



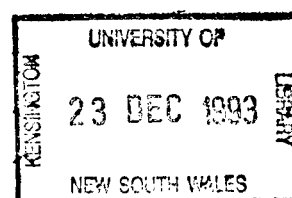
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HANDBOOK

1994  
BUILT  
ENVIRONMENT



HANDBOOK



1994  
BUILT  
ENVIRONMENT

Subjects, courses and any arrangements for courses including staff allocated as stated in this Handbook are an expression of intent only. The University reserves the right to discontinue or vary arrangements at any time without notice. Information has been brought up to date as at 1 November 1993, but may be amended without notice by the University Council.

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Designed and published by the Publications Section, The University of New South Wales  
Printed by Bridge Printery Pty Ltd, Rosebery, NSW 2018

**ISSN 0811-7594**

*It is University policy to promote equal opportunity in education (refer to EOE Policy Statement, The University of New South Wales Calendar (Summary Volume) and Student Guide 1994).*

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The Faculty of the Built Environment offers courses that are designed to provide an education and qualification to practice the professions of architecture, building, industrial design, landscape architecture, quantity surveying and town planning. It also provides opportunities for graduate and professional development studies, and for research in and across these and related fields.

Architecture is a dynamic profession which has a profound influence on the way we live and interact with our environment. It is not just about the design and erection of buildings - it is also about how we use them, and about the world we chose to live in. Creativity is the keystone of the profession, but architects must also have soundly based technical knowledge. For those whose interests lie in other areas of architecture, study at the undergraduate level is also available which provides the opportunity for specialisation in a number of architecture related fields.

Modern building is about the organisation and management of people, materials and machinery for projects that may cost up to several hundred million dollars. It is about planning and programming, co-ordination, contracts administration, quality management, industrial relations, cash flows and information technology.

Industrial design involves the design of a whole range of consumer and capital products as diverse as telephones and cranes, gas fires and exhibition centres, toothbrushes and motor cars. Ideally, the industrial designer works as part of a team involving engineering, production and marketing.

Landscape architecture is concerned with the environment as a whole. Its principal focus is the theory and practice of landscape planning, cultural studies and conservation of the environment. Landscape architects seek creative strategies for environmental protection, sustainable development, land-use planning, site design and heritage conservation.

Town planning is a wide-ranging profession which has a major impact on the form and functioning of cities, suburbs, towns and the non-urban environment. Town planners deal with the social aspects of urban and rural life, with the economics of development, and with the appearance and functioning of the environment. They consider the needs and futures of both existing places and newly developing areas.

This handbook provides information on courses of study offered by the Faculty of the Built Environment, at both undergraduate and graduate levels, together with descriptions of subjects available and areas in which research may be undertaken. Those who work in the Faculty are enthusiastic about the courses offered, and feel that these provide challenges and rewards in both the academic and professional spheres. I hope that this is also your experience!

Professor A. Ray Toakley  
Dean





# Calendar of Dates

The Academic year is divided into two sessions each containing 14 weeks for teaching. There is a recess of approximately six weeks between the two sessions and there are short recesses of one week within each of the sessions.

Session 1 commences on the Monday nearest 1 March.

## All Faculties (other than Medicine)

	1994	1995
<b>Session 1</b>		
(14 weeks)	28 February to 31 March	27 February to 13 April
	11 April to 10 June	24 April to 9 June
Recess:	1 April to 10 April	14 April to 23 April
Study Period:	11 June to 16 June	10 June to 15 June
Examinations:	17 June to 5 July	16 June 4 July
Midyear Recess:	6 July to 24 July	5 July to 23 July
<b>Session 2</b>		
(14 weeks)	25 July to 23 September	24 July to 22 September
	4 October to 4 November	3 October to 3 November
Recess:	24 September to 3 October	23 September to 2 October
Study Period:	5 November to 10 November	4 November to 9 November
Examinations:	11 November to 29 November	10 November to 28 November

## Important Dates for 1994

### January

M	3	New Year's Day Public Holiday
M	10	Term 1 begins - Medicine IV
M	17	Term 1 begins - Medicine V
W	26	Australia Day - Public Holiday

### February

T	1	Enrolment period begins for new undergraduate students and undergraduate students repeating first year.
M	7	Re-enrolment period begins for second and later year undergraduate and graduate students enrolled in formal courses. Students should consult the Re-enrolling 1994 leaflets applicable to their courses for details.
M	14	Semester 1 begins - AGSM Graduate Management Qualification

