vector calculus; kinematics of a particle; dynamics of a particle; moving reference systems; central forces; dynamics of a system of particles; mechanics of rigid bodies; Lagrange's Equations.

TEXTBOOK


EXPERIMENTAL (First session topic; 56 hrs laboratory)

14 Experiments selected from:

Errors; direct reading potentiometer; E.M.F. of thermo-couples by potentiometric method; sensitivity of the galvanometer; use of the ballistic galvanometer; measurement of the magnetisation of iron; absolute measurement of mutual inductance; A.C. circuits; series resonance; parallel resonance; photoelectric cell; determination of e/m for electrons; atomic spectra; Na and H; Stefan-Boltzmann Law; constant of universal gravitation; X-rays; nuclear physics; velocity of light from Michelson interferometer; Frank Hertz experiment.

PHYS205 MODERN PHYSICS

Double session; 6 credit points (42 hrs lectures and 42 hrs practical)

Assessment: Same as for PHYS201

Consists of the modern physics section of PHYS201 and 10 experiments selected from the experimental section of PHYS201.

PHYS211 INTERMEDIATE PHYSICS B

Double session; 12 credit points (112 hrs lectures and 56 hrs practical)

Assessment: Same as for PHYS201

The subject consists of thermodynamics; kinetic theory; vibrations; waves and optics; electronics and practical classes. These topics and their disposition are as follows:
THERMODYNAMICS AND KINETIC THEORY (Double session topic; 28 hrs lectures)

Thermodynamic systems; equations of state; work; the first law of thermodynamics and its consequences; the second law of thermodynamics; entropy; combined first and second laws; thermodynamics potentials; applications of thermodynamics including black bodies, voltaic cells and thermo-electric effects; kinetic theory of the ideal gas; the distribution of molecular velocities.

TEXTBOOK


VIBRATIONS, WAVES AND OPTICS (Double session topic; 42 hrs lectures)

Simple harmonic motion; two body oscillations; damped harmonic oscillator; power dissipation; quality factor; driven harmonic oscillator; superposition principle; superposition of vibrations; Fourier analysis; waves; Huygen's principle; laws of reflection and refraction; analytical treatment of wave motion; sinusoidal waves; group velocity; dispersion; Young's experiment; interference; coherence; Stokes' treatment of reflection and refraction; interference involving multiple reflections; applications; standing waves; Fabry-Perot interferometer; Michelson interferometer; Fourier spectroscopy; Fresnel diffraction; Fraunhofer diffraction; resolving power of optical instruments; chromatic resolving power; diffraction grating; holography; polarization of waves; double defraction; interference of polarized light.

TEXTBOOKS


ELECTRONICS (Double session topic; 42 hrs lectures)

This topic is offered by the Department of Electrical Engineering as ELEC211 Electronics 1.

EXPERIMENTAL (Second session topic; 56 hrs laboratory)

14 experiments selected from:

Velocity of sound in air by stationary waves; Newton's rings; Fresnel Bi-Prism; diffraction grating; resolving power of telescope; Michelson and Fabry-Perot interferometer; dispersive power of glass; thermal conductivity of a bad conductor and of glass tubing; polarised light; microwave optics; variation of boiling point with pressure; determination of $C_p/C_V$ for air; heat engine; electronics.

PHYS215 VIBRATIONS, WAVES AND OPTICS

Double session; 6 credit points (42 hrs lectures and 42 hrs practical)

Assessment: Same as for PHYS205

Consists of the vibrations, waves and optics section of PHYS211 and 10 experiments selected from the experimental sections of PHYS201 and PHYS211.

PHYS220 INTERMEDIATE PHYSICS FOR ENGINEERS

Double session; 12 credit points (112 hrs lectures and 56 hrs practical)

Assessment: Same as for PHYS201

This subject consists of materials selected from PHYS201 and PHYS211 as follows:

Electricity and magnetism and modern physics from PHYS201;
Vibrations, waves and optics from PHYS211; 14 experiments selected from the experimental sections of PHYS201 and PHYS211.

**PHYS225 INTERMEDIATE ELECTRICITY AND MAGNETISM**

*Double session; 6 credit points (28 hrs lectures; 7 hrs tutorial and 49 hrs practical)*

*Assessment*: Same as for PHYS205

Consists of the electromagnetism section of PHYS201 and 12 experiments selected from the experimental section of PHYS201.

**PHYS235 MECHANICS AND THERMODYNAMICS**

*Double session; 6 credit points (56 hrs lectures; 7 hrs tutorials and 21 hrs practical)*

*Assessment*: Same as for PHYS205

Consists of the mechanics section of PHYS201 and thermodynamics and kinetic theory section of PHYS211. Also contains 5 experiments selected from the experimental sections of PHYS201 and PHYS211.

**PHYS244 MODERN PHYSICS, VIBRATIONS, WAVES AND OPTICS**

*Double session; 8 credit points (84 hrs lectures and 28 hrs practical)*

*Assessment*: Same as for PHYS205

Consists of the modern physics section of PHYS201 and vibrations, waves and optics section of PHYS211. Also contains 7 experiments selected from the experimental sections of PHYS201 and PHYS211.

**PHYS248 ASTRONOMY**

*Double session; 6 credit points (42 hrs lectures; 14 hrs tutorials and 28 hrs practical)*

*Assessment*: Performance in the course is assessed from laboratory work and sessional examinations

Deep-sea navigation; the celestial sphere; position lines; the computation of the deep-sea position; celestial mechanics; Newton's Laws; derivation of Kepler's Laws; position and motion in an orbit; the solar system; the sun; stellar positions, distances and masses; photometry and spectroscopy; stellar spectral classification; nuclear reactions in stars; formation of elements; Hertzsprung-Russell diagram; equations of stellar structure; stellar evolution; galactic and extra-galactic astronomy; structure of our galaxy; classification and evolution of galaxies; exploding galaxies; quasars and black holes; cosmology; outstanding problems.

**TEXTBOOK**


**PHYS251 CONCEPTS OF THE MODERN UNIVERSE**

*First session; 6 credit points (28 hrs lectures; 14 hrs tutorials; 14 hrs laboratory and one 3-hour field trip to the University Observatory)*

*Assessment*: Will be based upon performance in tests, written assignments and one 2-hour examination

**NOTE**: No special ability in Mathematics or Physics is required for this subject.

Astronomy is the most ancient of all sciences. Present-day astronomers are on the verge of great discoveries and the relationship between man and the universe is gradually being revealed. This course will illustrate the techniques used by astron-
omers and will attempt to give an understanding of the universe as we presently understand it. A field trip to the University’s Observatory will give the opportunity to observe the phenomena discussed.

The birth of astronomy; the development of astronomy as a science; the planets – a description; the formation of the solar system; the space programme - moon; to the planets; the search for life; future of the space programme; the sun as a star; the violent sun; aurorae; eclipses; starlight; the message of starlight; the visible stars; the variation in stars; the birth and death of stars; telescopes, big and small; the milky way; the universe of galaxies; the universe in perspective.

TEXTBOOK

300-LEVEL

PHYS301 CLASSICAL MECHANICS AND ELECTROMAGNETISM

First session; 6 credit points (56 hrs lectures and 28 hrs tutorials)
Assessment: Each section (see below) will be assessed separately and given equal weight. The assessments will depend upon performance in homework assignments, tests and sessional examinations

The subject consists of Classical Mechanics and Electromagnetism with the following syllabus:

CLASSICAL MECHANICS (28 hrs lectures and 14 hrs tutorials)

Vectors and matrices; the special theory of relativity; motion in a non-inertial frame; dynamics of rigid bodies; Euler’s Angles; Euler’s Equations and applications; small oscillations; normal modes; perturbation theory; wave equation; dispersion.

TEXTBOOK

ELECTROMAGNETISM (28 hrs lectures and 14 hrs tutorials)

Review; Maxwell’s Equations; boundary conditions; reflection and refraction; transmission lines; wave guides and cavity resonators; electrodynamics; radiation; advanced and retarded potentials; Lienard-Wiechert potentials; accelerated charges; dipole and half-wave antennae.

TEXTBOOK
To be advised.

PHYS302 CLASSICAL MECHANICS, ELECTROMAGNETISM AND PLASMA PHYSICS

First session; 8 credit points (70 hrs lectures and 42 hrs tutorials)
Assessment: Each section (see below) will be assessed separately and given weight proportionate to contact hours of lectures

The subject consists of the Classical Mechanics and Electromagnetism sections of PHYS301

AND

PLASMA PHYSICS (14 hrs lectures and 14 hrs tutorials)
Maxwell-Boltzmann distributions; Saha's Equation; Debye distance; plasma oscillations; Langmuir probe; charged particle trajectories in electromagnetic fields; guiding centre drift for several cases; adiabatic invariants; complete set of fluid equations; fluid drifts perpendicular and parallel to $\mathbf{B}$; waves in plasmas.

**TEXTBOOK**


**PHYS306 PROJECT IN PHYSICS A**

*Double session or first session or second session; 6 credit points (84 hrs laboratory)*

*Assessment:* This will be based on the satisfactory progress of the project and the adequacy of the written description of the project.

The student will be required to design and construct an experiment or experiments at the level of those encountered in the 200- and 300-level laboratories. The number and type shall be determined by two members of the academic staff of the Department of Physics.

**TEXTBOOK**

None.

**PHYS307 ADVANCED EXPERIMENTAL PHYSICS A**

*First session; 6 credit points (84 hrs laboratory)*

*Assessment:* Based on classroom performance and laboratory assignments

Transistor amplifiers; microwave diffraction; transmission lines; carrier lifetime measurements in semiconductors; atomic spectra; microwave waveguide measurements; Frank-Hertz tube; positron annihilation; $\nabla^2 V = 0$ analogues; interferometers; Zeeman effect; logic and computer circuits.

**PHYS308 ADVANCED EXPERIMENTAL PHYSICS B**

*Second session; 6 credit points (84 hrs laboratory)*

*Assessment:* Based on classroom performance and laboratory assignments

Fourier Transform spectroscopy; magnetic resonance; interferometry measurements; cloud physics; resonant absorption and phase-sensitive detection; Raman spectra; magnetostriction; super-conductivity; stellar interferometer; noise factor of a radio receiver; nuclear experiments.

**PHYS309 ADVANCED EXPERIMENTAL PHYSICS**

*Double session; 12 credit points (168 hrs laboratory)*

*Assessment:* Based on classroom performance and laboratory assignments

Selections are to be made from the combined topics of PHYS307 and PHYS308.

**PHYS311 QUANTUM AND STATISTICAL MECHANICS**

*Double session; 8 credit points (112 hrs lectures)*

*Assessment:* Same as for PHYS301

This subject consists of two topics with the following content:

**QUANTUM MECHANICS (56 hrs lectures)**

Operators in co-ordinate and momentum space with applications; spherically symmetrical potentials; spherical harmonics; angular momentum operators; uncertainty relations for angular momentum operators; Stern-Gerlach experiments
and their impact on the meaning of measurement; topics of significance to spectroscopy - 3-D symmetric harmonic oscillator; rigid rotator, molecular spectra, hydrogen atom, normal Zeeman effect, spin, spin-orbit interaction, vector model for addition of angular momentum, anomalous Zeeman effect. L-S coupling, j-j coupling, excited states of helium, selection rules, hyperfine structure; periodic table; time independent perturbation theory; Stark effect; matrix treatment of the harmonic oscillator.

TEXTBOOK
To be advised.

STATISTICAL MECHANICS (56 hrs lectures)
Review of thermodynamics; concepts of quantum statistical mechanics; sharply peaked distributions; ensembles; systems in thermal contact - entropy and temperature; systems in diffusive contact - the chemical potential; Gibbs and Boltzmann factors - partition functions; fluctuations; pressure and thermodynamic identity; Boltzmann definition of entropy; identical particles - fermion and boson distribution functions; applications to electronics in metals; blackbody radiation and Debye theory of vibrations in solids; Bose-Einstein condensation and properties of liquid helium; classical limit of the quantum distribution functions; monatomic ideal gas; Maxwell-Boltzmann velocity distribution; kinetic theory; transport processes.

TEXTBOOK

PHYS312 ADVANCED EXPERIMENTAL PHYSICS WITH ELECTRONICS

Double session; 16 credit points (42 hrs lectures and 168 hrs laboratory)
Assessment: Grade determined in the ratio 3:1: : Experimental Physics: Electronics. Assessment according to that for PHYS309 and ELEC311

Same as PHYS309 Advanced Experimental Physics, but includes ELEC311 Electronics II offered by the Department of Electrical Engineering in Session 1.

PHYS315 QUANTUM AND STATISTICAL MECHANICS WITH ELECTRONICS

Double session; 12 credit points (154 hrs lectures)
Assessment: Grade determined in the ratio 2:1: : Quantum and Statistical Mechanics: Electronics. Assessment according to that for PHYS311 and ELEC311

Same as PHYS311 Quantum and Statistical Mechanics but includes ELEC311 Electronics II offered by the Department of Electrical Engineering in Session 1.

PHYS316 QUANTUM MECHANICS AND SOLID STATE PHYSICS

Double session; 6 credit points (84 hrs lectures)
Assessment: Each section will be assessed separately and given weight proportionate to contact hours of lectures

This subject consists of the quantum mechanics section of PHYS311 and the solid state physics section of PHYS321.

PHYS317 QUANTUM MECHANICS AND NUCLEAR PHYSICS

Double session; 6 credit points (84 hrs lectures)
Assessment: Each section will be assessed separately and given weight proportionate to contact hours of lectures

This subject consists of the quantum mechanics section of PHYS311 and the nuclear physics section of PHYS321.

**PHYS318 QUANTUM MECHANICS AND HIGH ENERGY PHYSICS**

*Double session; 6 credit points (84 hrs lectures)*

Assessment: Each section will be assessed separately and given weight proportionate to contact hours of lectures

This subject consists of the quantum mechanics section of PHYS311 and the high energy physics section of PHYS322.

**PHYS319 QUANTUM MECHANICS AND ASTROPHYSICS**

*Double session; 6 credit points (84 hrs lectures)*

Assessment: Each section will be assessed separately and given weight proportionate to contact hours of lectures

This subject consists of the quantum mechanics section of PHYS311 and the astrophysics section of PHYS321.

**PHYS321 ASTRO-, NUCLEAR AND SOLID STATE PHYSICS**

*Second session; 6 credit points (84 hrs lectures)*

Assessment: Same as for PHYS301

The contents of this subject are as follows:

**ASTROPHYSICS (28 hrs lectures)**

The course emphasis how various fields of physics are used and combined to interpret astronomical events.