M	21	Semester 1 begins - AGSM Graduate Diploma in Management
		Term 1 begins - AGSM MBA Program, Year 1 classes
F	25	Last day for acceptance of enrolment by new and re-enrolling students. (Late fee payable thereafter if enrolment approved.)
M	28	Session 1 begins - all courses except Medicine IV, V, VI
		Session 1 begins - University College, Australian Defence Force Academy
		Term 1 begins - AGSM MBA Program, Year 2 classes

### March

M	7	Term 1 begins - Australian Graduate School of Management
		Term 2 begins - Medicine IV
F	11	Last day applications are accepted from students to enrol in Session 1 or whole year subjects.
Su	13	Term 1 ends - Medicine IV

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M 14	Term 2 begins - Medicine VI
Su 20	Term 1 ends - Medicine V
M 28	Term 2 begins - Medicine V
Th 31	Last day for students to discontinue without failure subjects which extend over Session 1 only. HECS Census Date for Session 1

#### April

F 1	Good Friday - Public Holiday Mid-session Recess begins
S 2	Easter Saturday - Public Holiday
M 4	Easter Monday - Public Holiday
Su 10	Mid-session Recess ends
Su 17	Term 2 ends - Medicine VI
Su 24	Term 2 ends - Medicine IV
M 25	Anzac Day - Public Holiday
S 30	May Recess begins - University College

#### May

M 2	Term 3 begins - Medicine IV Term 3 begins - Medicine VI
F 6	Term 1 ends - AGSM MBA Program, all classes
M 9	Examination week begins - AGSM MBA Program, all classes
T 10	Publication of provisional timetable for June examinations.
S 14	Examination - AGSM Graduate Management Qualification
Su 15	May Recess ends - University College, Australian Defence Force Academy
W 18	Last day for students to advise of examination clashes.
Su 29	Term 2 ends - Medicine V
M 30	Term 2 begins - AGSM MBA Program, all classes
T 31	Publication of timetable for June examinations.

#### June

S 4	Final examination - AGSM Graduate Management Qualification Semester 1 ends - AGSM Graduate Management Qualification
M 6	Term 3 begins - Medicine V
F 10	Session 1 ends Semester 1 ends - AGSM Graduate Management Qualification
S 11	Study recess begins College of Fine Arts assessment week begins
Su 12	Term 3 ends - Medicine IV Term 3 ends - Medicine VI
M 13	Queen's Birthday Public Holiday
T 14	Term 4 begins - Medicine IV Term 4 begins - Medicine VI
Th 16	Study Recess ends
F 17	Examinations begin Session 1 ends - University College, Australian Defence Force Academy College of Fine Arts assessment week ends
S 18	Mid-year Recess begins - University College, Australian Defence Force Academy
M 20	Examinations begin - University College, Australian Defence Force Academy

#### July

S 2	Examinations end - University College
T 5	Examinations end
W 6	Mid-year Recess begins
M 11	Semester 2 begins - AGSM Graduate Diploma in Management
Su 17	Mid-year Recess ends - University College, Australian Defence Force Academy
M 18	Semester 2 begins - AGSM Graduate Management Qualification Session 2 begins - University College, Australian Defence Force Academy
Su 24	Mid-year Recess ends
M 25	Session 2 begins - all courses except Medicine IV, V, and VI

#### August

F 5	Last day applications are accepted from students to enrol in Session 2 subjects. Last day for students to discontinue without failure subjects which extend over the whole academic year.
Su 7	Term 2 ends - AGSM MBA Program, all classes Term 4 ends - Medicine IV Term 3 ends - Medicine V Term 4 ends - Medicine VI
M 8	Exam week begins - AGSM MBA Program, all classes
M 15	Term 5 begins - Medicine IV Term 4 begins - Medicine V Term 5 begins - Medicine VI
M 29	Term 3 begins - AGSM MBA Program, all classes
W 31	HECS Census Date for Session 2 Last date for students to discontinue without failure subjects which extend over Session 2 only.

#### September

S 24	Mid-session Recess begins September Recess begins - University College
Su 25	Term 5 ends - Medicine IV Term 5 ends - Medicine VI
M 26	Term 6 begins - Medicine IV Term 6 begins - Medicine VI
F 30	Closing date for applications to the Universities Admission Centre.