**TEXTBOOK**

To be advised.

**NUCLEAR PHYSICS (28 hrs lectures)**

Rutherford scattering; energy loss processes for heavy charged particles, electrons and photons; basic properties of nuclei - radius and charge distribution; angular momentum; magnetic moment; parity; quadrupole moment; binding energies; excited states; nuclear models - Fermi gas, shell, liquid rotator, liquid drop; semi-empirical mass formula - phenomenology, beta stability criteria; decay laws; partial half-lives; alpha decay theory; beta decay theory - neutrino hypothesis; weak interaction; Fermi's golden rule; Kurie plots; classification of transitions and selection rules; electron capture; inverse beta decay; conservation of parity; universal Fermi interaction; gamma decay - vector model for addition of angular momentum; electric and magnetic multipole radiation; internal conversion; nuclear forces - characteristics, Yukawa theory.

**TEXTBOOK**


**INTRODUCTORY SOLID STATE PHYSICS (28 hrs lectures)**

Symmetry operations; the lattice; crystal systems; Bravais lattices; crystal struct-
DESCRIPTION OF SUBJECTS - PHYSICS

ure; Miller indices; the reciprocal lattice; the Laue equations; bonding; molecular spectra; lattice vibrations; monatomic linear chain; Einstein's theory of specific heat; the free electron theory of metals; electrical conductivity and Ohm's law; Hall effect; electronic specific heat; Fermi-Dirac statistics; the band theory of solids; nearly free electron approximation; extended and reduced zones; metals, insulators and semi-conductors; tight binding approximation; effective mass; Bloch's theorem; the positive hole; semi-conductors; intrinsic conductivity; electron and hole concentrations; superconductivity.

TEXTBOOK

Special notes.

PHYS322 ASTRO-, HIGH ENERGY, NUCLEAR AND SOLID STATE PHYSICS

Second session; 8 credit points (98 hrs lectures and 14 hrs tutorials)
Assessment: Same as for PHYS302

The contents of this subject are as follows:

Astrophysics, nuclear and solid state physics sections of PHYS321.

AND

HIGH ENERGY PHYSICS (14 hrs lectures and 14 hrs tutorials)

Particle accelerators and detectors; principles of focussing; characteristics of particles and resonances; conservation laws; strangeness; particle multiplets; the eightfold way; quarks; colour and charm; cosmic rays.

TEXTBOOK


In addition to the prescribed text, an extensive reading list will be supplied.

PHYS324 ROLE OF ENERGY IN MICROSCOPIC PHYSICS AND CHEMISTRY *

Double session; 12 credit points (112 hrs lectures and 28 hrs laboratory)
Assessment: Practical and tutorial assignments, plus written examinations

This subject consists of CHEM324 and the statistical mechanics section of PHYS311.

PHYS326 STATISTICAL MECHANICS AND SOLID STATE PHYSICS

Double session; 6 credit points (84 hrs lectures)
Assessment: Each section will be assessed separately and given weight proportionate to contact hours of lectures

This subject consists of the statistical mechanics section of PHYS311 and the solid state physics section of PHYS321.

PHYS327 STATISTICAL MECHANICS AND NUCLEAR PHYSICS

Double session; 6 credit points (84 hrs lectures)
Assessment: Same as for PHYS326

*This subject may not be offered every year.
This subject consists of the statistical mechanics sections of PHYS311 and the nuclear physics section of PHYS321.

**PHYS328 STATISTICAL MECHANICS AND HIGH ENERGY PHYSICS**

*Double session; 6 credit points (84 hrs lectures)*
*Assessment: Same as for PHYS326*

This subject consists of the statistical mechanics section of PHYS311 and the high energy physics section of PHYS322.

**PHYS329 STATISTICAL MECHANICS AND ASTROPHYSICS**

*Double session; 6 credit points (84 hrs lectures)*
*Assessment: Same as for PHYS326*

This subject consists of the statistical mechanics section of PHYS311 and the astrophysics section of PHYS321.

**PHYS348 ASTRONOMY**

*Double session; 6 credit points (42 hrs lectures, 14 hrs tutorials and 28 hrs practical)*
*(Approval for taking Astronomy at the 300-level is at the discretion of the Chairman of the Department of Physics.)*
*Assessment: Same as for PHYS248*

**DESCRIPTION AND BOOKS:** See PHYS248

**400-LEVEL**

The honours degree in physics for a BSc is achieved by the successful completion of a full year of comprehensive study following qualification for a BSc pass degree. Assessment is based entirely on the honours year programme, a programme designed to provide a formal coverage of the core subjects of physics and also involve the student in one or more of the active areas of research in the department.

Entry to the Honours year shall be determined by the Academic Senate on the advice of the Departmental Chairman (who will be advised by the Departmental Assessment Committee). Each student will be assessed individually for entry into each subject. This assessment will replace the pre- and co-requisite requirements. The minimum requirements for a student to enrol in the Honours programme is that he/she should have completed a substantial and coherent course at the 300-level in physics and that a significant number of examination results should be better that Pass Level in these 300-level subjects.

**PHYS401 THEORETICAL MECHANICS AND ELECTROMAGNETISM**

*First session; 8 credit points (56 hrs lectures)*
*Assessment: Each topic (see below) is assessed separately and is of equal weight. The individual assessments are based on assigned problems, tests and sessional examinations.*

The contents of the topics are as follows:

**THEORETICAL MECHANICS (28 hrs lectures)**

Lagrange Equations with applications including generalized potentials, dissipation, holonomic and integral constraints; gauge transformation of Lagrangian; conservation theorems; Hamilton's principle; principle of least action; Hamilton's form-
ứlation of mechanics; canonical transformation; Hamilton-Jacobi theory; Poisson brackets; canonical invariants; Liouville’s theorem.

**TEXTBOOK**

**ELECTROMAGNETISM (28 hrs lectures)**

Poisson’s and Laplace’s Equations; Green’s theorem and functions; method of images; method of inversion; Green’s function for sphere; boundary value problems in common coordinate systems; eigenfunction expansions; multipoles; dielectrics; magnetostatics; time varying fields; plane electromagnetic waves in media with dielectric interfaces in conducting media including plasmas; wave guides and resonant cavities; radiating systems and diffraction.

**TEXTBOOK**
Jackson, J.D. *Classical Electrodynamics*. Wiley, 2nd ed.

**PHYS410 HONOURS PROJECT**

*Double session; 18 credit points (560 hrs)*

**Assessment:** Based on contribution to the project and written and oral presentations of report. (see below)

The student is required to participate actively in an existing research project under the supervision of staff member(s). It is expected that the student will contribute to the successful development, and/or productivity of the project. A report on the project is to be compiled by the student and presented to the staff. A preliminary presentation of the content of the report is to be delivered to the department at one of the formal departmental colloquia in the latter part of the academic year. The clarity and completeness of this presentation will form part of the assessment of the subject.

**PHYS441 ASTRO- AND NUCLEAR PHYSICS**

*Double session; 8 credit points (56 hrs lectures)*

**Assessment:** Same as for PHYS401

The contents of the topics are as follows:

**ASTROPHYSICS (28 hrs lectures)**

Detailed study of one or more topics of modern astrophysics.