#### October

M 3	Labour Day Public Holiday Mid-session Recess ends September Recess ends - University College, Australian Defence Force Academy
T 4	Publication of provisional timetable for the November examinations.
W 12	Last day for students to advise of examination clashes.
S 15	Examination - AGSM Graduate Diploma in Management
Su 16	Term 4 ends - Medicine V
F 21	Session 2 ends - University College, Australian Defence Force Academy
M 24	Examinations begin - University College, Australian Defence Force Academy
T 25	Publication of timetable for November examinations.

#### November

F 4	Session 2 ends Term 3 ends - AGSM MBA Program, all classes
S 5	Study recess begins College of Fine Arts assessment week begins Final examination - AGSM Graduate Management Qualification Semester 2 ends - AGSM Graduate Management Qualification Examination - AGSM Graduate Diploma in Management Semester 2 ends - AGSM Graduate Diploma in Management
Su 6	Term 6 ends Medicine - IV Term 6 ends Medicine - VI
M 7	Exam week begins - AGSM MBA Program, all classes
Th 10	Study Recess ends
F 11	Examinations begin College of Fine Arts assessment week ends Examinations end - University College, Australian Defence Force Academy
T 29	Examinations end

#### December

Th 22	Last day for acceptance of applications by the Admissions Section for transfer to another undergraduate course within the University.
M 26	Christmas Day Holiday
T 27	Boxing Day Holiday

Comprises Schools of Architecture, Building, Landscape Architecture, Town Planning, the Department of Industrial Design and Graduate School of the Built Environment.

## Dean

Professor A. R. Toakley

## Presiding Member

Stephen Harris

## Senior Administrative Officer

Brian John Newell, BCom *UNSW*

## Administrative Assistant

Penelope Jean Roxon, BA *UNSW*

## School of Architecture

### Professor of Architecture and Head of School

John Albyn Ballinger, BArch *Adel.*, FRAIA

### Professors of Architecture

Philip Cox, AO, BArch DipTCP *Syd.*, FRAIA

Jon Lang, BArch *Witw.*, MRP, PhD *Cornell*

Paul Stanhope Reid, BArch *Auck.*, MArch *Mich.*, ARAIA

### Visiting Professors

Russell Callum Jack, MArch *UNSW*, ASTC, FRAIA

Laszlo Peter Kollar, MArch PhD *UNSW*, ASTC

### Associate Professors

Peter Thomas Oppenheim, BArch *Cape T.*, MArch PhD *UNSW*

Peter Reginald Proudfoot, BArch *Syd.*, MArch *Penn.*, PhD *UNSW*, *Rome Scholar*, ARAIA

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### Senior Lecturers

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Donald McArthur Godden, MSc *UNSW*

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William Richard Lawson, BSc PhD *UNSW*, MAPS, MAIHR

Desley Olwyn Luscombe, MArch *UNSW*

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Richard Patrick Parlour, BSc *Lond.*, PhD *UNSW*, DipEng *Lough.*

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John Frederic Gamble, BArch *UNSW*

Stephen Peter, BArch DipArchComp *Syd.*

Robert James Puffett, BArch *UNSW*, GradDip(AA) *Lond.*

Ann Maree Qinlan, BSc(Arch) BArch *UNSW*, ARAIA

### Honorary Visiting Fellow

Robert Charles Lewis Irving, MArch *UNSW*, ARMTC, FRAIA

Peter Leggett Reynolds, BArch PhD *UNSW*

### Administrative Assistant

Harold Percy Chambers, BA *S.Pac.*

---

## School of Building

### Associate Professor and Head of School

Roger Mark Anthony Miller, BBuild UNSW, SM CE M.I.T., FAIB, MACS

### Professor of Building

Arthur Raymond Toakley, BCE BA MEngSc *Melb.*, PhD *Manc.*, LMus, CEng, FIEAust, FAIB

### Associate Professors

Marton Marosszeky, BE *N'cle.(N.S.W.)*, MEngSc UNSW, MIEAust, MAIB

Thomas Edward Uher, BBuild MSc(Build) PhD UNSW, FAIB

### Senior Lecturers

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Ojars Indulis Greste, BE ME UNSW, DEng *Calif.*

Jinu Kim, BSc(Eng) *Seoul N.U.*, MPM UNSW, MKIA

David Gilbert Lawson, BBuild UNSW

Barry Frederick Reece, BA *N.E.*, MA *Essex*

James C. Senogles, MA *Oxf.*, MBA *Cape T.*

### Visiting Fellows

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John Malcolm Hutcheson, MC, BE *Syd.*, BCom *Qld.*, MBA

PhD UNSW, FCIS, FIEAust, FIDA, LGE, FAIB, FAIM, FSLE, FASA, CPA, AAUQ, AAPI

Clyde Donald Smythe, MBuild UNSW, ASTC, MAIB

### Administrative Assistant

Niki Fardouley, BA UNSW, GradSip *SIE*

---

## School of Landscape Architecture

### Professor of Landscape Architecture and Head of School

James Weirick, MLA *Harv.*

### Associate Professor

Finn Christopher Thorvaldson, BArch UNSW, MLA *Mich.*, ARAIA, AAILA

### Senior Lecturer

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### Lecturers

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Helen Evans, BArch GradDip UNSW, Grad Dip *Macq.*

Elizabeth Mossop, BLArch UNSW

Alison Todd, BSc *Waikato*, GradDip UNSW

---

## School of Town Planning

### Professor of Town Planning and Head of School

Alexander Rankine Cuthbert, DipArch DipTP MSc *Heriot Watt*, PhD *Lond.*, MRIBA, MRTPI, MHKIP

### Associate Professor

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### Lecturers

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Susan Margaret Thompson, BA DipEd *Macq.*, MTCP *Syd.*, MRAPI

Peter John Williams, BSc UNSW, MEnv Plan *Macq.*

### Visiting Professor

Hans Leo Westerman, AM ME *Delft*, FRAPI, MIEAust

---

## Graduate School of the Built Environment

### Head of School

Professor A.R. Toakley

### Presiding Member School Executive Committee

Dr B.H. Judd

### Course CoOrdinator MBEnv (Building Conservation)

D. Godden

---

## Department of Industrial Design

### Senior Lecturer and Head of Department

John Kyle Redmond, BA DipID(Eng) *C.S.A.D.*, MA *R.C.A.*, FRSA, MESA, FDIA, AADM

### Senior Lecturer

Lance Green, BE *U.T.S.*

Heinz Luettringhaus, DiplDes(IndDes) *Essen*, DID, MDIA

### Lecturer

Johnathon Talbot, BSc DipEd UNSW

### Visiting Fellow

Wolfgang Köhler, MA(Des) *U.T.S.*, DiplEngMech *T.U.Karlsruhe*, FIEAust

### Technical Officer

Antony Yarham, BED *Kuring-gai C.A.E.*, DipEd *U.T.S.*

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# Handbook Guide

This Handbook is divided into two main sections comprising undergraduate study and graduate study. Initially, course outlines are presented in each section, providing a guide to the degrees within organisational units. This is followed by a full listing of subject descriptions in each section, which provide full details of subject content, contacts and session/prerequisite details.

As changes may be made to information provided in this Handbook, students should frequently consult the noticeboards of the schools and the official noticeboards of the University.

## Information Key

The following key provides a guide to abbreviations used in this book:

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<b>C</b>	credit points
<b>F</b>	full year (Session 1 plus Session 2)
<b>HPW</b>	hours per week
<b>L</b>	lecture
<b>P/T</b>	part-time
<b>S1</b>	Session 1
<b>S2</b>	Session 2
<b>SS</b>	single Session, but which Session taught is not known at time of publication
<b>T</b>	tutorial/laboratory
<b>U</b>	unit value
<b>WKS</b>	weeks of duration
<b>X</b>	external

---

## Prefixes

The identifying alphabetical prefixes for each organizational unit offering subjects to students in the Faculty of the Built Environment follow.

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Prefix	Organizational Unit	Faculty/Board
ACCT	School of Accounting	Commerce & Economics
ARCH	School of Architecture	Built Environment
BLDG	School of Building	Built Environment
COMP	School of Computer Science & Engineering	Engineering
GENS	Centre for Liberal & General Studies	
GEOG	School of Geography	Applied Science
GSBE	Graduate School of the Built Environment	Built Environment
IDES	Department of Industrial Design	Built Environment
LAND	School of Landscape Architecture	Built Environment
PHYS	School of Physics	Science
PLAN	School of Town Planning	Built Environment
SURV	School of Surveying	Engineering



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## Some People Who Can Help You

If you require advice about enrolment, degree requirements, progression within courses, or any other general faculty matters, contact:

Brian Newell, Senior Administrative Officer, Faculty of the Built Environment, Room 510, Architecture Building, Extension 4771.