**TEXTBOOK**
To be advised.

**NUCLEAR PHYSICS (28 hrs lectures)**

Nuclear wave functions and potentials; the deuteron; exchange forces (Wigner, Bartlett, Majorana, Heisenberg); angular momentum coupling; analog states and the charge independence of nuclear forces; nuclear reactions. - compound nucleus formation, resonances, optical model, direct reactions; theory of fission; fusion reactors - magnetic confinement, heating and instabilities of plasmas, implosion techniques; elementary particles.

**TEXTBOOK**
DESCRIPTION OF SUBJECTS - PHYSICS 455

PHYS443 QUANTUM MECHANICS AND STATISTICAL MECHANICS

Double session; 12 credit points (84 hrs lectures)
Assessment: Each topic is assessed separately and weighted in proportion to the number of contact hours (see below). The individual assessments are based on assigned problems, tests and sessional examinations.

The contents of the topics are as follows:

QUANTUM MECHANICS Double session topic; 56 hrs lectures
Relationship between operators, basis sets and matrices; change of basis sets; commutator algebra, raising and lowering operators, exponentiated operators; commutation rules for angular momentum operators; orbital angular momentum; application of various spherically symmetric potentials; scattering theory, Born approximation, partial waves and phase shifts; time independent degenerate and non-degenerate perturbation theory; time dependent perturbation theory, Fermi’s golden rule, photo-emission, multipole transitions, spontaneous emission, Einstein transition probabilities; Schrodinger, Heisenberg and interaction pictures; variational methods, identical particles, Hartree and Hartree-Fock theory, Koopman’s theorem; addition of angular momentum, Clebsch-Gordon coefficient, spin-orbit interaction.

TEXTBOOKS
Powell, J. & Craseman, B. Quantum Mechanics. Addison-Wesley.

STATISTICAL MECHANICS (Second session topic; 28 hrs lectures)
Boltzmann transport equation with applications to transport properties; Boltzmann’s H theorem; Liouville’s theorem and its application to classical statistical mechanics; conservation laws; the classical ensembles with applications; the generalised equipartition theorem; density fluctuations and phase transitions; imperfect gases; the density matrix; quantum ensembles; classical limit of the partition function; further applications of quantum distribution functions to systems of interest in modern physics.

TEXTBOOK
Huang, K. Statistical Mechanics. Wiley.

PHYS444 QUANTUM MECHANICS
Double session; 8 credit points (56 hrs lectures)
Assessment: Based on assignments, tests and sessional examinations

The subject content and textbooks are the same as for the Quantum Mechanics section of PHYS443.

PHYS446 SOLID STATE PHYSICS
Double session; 8 credit points (56 hrs lectures)
Assessment: Based on homework assignments, tests and sessional examination

Crystallography; diffraction of waves by crystals; crystal binding; elasticity; normal modes; lattice vibrations; lattice specific heat; free electron theory of solids; electronic specific heat; electrical conductivity; Hall effect. Cyclotron resonance; band theory of solids; Bloch’s theorem; nearly free electron approximation; tight binding approximation; properties of Bloch functions; metals; effective mass; the hole; semiconductors, intrinsic and extrinsic; superconductivity.
TEXTBOOK

PHYS455 NUCLEAR AND SOLID STATE PHYSICS

Double session; 12 credit points (84 hrs lectures)
Assessment: Same as for PHYS443

The contents of the two topics are:
Nuclear Physics section of PHYS441;
Solid State Physics, PHYS446.

PHYS465 ASTRO- AND SOLID STATE PHYSICS

Double session; 12 credit points (84 hrs lectures)
Assessment: Same as for PHYS443

The contents of the two topics are:
Astrophysics section of PHYS441;
Solid State Physics, PHYS446.
Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

100-LEVEL

PSYC111 PSYCHOLOGY IA

First session; 6 credit points (5 contact hrs; 3 lectures, 2 laboratory/tutorials)
Chairperson for the subject: Dr. S. L. Chow.
Assessment: Within session assignments consisting of reports on laboratory work and statistics, one essay, and two end-of-session exams

The subject will introduce students to the science of studying people and human behaviour. The basic research methods and content areas of psychology will be introduced, with focus on the way the individual’s biological and psychological systems function. In particular the subject will examine the way we sense and perceive the world, the way we develop as human beings and the ways we learn and think.

TEXTBOOKS


PSYC112 PSYCHOLOGY IB

Second session; 6 credit points (5 contact hrs; 3 lectures, 2 laboratory/tutorials)
Chairperson for the subject: Dr. S. L. Chow
Assessment: Within session assignments consisting of reports on laboratory work and statistics, one essay, and two end-of-session exams

This subject continues the overview of psychology commenced in PSYC111. Greater emphasis is placed on the individual’s adaptive behaviours: the ways we cope with our own needs and with social demands, the maladaptive and deviant behaviours people might use, the growing popularity and use of “personal growth” programmes, and the ways in which psychologists may intervene in the life of the individual or of the community will be explored.

TEXTBOOKS

As for PSYC111

PSYC141 PSYCHOLOGY IA (SCIENCE)

First session; 6 credit points (6 contact hrs; 3 lectures, 3 laboratory/tutorials)
Chairperson for the subject: Dr. S.L. Chow.
Assessment: Within session assignments consisting of reports on laboratory work and statistics, one essay and two end-of-session exams
Other details: As for PSYC111 Psychology IA.

PSYC142 PSYCHOLOGY IB (SCIENCE)

Second session; 6 credit points (6 contact hrs; 3 lectures, 3 laboratory/tutorials)
Chairperson for the subject: Dr. S. L. Chow.
Assessment: Within session assignments consisting of reports on laboratory work and statistics, one essay and two end-of-session exams
Other details: As for PSYC112 Psychology IB.
200-LEVEL

PSYC231 PERSONALITY

First session; 6 credit points (4 contact hrs; 2 lectures, 2 seminar/lab)
Chairperson for the subject: Dr. B. Walker
Assessment: Examination, essay, laboratory reports, seminar papers

This subject comprises two closely related strands. The lecture course introduces the major theories of personality. Detailed critical analysis and comparison will be made of the principal paradigms - the psychoanalytic, behaviourist, and existential - as well as theories that have evolved from them such as ego-psychology, social learning theory and self theory. Consideration will also be given to more empirically based theorists. The laboratory work will include class exercises and research projects based on work covered in the theoretical strand. This subject is strongly recommended for entry to PSYC 400-level (Honours).

TEXTBOOK

PSYC232 RESEARCH METHODS AND STATISTICS

First session; 6 credit points (4 contact hrs; 2 lectures, 2 tutorials)
Chairperson for the subject: Dr. S. Ginsberg
Assessment: Assignments, mid-term exam, and final examination

A general introduction to research methodology and related statistical techniques and their application to selected problems in psychology. The research-methods lectures progress from general ideas about research, scientific method, and experimental inference to special problems of psychology as a science, formulation of a research problem, choice of a method or design, interpretation and explanation of data, significance and generality of the findings, and communication to the public.

The main aspects of statistical analysis covered are: probability theory; regression and prediction; normal and binomial distributions; statistical inference with two independent samples; statistical inference with correlated samples; one-way analysis of variance; power of a test and types of errors; nonparametric tests with categorical and ordinally scaled variables (bionomial test, chi-squared, Mann-Whitney U-test, Wilcoxon test).