For information and advice about subject content and requirements contact the appropriate person below:

Professor John Ballinger, School of Architecture, Room 100, Architecture Building, extn 4786.

Professor James Weirick, School of Landscape Architecture, Room 208, Old Main Building, extn 4844.

Dr Ojars Greste, School of Building, Room 402, Architecture Building, extn 4826.

Professor Alexander Cuthbert, School of Town Planning, Room 205, Old Main Building, extn 4837.

Professor Ray Toakley, Graduate School of the Built Environment, Room 501, Architecture Building, extn 4768.

John Redmond, Department of Industrial Design, Room 211, Sir Robert Webster Building, extn 4849.

It is University and Faculty policy to promote equal opportunity in education (refer to EEO Policy Statement, University of New South Wales Calendar and the Guide for Students 1990).

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## Faculty of the Built Environment Enrolment Procedures

### Architecture Degree Course

All students re-enrolling in Architecture courses in 1994 should obtain a copy of the free booklet *Architecture Enrolment Procedures 1994* available from the School Office. This booklet provides detailed information on enrolment procedures and enrolment timetable.

### Town Planning Degree Course

Before proceeding on practical experience, Town Planning students are required to obtain instruction relating to enrolment procedure from the School of Town Planning office. This particularly applies to students in Years 3 and 4.

### Bachelor of Building Degree Course

The Building course is offered on a credit point semester system basis and students are required to enrol for the full year (two semesters) on the dates and at the times shown in the booklet *Building Enrolment Procedures 1994*.

Students are required to complete 6 months of practical experience as part of their course. Building students who elect to take their industrial program in Session 1 in any year are required to enrol at the beginning of that year.

Enrolment for Session 2 subjects is a preliminary enrolment and accepted subject to the student having obtained the appropriate prerequisites before commencement of that session.

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## Rules for Progression

Progression in courses offered in the Faculty of the Built Environment is generally dependent on the successful completion of prerequisites and/or co-requisites for subjects as listed in the schedules of subjects for each course.

Where the academic record of students is not of a satisfactory standard, the Head of School may recommend a restricted program. This applies to all undergraduate courses offered by the Faculty.

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## Library Facilities

Although any of the university libraries may meet specific needs, the staff and students of the Faculty of the Built Environment are served mainly by the Physical Sciences



Library and the Studio Collection housed in the Faculty of the Built Environment. There is also some material still contained in the undergraduate collection located in the Library tower.

## The Physical Sciences Library

This library, located on Levels 6 and 7 of the Library tower, caters for the information needs of staff, postgraduate students and undergraduates in the pure and applied sciences, engineering and architecture.

Physical Sciences Library materials are listed in the Library's online catalogues, microfiche book finding list or microfiche serials catalogue.

The Library provides reference, reader assistance and reader education services, including interlibrary loan, online search and CD-ROM facilities. Photocopying facilities are also available.

Trained Library staff are always available on Level 7 to assist readers with their enquiries.

Physical Sciences Librarian Rhonda Langford

## Undergraduate Services

- The undergraduate collection caters for the needs of students in Years 1 and 2 and other groups where large numbers require mass teaching. Levels 3 and 4.
- The Open Reserve section, houses books and other material which are required reading. Level 2.
- The Audio-Visual section, contains multimedia, videos and cassette tapes of lectures. The Audio-Visual section has wired study carrels and cassette players for student use. The map collection is also housed here. Level 3.
- The Reader Education program provides orientation tours and introductory library research method lectures to students.

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## Faculty Laboratories

### Research Laboratories

The Faculty controls research laboratories situated on campus at Kensington and at the University of New South Wales Research Station, King Street, Randwick. The laboratories have sections equipped for work on environment and climate, materials, model testing, services, lighting and acoustics. Extensive testing and research equipment and workshop facilities are available, including a wind-rain machine, an artificial sky and sun, a structural modelling facility and a structural testing bay. The equipment and facilities of the laboratories are continually being expanded.

Research work and testing programs carried out in the laboratories include:

- Condensation behaviour of double-glazed windows.
- Transfer of heat and moisture through wall elements.

Penetration of moisture into and through concrete.

Development of methods of extending the use of solar energy in domestic architecture.

Study of noise transmission in buildings.

Investigation of traffic noise measurement, analysis and prediction.

The effectiveness of artificial luminous environments.

The Building Research Centre is located in the King St. laboratories and offers additional services to the building industry.