TEXTBOOK

PSYC246 RESEARCH METHODS AND STATISTICS IN PSYCHOLOGY (SCIENCE)

First session; 6 credit points (4 contact hrs; 2 lectures, 2 tutorials)
Chairperson for the subject: Dr. S. Ginsberg
Assessment: Assignments, midterm examination, final examination

A general introduction to research methodology and related statistical techniques and their application to selected problems in psychology. The research methods lectures progress from general ideas about research, scientific method and experimental inference to special problems of psychology as a science, formulation of a research problem, choice of a method or design, interpretation and explanation of data, significance and generality of the findings, and communication to the public.

The main aspects of statistical analysis covered are: probability theory; regression and prediction; normal and binomial distributions; statistical inference with two
independent samples, statistical inference with correlated samples; one-way analysis of variance; power of a test and types of errors; nonparametric tests with categorical and ordinally scaled variables (binomial test, chi-squared, Mann-Whitney U-tests, Wilcoxon test).

TEXTBOOKS
To be announced.

PSYC233 DEVELOPMENT

Second session; 6 credit points (4 contact hrs; 2 lectures, 2 seminar/pracs)
Chairperson for the subject: Dr. R. Henry.
Assessment: Seminar papers, reports and examination

This subject considers development throughout the life span and includes appropriate theories and empirical work. Emphasis will be placed on both the social and societal contexts in which development occurs and on the extent to which the theories discussed are culturally bound.

Topics will include: Maternal deprivation; the relevance of the nuclear family to development; cognitive theories and research; personality development; influences of and changes in social interaction. Students may specialise in child development or in aging, and should purchase the texts appropriate to their choice. Students are cautioned that much of the material dealt with in this course relies on a knowledge of material presented in PSYC231.

TEXTBOOK

PSYC234 LEARNING AND MEMORY

Second session; 6 credit points (4 contact hrs; 2 lectures, 2 lab)
Chairperson for the subject: Dr. S. Ginsberg
Assessment: Laboratory reports and examinations

Lecture topics will include: fundamental principles of Pavlovian and instrumental conditioning; basic reinforcement principles, learning theories, extinction, patterns of reinforcement, emotion and motivation, generalization, discrimination, concept identification, verbal learning, memory, and language learning. The laboratories will be devoted to exercises and projects based on the work covered in the lectures.

TEXTBOOK
To be announced.

PSYC235 PSYCHOLOGICAL ASSESSMENT

Second session; 6 credit points (4 contact hrs; 2 lectures, 2 hrs seminars)
Chairperson for the subject: J. M. deWet
Assessment: Assignments, including test administration, and a final examination

Topics will include the nature and use of psychological tests; test theory which includes reliability, validity, item analysis, and factor analysis; Psychological tests and their various applications, including personality tests, tests of general intellectual level; education, vocational and clinical testing. Systematic observation, interviewing, content analysis and behavioural analysis.

TEXTBOOK
To be announced.
PSYC236 APPLIED PSYCHOLOGY

First session; 6 credit points (3 contact hrs; 2 lectures, 1 seminar/tutorial)
Chairperson for the subject: Dr. N. L. Adams
Assessment: Seminar papers; essay and/or examination

This subject introduces the student to applied aspects of several of the areas of psychology which are dealt with at a more advanced standard in individual 300-level subjects. The subject will explore: ways in which psychologists suggest that behaviour may be modified; and the various uses made of psychology in counselling; in vocational guidance and selection; in humanistic endeavours; in job design and industrial relations; and in social psychology.

TEXTBOOK
To be announced.

PSYC237 SOCIAL PSYCHOLOGY

Second session; 6 credit points (4 contact hrs; 3 hrs lecture/tutorials, 2 hrs seminar bi-weekly)
Chairperson for the subject: To be advised.
Assessment: Seminar papers and examination or research paper.

Topics will include research methods in social psychology, laboratory and natural settings studies; questionnaire design and attitude measurement; the phenomenological approach in social psychology; interaction in small groups; roles; interpersonal attraction; processes of social influence; the learning of attitudes and values; group conflict; and violence.

Further topics will be selected from among the following: Obedience; authoritarianism and ethnocentrism; political socialization; co-operation and competition; non-verbal communication, proxemics and kinesics; knowing and evaluating persons; and helping behaviour.

TEXTBOOKS

PSYC238 PERCEPTION

First session; 6 credit points (4 contact hours: 2 lectures, 2 lab/seminars)
Chairperson for the subject: Dr. S.L. Chow
Assessment: Tests and examination or laboratory report.

Our knowledge of the world is acquired with our sensory systems. How can we achieve such a feat? Attempts to answer this question will be made by considering (a) the structural and functional properties of the visual and the auditory systems, and (b) the psychological processes involved in detection, discrimination, and identification.

TEXTBOOK
To be announced.

300-LEVEL

PSYC312 COUNSELLING PSYCHOLOGY

First session; 6 credit points (4 contact hrs; 2 lectures, 1 tutorial, 1 lab)
Chairperson for the subject: Dr. J. L. Morris
Assessment: Examination, assessment assignment

Topics will include the social context of counselling; counselling and psychotherapy; application of personality theory to practice; establishment of an effective relationship; interview techniques; assessment and testing; diagnosis; special areas of interest including transactional analysis and behaviour modification.

TEXTBOOK


PSYC315 PSYCHOLOGY OF ABNORMALITY

Second session; 6 credit points (3 contact hrs; 2 hrs lectures, 1 hr seminar)
Chairperson for the subject: J. M. deWet
Assessment: To be notified.

Topics that will be examined in this course include models of mental illness/health, classification schemes neuroses, personality disorders, psychophysiological disorders, affective disorders, sociopathy and crime, sexual disorders and variance, addiction, the psychoses, organic brain disorders, mental retardation, childhood disorders, clinical assessment and methods of intervention.

TEXTBOOK


PSYC316 INDIVIDUAL DIFFERENCES

Second session; 6 credit points (4 contact hrs; 2 lectures, 2 seminars)
Chairperson for the subject: Dr. B. M. Walker
Assessment: Seminar papers and examinations

Psychology will be considered not from the standpoint of general laws, but from the view of individual variation.

It is intended to consider the nature, assessment, structure, growth and decline of individual differences in:

(i) ability;
(ii) personality (including motivation).

In addition it is intended to explore current trends in some more specialized aspects of the above, e.g. cognitive styles, creativity, racial differences, sex differences, cross-cultural differences.

TEXTBOOK


PSYC323 INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY

Second session; 6 credit points (4 contact hrs; 3 hrs lecture/tutorials, 2 hrs seminar bi-weekly, 3 half-day industrial visits)
Chairperson for the subject: Dr. N. L. Adams
Assessment: Seminar papers and examination or research paper

Through the use of experiential group sessions, visits to industrial organisations and lectures by visiting management and union representatives as well as seminars,
462 DESCRIPTION OF SUBJECTS - PSYCHOLOGY

this subject aims to explore the relationships between psychological theory and human behaviour in the work place. Particular topics of study will be selected from: job design; job satisfaction; worker participation and autonomous work groups; communication within organisations; group dynamics in the organization; competition and co-operation; problems in industrial relations; leadership at shop floor and board room levels.

PRELIMINARY READING


TEXTBOOK


PSYC331 PSYCHOLOGICAL THEORY

First session; 6 credit points 3 contact hrs; 1 lecture, 2 seminars)
Chairperson for the subject: Dr. D. Mixon
Assessment: To be notified

This subject will provide the historical and philosophical context in which to place contemporary theories and psychological systems. Topics will include: psychology and science; associationism; structuralism; functionalism; phenomenology; psychoanalysis; behaviourism; Gestalt psychology; field theory; varieties of S-R theory; personality theories; engineering and mathematical influences and psychology.

TEXTBOOKS

To be notified.

PSYC335 HUMANISTIC PSYCHOLOGY

Second session; 6 credit points (5 contact hrs; 1 lecture, 2 seminars, 2 practical)
Chairperson for the subject: Dr. D. D. Diespecker
Assessment: One oral examination (end-of-session), one essay, two seminar papers

The subject is designed to study the emerging field of humanistic psychology. Lectures and seminars will examine such topics as the development of human potentials (acceptance of responsibility, feelings, change and growth), the holistic doctrine, group dynamics and interactions, evaluation of personality change, humanistic and existential approaches to psychotherapy, and theoretical contributions from humanistic psychology. A two-hours workshop, “The Educational Community”, will allow students to participate in experiential sessions. Practical work will include exercises in body awareness, guided fantasy, movement, Gestalt techniques, and the microlab approach to learning. Attendance at the practical sessions is not compulsory and no assessment will be made of these.

PRELIMINARY READING


TEXTBOOKS

DESRIPTION OF SUBJECTS - PSYCHOLOGY

or
or

PSYC336 EXPERIMENTAL PSYCHOLOGY

Second session; 6 credit points (4 contact hrs; 2 lectures, 2 seminars/lab)
Chairperson for the Subject: Dr. S.L. Chow
Assessment: Seminar and/or laboratory reports; final examination
A detailed study of specific methods of investigation employed in selected content areas of psychology, e.g., sensation, perception, learning.

TEXTBOOKS
To be notified.

PSYC338 BEHAVIOUR MODIFICATION

First session; 6 credit points (4 contact hrs; 2 lectures, 2 laboratory)
Chairperson for the Subject: To be notified
Assessment: Within session assignments and end-of-session examination
Self-control of physiological responding by means of instrumental learning and/or biofeedback. Psycho-physiological concomitants of central states and their relation to learning, motivation and attention.

TEXTBOOKS
To be notified.

PSYC340 CONSCIOUSNESS

First session; 6 credit points (4 contact hrs; 2 hrs lectures, 2 hrs tutorials)
Chairperson for the subject: Dr. D. D. Diespecker
Assessment: Essay and examination
Definitions and the nature of consciousness will be examined. There will be a focus on brain function; on the psychological processes which shape awareness; on altered states; and on the "politics" of consciousness, i.e., issues in psychology and contemporary notions such as Eastern psychologies, meditation, mysticism and psychotherapy.

PRELIMINARY READING
PSYC341 PSYCHOPHYSIOLOGY

Second session; 6 credit points (4 contact hours; 2 hrs lectures, 2 hrs laboratory/seminars)
Chairperson for the subject: Dr. S. Ginsberg
Assessment: Examination, seminar paper, laboratory report.

Psychophysiology refers to the recording of physiological responses from the surface of a (typically human) subject and the observation of changes in these responses as a consequence of environmental stimulation. Lecture topics will include: the physiological basis of psychophysiology, general methodology and response measures, theories of emotion, activation and arousal theory, attention and orienting reactions, stimulus response specificity and individual response stereotypy, Pavlovian conditioning of psychophysiological responses, and instrumental conditioning and bio-feedback of psychophysiological responses. The laboratory component will be concerned with techniques of recording, electrodes, response measures and methodological, procedural, measurement, and statistical problems. The seminar component will be devoted to consideration of the application of psychophysiology to more traditional content areas of psychology, such as clinical, developmental and social psychology.

TEXTBOOKS

PSYC342 PSYCHOLINGUISTICS

Second session; 6 credit points (4 contact hours; 2 lectures, 2 lab/seminars)
Chairperson for the subject: Dr. S.L. Chow
Assessment: Tests and examination or laboratory report.

The aim of this course is to study the underlying knowledge and ability which speakers of any natural language must have in order to use that natural language. It will be shown how the underlying knowledge and ability can be inferred from the overt verbal behaviour of speakers of a language community. Among the topics to be covered are the acquisition of the first language, speech perception, reading as a linguistic as well as a perceptual skill, and some language disabilities.

TEXTBOOK
To be notified.

PSYC343 NONVERBAL COMMUNICATION

First session; 6 credit points (4 contact hours; 2 lectures, 2 lab/seminars)
Chairperson for the subject: Dr. D.L. Mixon
Assessment: 1 examination, 1 essay or research report

The course develops a conceptual framework for the explanation and interpretation of nonverbal communication. Among topics examined are:

1. what nonverbal cues reveal about the psychology of the individual,
2. what information nonverbal behaviour provides about social relationships, and
3. the role played by nonverbal communication in maintaining or disrupting social order.

TEXTBOOKS
Double session; 6 credit points

Refer to "Description of Subjects - Mathematics".

400-LEVEL

See pre-requisite column and note in Schedule A concerning entry into the Honours year.

PSYC499 PSYCHOLOGY IV HONOURS

Double session; 48 credit points (4 contact hrs)
Chairperson for the subject: To be announced
Assessment: Coursework and two theses

There are three components. Each candidate will be required to complete a supervised thesis (Theoretical Essay) of between 6,000 and 8,000 words describing a theoretical issue in psychology. A second requirement (Empirical Thesis) will consist of a supervised research project to be summarized and presented as a 12,000 to 15,000 word thesis.

Each candidate will also be required to contribute to seminars which will be assessed by either contributions or short essays.

Candidates intending to complete this programme as part-time students will generally do the coursework and theoretical essay in their first year and complete the empirical thesis in their second year.

JOINT HONOURS IN PSYCHOLOGY AND SOCIOLOGY

The four year programme for students intending to do Joint Honours in Psychology and Sociology should include the following:

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<tr>
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<th>Psychology Credit Points</th>
<th>Sociology Credit Points</th>
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<tbody>
<tr>
<td>100-level</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>200-level</td>
<td>24</td>
<td>16 (pass level)</td>
</tr>
<tr>
<td>300-level</td>
<td>24</td>
<td>12 (advanced level)</td>
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In addition, students who intend to complete Joint Psychology/Sociology Honours, must select one of the subjects for which accreditation by both Departments has been accepted, to complete an additional 6 credit points above a normal 48 credit point load. These subjects are as follows:

Psychology subjects accredited (by the Department of Sociology) as equivalent to a Sociology requirement:
- PSYC335 Humanistic Psychology (6 credit points)
- PSYC323 Industrial and Organisational Psychology (6 credit points)
- PSYC322 Social Psychology (6 credit points)

Sociology subjects accredited (by the Department of Psychology) as equivalent to a Psychology requirement:
- SOC317 Interaction and Small Group Behaviour (6 credit points)
- SOC313 The Individual in the Organisation (6 credit points)
- SOC303 The Individual in Society (6 credit points)

MATH334 Design and Analysis (6 credit points)
PSYC450 JOINT HONOURS IN
PSYCHOLOGY AND SOCIOLOGY

Double session; 48 credit points

Students enrolled in this subject are required to:

1. Complete a joint Psychology/Sociology thesis (theoretical and empirical) of about 15,000 words.
2. Attend Psychology Seminars.
3. Audit the Psychology coursework programme.
4. Attend SOC401 and SOC411 Key Issues in Contemporary Sociology I and II seminars.
5. Audit SOC431 Research Works in Progress seminar.
6. Complete a theoretical essay in Psychology of about 6,000 words.