## Computing Facilities Laboratory

The Faculty has a number of computing laboratories, with associated output facilities, available to both undergraduates and postgraduates. A CAD laboratory houses 16 graphics workstations (SUN SPARCstations), an A0 pen plotter, an A3 colour printer and a matrix camera for the production of slides and print film. A general-access PC laboratory contains 30 386-based computers connected to a Novell server and supporting a wide range of software for handling text and graphics applications. The Department of Industrial Design has a high-end CAD facility with a SPARCstation 10 workstation, software and a plotter, used for modelling and design applications. It is expected that by the start of 1994, the Faculty will have a GIS facility comprising two new laboratories with a total of 35 high speed 486-based computers, supporting landscape and urban planning applications as well as general CAD operations. All these facilities are connected to the University's campus-wide network, providing the full range of network facilities for both staff and students.

Active research is underway in the following areas:

- The use of computer graphics and other computing techniques in architectural design and teaching.
- The development and use of management information systems in the building industry.
- Analysis and development of computer methods in land-use planning and design.
- Use of computers in transportation and strategic planning, social analysis and census data interpretation.

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## Student Clubs and Societies

Students have the opportunity of joining a wide range of clubs and societies. Many of these are affiliated with the Students' Union. There are numerous religious, social and cultural clubs and also many sporting clubs which are affiliated with the Sports Association. Within the Faculty are a number of student societies. These include TAC (The Architecture Club), BUGS (Building Undergraduate Society), IDSOC (Industrial Design Society), SOLA (Society of Landscape Architects) and OOPS (Organisation of Planning Students).

Clubs and societies seeking to use the name of the University in their title, or seeking University recognition, must submit their constitutions either to the Students' Union

or the Sports Association if they wish to be affiliated with either of these bodies, or to the Academic Registrar for approval by the University Council.

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## Students With Disabilities

The University of New South Wales has a policy of equal opportunity in education and seeks wherever possible to ensure maximum participation of students with disabilities.

The University offers a range of assistance: examination support; specialised equipment; educational support; parking provisions; library assistance.

A Resource Guide for students and staff with disabilities and a map showing wheelchair access is available from the Adviser to Students with Disabilities, the EEO Unit, the Library and the Students Union.

It is advisable to make contact with the Adviser to Students with Disabilities prior to, or immediately following enrolment, to discuss your support needs.

The Adviser can be contacted on 6975418 or at Student Services, Quadrangle Building.

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## General Education Requirement

The University requires that all undergraduate students undertake a structured program in General Education as an integral part of studies for their degree.

Among its objectives, the General Education program provides the opportunity for students to address some of the key questions they will face as individuals, citizens and professionals.

The program requires students to undertake studies in three categories of the program.

The key questions addressed by the Program are:

**Category A: The External Context:** An introduction in nonspecialist terms to an understanding of the environments in which humans function.

*Course requirement: 56 hours*

1. How do we, can we, generate wealth? (Australia and the Development of the World Economy)
2. How can we, ought we, distribute wealth, status and power? (Human Inequality)
3. What steps should we take, and what policies should we adopt, in science and technology? (Science and Civilisation)
4. What effects do our wealth generating and technoscientific activities have on the environment? (Ecosystems, Technology and Human Habitation)
5. What are the effects of the new mass media of communications? (Mass Media and Communications)

6. What are the key social and cultural influences on Australia today? (Australian Society and Culture)

**Category B. The Internal Context of Assumptions And Values:** An introduction to, and a critical reflection upon, the cultural bases of knowledge, belief, language, identity and purpose.

*Course requirement: 56 hours*

1. How do we define ourselves in relation to the larger human community? (The Self and Society)
2. How do our conceptions of human nature and well being influence both individual and social behaviour? (Changing Conceptions of Human Nature and Well-Being)
3. What are the prevailing conceptions of and challenges to human rationality? (The Pursuit of Human Rationality)
4. How do language, images and symbols function as means and media of communications (The Use of Language, Images and Symbols)
5. What is the impact of the computer on human society and culture? (The Computer: Its Impact, Significance and Uses)
6. Which systems of belief and configurations of values are most conducive to the survival and enhancement of the human species and the planet earth? (Beliefs, Values and the Search for Meaning)

**Category C. An Introduction To The Design And Responsible Management Of The Human And Planetary Future:** An introduction to the development, design and responsible management of the systems over which human beings exercise some influence and control. This category is required only of students in four-year professional and honours programs.