PSYC460 JOINT HONOURS IN
PSYCHOLOGY AND GEOGRAPHY

Double session; 48 credit points

Students enrolled in this subject are required to:

1. Complete a thesis incorporating the results of a theoretically based empirical investigation in a field acceptable to and jointly supervised by both Departments. The word limit of this thesis: 15,000 - 25,000 words.
2. Attend for credit the Seminar Issues in the Philosophy and Methodology of Geography.
3. Attend Psychology seminars and complete coursework requirements as for PSYC499.
SOCIOLOGY

Introductory Notes

1. All seminars in Sociology 100-, 200-, 300- and 400-levels are 2 hours long.

2. Students should consult with the Department of Sociology before purchasing textbooks for any of the courses offered in 1982.

Schedule Entries

Refer to the schedule entries for further details of subjects, including pre-requisites and exclusions. All subjects described in this section are included in Schedule A.

100-LEVEL

SOC100 SOCIOLOGY I

Double session; 12 credit points (4 contact hrs; 2 lectures, 1 seminar per week)
Assessment: 4 essays, 2 seminar papers

Sociology I has three main components: theory, research methods, and descriptive Australian society. The lectures on theory and research methods will introduce the student to the basic language principles and concepts of social theorising and social research. The series of lectures on Australian society will be designed to acquaint students with an overall picture of Australian society at a descriptive level. It will be the purpose of the weekly seminar to draw together the theoretical and descriptive sections of the subject such that the student gains an understanding of Australian society which is informed by a theoretical perspective and supplemented by such empirical evidence as is available.

TEXTBOOKS


200-LEVEL

MAJOR PROGRAMME

SOC203 CENTRAL THEMES IN SOCIOLOGICAL THEORY

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This subject explores the development of sociological theory as both a response to societal change and as a dynamic theoretical debate. Theories will be examined as they relate to urban industrial society, and key periods of social change and conflict. In particular, the subject will explore the work of Marx, Engels, Weber, Durkheim, urban theorists of the late 19th century, American social theorists of the Chicago school, the pre-war middle European tradition, the development of post-war critical theory, and will introduce contemporary debates in sociological theory.

TEXTBOOKS

SOC231 A PRACTICAL INTRODUCTION TO SOCIAL RESEARCH

First session: 6 credit points (3 contact hrs; 1 lecture, 1 "practical" seminar)
Assessment: 1 research report; continuous assessment of work set in "practical" seminars

The subject aims to give students the ability to be critical of the methodology of others' research work, and the facility to carry out basic social research themselves. Topics covered in the subject include sampling, questionnaire design, interviewing techniques, data analysis, as well as a briefer introduction to other social-investigative techniques.

TEXTBOOK


SOC218 CLASS, POWER AND SOCIAL ISSUES

Second session: 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This subject evaluates both Marx's class model and social stratificationist analyses of inequality against contemporary social issues such as poverty, media, women, cities, trade unions, aboriginals and professionalism.

TEXTBOOKS


SOC219 TIME, WORK AND LEISURE

Second session: 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This subject will examine the productive activity of people with special emphasis on tracing its evolution from pre-industrial through to advanced capitalist societies and its relationship to changing conceptions of time and leisure.

TEXTBOOKS*

No prescribed texts.

SOC232 SOCIAL RESEARCH STATISTICS

Second session: 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 exam, continuous assessment of seminar assignments

This subject is designed to introduce students to the statistical techniques commonly used in the analysis of material collected in social research. The emphasis of the subject is on practical application. Theoretical discussion is confined to a consideration of the assumptions underlying certain statistical formulas and the consequent limitations in their application. The subject will be divided into four main sections: Probability theory; Sampling techniques; Correlation; and Chi square.

* A detailed list of sources to be consulted by students will be supplied at the beginning of the subject.
DESCRIPTION OF SUBJECTS - SOCIOLOGY

TEXTBOOKS*
No prescribed texts.

MINOR PROGRAMME

SOC241 THE NATURE OF CULTURE

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

The emphasis in this subject is centred around an investigation of communication in contemporary Australian Culture, its historic and sociological explanation, and its manifestation in everyday-life objects and activities (e.g., literature, music, the media and lifestyle).

TEXTBOOKS*
No prescribed texts.

SOC242 CONTEMPORARY ISSUES IN SOCIETY

Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

The focus of this subject will vary from year to year, depending on issues of greatest contemporary pertinence and availability of staff. For example, coursework may focus on education, unemployment, the family and legislation, and so on. The subject will capitalise on theory and evidence concerning Australian society presented in SOC100, will extend the data and theory base specifically with respect to the phenomenon being analysed.

TEXTBOOKS*
No prescribed texts.

300-LEVEL

PASS LEVEL PROGRAMME

SOC302 RELIGION AND SOCIETY

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

Working within the theoretical framework of the sociology of religion, this subject is an historical and cross-cultural analysis of the relationship between religion and social stratification in Indian society. Particular emphasis will be placed on the conflicting roles of religion as an integrative (conservative) and divisive (revolutionary) force in a society which assumes inequality as the basis for order in society.

TEXTBOOKS

* A detailed list of sources to be consulted by students will be supplied at the beginning of the subject.
SOC303 THE INDIVIDUAL IN SOCIETY

Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

A comparison of different theories of society and their assumptions with regard to the nature of the individual implicit in such theories (and perhaps vice versa). Sociologically established positions such as those of Marx, Weber, Durkheim, Comte, Parsons and Schutz (for example) will be contrasted with esoteric, “Occult”, and non-western systems. The systems (universes) to be compared will depend to a large extent on a compromise between the tastes of students and tutors.

TEXTBOOK

SOC304 MILITARY SOCIOLOGY

Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers, compulsory excursion to Royal Military college Duntroon

Warfare continues to absorb a considerable portion of all government spending. Yet the military machine, its aims, functions, and interactions with the rest of society is only hazily understood. The focus is twofold: i) the development of modern military systems, and their real and projected employment, ii) the social reality of individuals within the military structure.

TEXTBOOKS

SOC305 SOCIOLOGY OF MIGRATION

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This subject will examine the movement of people both within and across national boundaries, focussing on the period of industrial capitalism using Australia as a case study.

PRELIMINARY READING

TEXTBOOKS*
No prescribed texts.

SOC306 SOCIOLOGICAL MEASUREMENT

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This subject is designed to introduce students to some of the basic methods of quantitative measurement in sociology. Emphasis in the subject will be on survey measurement utilising a computerised statistical package.

* A detailed list of sources to be consulted by students will be supplied at the beginning of the subject.
DESCRIPTION OF SUBJECTS - SOCIOLOGY

TEXTBOOKS*
No prescribed texts.

SOC307 URBAN SOCIOLOGY

Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: Original project work; 2 seminar papers

This subject will concentrate on an evaluation of the three levels of crisis in the sphere of collective consumption/reproduction: the crisis of capitalism, the crisis of State intervention, and the crisis of State legitimacy.

The subject will focus on the emergence and histories of urban social movements, and their importance in developing an effective urban political economy. Case studies of Leeds, Paris, Sydney, San Francisco and Wollongong will be used to provide a comparative base.

TEXTBOOKS

SOC308 SOCIAL POLICY

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

The aim of the subject is to explore the relationship between social policy and sociological theory. The subject will review major debates in contemporary sociology in these areas and move towards developing a paradigm for the evaluation of policy in Australia.

The discussion of social policy in Australia will focus on understanding the role of the State, the development and impact of policy, and the historical and materialist base in which the State and its policies are located.

TEXTBOOKS

SOC312 SCIENCE, TECHNOLOGY AND SOCIETY

Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This subject will locate present thinking in the sociology of science into a context of changing ideas about the nature and role of science and technology. It will explore the institutionalisation of science - treated both as knowledge system and social process; its forms of relationship to technology, and the social/economic/political context in which this relationship is set. It will explore the effects of science on the relationships between individual and society, consciousness and culture. Finally, the subject will explore the substance of contemporary social "movements" that are refashioning the relationship between science and society (e.g. expressions of anti-science, "radical" science and technology, and "marginal" contributions to scientific thought).

*A detailed list of sources to be consulted by students will be supplied at the beginning of the subject.
SOC313 THE INDIVIDUAL IN THE ORGANISATION

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This subject uses work in the fields of psychology and sociology to study the relationship between the individual and the organisation at various organisational levels and in different situations. Emphasis is on the extent to which the individual has autonomy within the organisation.

SOC316 RESEARCH TECHNIQUES OF SOCIAL ENQUIRY

Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 research project, 1 seminar paper

This subject will explore the comparative validity of alternate techniques of research enquiry (with particular emphasis on the contrast of empirical vs. subjective forms of analysis). Students will gain experience in using traditional sociological tools of analysis - questionnaire, interviewing and formal observation, as well as in less conventional - film, video, participant and unobtrusive techniques of observation and measurement.

SOC317 INTERACTION AND SMALL GROUP THEORY

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)
Assessment: 1 essay, 2 seminar papers

This unit focuses on the social emergence and maintenance of self identity, levels of meaning in communication, elements of interaction in dyads and larger groups, the phases of group development. A major aim of the subject will be to sensitise students to the everyday processes whereby institutional practices and values of the wider society are legitimated and reinforced. Students are expected to participate in group projects and exercises as well as written work.

SOC318 SOCIOLOGY OF DEVELOPMENT AND UNDERDEVELOPMENT

Second session; 6 credit points (3 contact hrs; 1 lecture and 1 seminar per week)
Assessment: 1 research project, 1 essay

The subject aims to acquaint students with the major theoretical writings on the

*A detailed list of sources to be consulted by students will be supplied at the beginning of the subject.
“third-world” and its relations to the “first-world”, including theories of imperialism and neo-colonialism, development and under-development. The subject focuses particularly on key economic and political concepts, and involves a discussion of technology and the varieties of recipient cultures in the “third-world”. The major empirical focus will be on Papua New Guinea, Thailand and India.

**TEXTBOOKS**


**SOC319 BELIEF SYSTEMS, IDEOLOGIES**

*Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)*

**Assessment:** 1 essay, 2 seminar papers

This subject examines the notion that in certain ideologies, the belief system and the experiential concomitants of the belief system are inseparable, even in principle. Studying such ideologies therefore necessitates the individual student participating at an intellectual and behavioural level in order to move towards a theoretical perspective which includes these two components.

**TEXTBOOK**


**SOC320 CONTEMPORARY EUROPEAN SOCIOLOGY**

*Second session; 6 credit points (3 contact hours; 1 lecture, 1 seminar per week)*

**Assessment:** 1 essay, 2 seminar papers

This subject reviews controversies in European social theory which draw on the Marxist, psychoanalytic, existential, and structuralist thought traditions. In particular, it will deal with the substantive concerns and implicit methodologies of Marcuse, Habermas, Sartre, Levi-Strauss, and Althusser.

**TEXTBOOKS**

No prescribed texts.

**SOC331 A PRACTICAL INTRODUCTION TO SOCIAL RESEARCH**

*First session; 6 credit points (3 contact hrs; 1 lecture, 1 practical seminar per week)*

**Assessment:** 1 research report, continuous assessment of work in “practical” seminars

**Other details:** See entry under SOC231

**SOC332 SOCIAL RESEARCH STATISTICS**

*Second session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar per week)*

**Assessment:** 1 exam, continuous assessment of seminar assignments

**Other details:** See entry under SOC232
SOC322 SOCIOLOGY OF KNOWLEDGE

First session; 6 credit points (3 contact hrs; 1 lecture, 1 seminar paper per week)
Assessment: 1 essay, 2 seminar papers)

This subject is designed as an introduction to the sociology of knowledge. The broad theme is the relationship between consciousness, knowledge and society. Sub-themes such as the differences between scientific knowledge and other types of knowledge, the institutionalisation of knowledge, and the dialectic between knowledge and society, will be developed with a philosophical, historical and cross-cultural perspective.

TEXTBOOK

400-LEVEL
See pre-requisite column and note in Schedule A concerning entry into the 400-level Honours programme.

SOC400 SOCIOLOGY IV HONOURS **

Double session; 48 credit points (4 contact hrs; 2 seminars)
Assessment: Coursework, and 12,000 to 15,000 word thesis

There are three components in this subject. The first is a double session programme on "Key Issues in Contemporary Sociology" assessed by seminar presentations and two essays (approximately 2,000 words each). This subject, focusing on relations between the individual and social structure, will encompass theoretical concerns relevant to student theses, and the analysis of an issue of contemporary social importance. The second component is a double session seminar programme on "Research Works in Progress", assessed by seminar contributions. This subject involves all students in the design and critique of thesis research projects conducted by all students of that year. The third component comprises a supervised research project to be presented in a thesis of approximately 12,000 - 15,000 words.

SOC410 SOCIOLOGY IV HONOURS: PART—TIME I **

Double session; 24 credit points (2 contact hrs plus individual supervision; 1 seminar)
Assessment: Coursework, and an 8,000 word mini-thesis

This programme has two components: the first is the double session seminar programme on "Key Issues in Contemporary Society" (see Description under Calendar entry SOC400). The second is the supervised preparation of a mini-thesis on the student's research topic.

SOC420 SOCIOLOGY IV HONOURS: PART—TIME II **

Double session; 24 credit points (2 contact hrs plus individual supervision; 1 seminar)
Assessment: Coursework and a 12,000 to 15,000 word thesis

This programme has two components: the first is the double session seminar, "Research Works in Progress" (see Description under Calendar entry for SOC400). The second component comprises a supervised research project to be presented in a thesis of approximately 12,000 to 15,000 words.

** Students should consult the Departmental Chairman prior to the commencement of 400-level subjects for lists of readings required in coursework.
SOC450 JOINT HONOURS IN PSYCHOLOGY AND SOCIOLOGY **

Double session; 48 credit points (8 contact hrs per week plus individual supervision; 4 seminars)

For details of the four year programme for students intending to enrol in this subject, refer to entry under Department of Psychology.

Students enrolled in this subject are required to:

1. Complete a joint Psychology/Sociology thesis (theoretical and empirical) of about 15,000 words.
2. Attend Psychology Seminars.
3. Audit the Psychology coursework programme.
4. Attend SOC400 Key Issues in Contemporary Sociology Seminars.
5. Audit SOC400 Research Works in Progress Seminars.
6. Complete a theoretical essay in Psychology of about 6,000 words.

** Students should consult the Departmental Chairman prior to the commencement of 400-level subjects for lists of readings required in coursework.