The central question to be addressed by students in a systematic and formal way is: For what purpose or purposes will I use my intellectual skills, my expertise, or my technological prowess?

Will these abilities be used, for example:

- in a creative and innovative way?
- to widen the circle of human participation in the benefits they bring?
- to break down the barriers of exclusion and discrimination?
- to enhance the prospects for survival of the human species?
- to enhance the capacity of the planet earth to sustain life?

There are differing requirements for Category C for students commencing before, in, and after 1988. Students must complete a program of general education in accordance with the requirements in effect when they commenced their degree program. Students Should Consult The Appropriate Course Authority or The Centre for Liberal and General Studies in Morven Brown Building, Room G58.



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# Undergraduate Study

The Faculty of the Built Environment consists of the School of Architecture, the School of Building, the School of Landscape Architecture, the School of Town Planning and the Graduate School of the Built Environment and the Department of Industrial Design. These schools and this department conduct undergraduate courses in the fields of architecture, industrial design, building, landscape architecture and town planning. The courses provide education and training in the arts and sciences involved in the design and construction of buildings, in the development of cities, in landscape and the development of manufactured products. In addition to professional and vocational training the courses include general education subjects to provide graduates with a broad understanding of the humanities and the social sciences.

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## School of Architecture

### Head of School

Professor John Ballinger

Architecture today is an art, a technology and a business. In the modern building industry the architect is the one person who considers the building as a whole end product: serving a purpose, built of materials using technology, to a cost, for a client, providing an environment of space, light and climate, changing its context by its location and form, conveying artistic meaning.

For small buildings the architect can lead and manage the whole process. As projects become larger and more complex the architect becomes a member of a team, sometimes captain of the team, often just one member but always from the beginning seeing the end product as a whole. From a comprehensive study of the requirements for a building the architect prepares a design concept which is continually adjusted and refined over the life of the project. The architect's role is one of continual creativity.

The BArch course provides graduates with an understanding of the forces that shape buildings and with the skills to guide those forces to a desired end product.

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**3260**

### Bachelor of Architecture Course

#### Bachelor of Architecture BArch

This course provides the academic education and practical experience leading to professional qualifications in architecture. It aims to equip students with the theoretical and practical knowledge, skills and techniques needed in the design and construction of buildings.

#### General Description of the Course

The course requires full time attendance for five years with an additional six months practical experience taken after the end of third year. Theoretical knowledge is covered by lectures in the following seven areas:

1. Architectural Communication
2. Theory of Architecture
3. History of Architecture
4. Architectural Construction
5. Architectural Structures
6. Environment
7. Architectural Practice

Progression through the course is by Design Stages comprising Studio and Seminar components. The first three Design Stages are of one year duration and the final four Design Stages are of one session, or half-year duration. Admission to each Design Stage is subject to completion of a majority of the components of the preceding Design Stage and certain prerequisite lecture subjects.

In the Studios a graded sequence of exercises in the form of projects provides experience in architectural design. Each Studio is accompanied by Seminars which draw on the theoretical material and demonstrate its practical application. The architectural projects designed in the Studios thus provide the means for integrating all aspects of architecture.

In the final four sessions of the course the selection of electives gives students the opportunity to concentrate their study on particular aspects of architecture. Elective subjects are offered according to demand and the availability of staff and resources.

**Students at the end of First Year are required to seek the advice of a course adviser about progression to later years.**

### General Education Requirement

General Education subjects totalling twenty credit points must be taken from Categories A (10 credit points = 56 hours) and B (10 credit points = 56 hours). The Category C requirement of the General Education Program is satisfied as follows:

1. The 28 hour subject GSBE0002 is taken in Year 5;
2. The following subjects include Category C issues: ARCH6105, ARCH6115, ARCH6302, ARCH6501 and ARCH6806.

### Practical Experience

Each student is required to obtain, before enrolling in Year 5, practical experience under a registered architect for a period of six months. The experience is to be recorded in a log book and should conform to the categories required for professional accreditation.

Assessment is only within the terms of the subject ARCH6904 Practical Experience in the Bachelor of Architecture degree course 3260. The School of Architecture takes no responsibility for any assessment or consideration for registration with the Board of Architects of New South Wales or membership of the Royal Australian Institute of Architects.

No other subject may be taken concurrently with practical experience.

### Honours

The Bachelor of Architecture degree may be awarded with Honours based upon the quality of performance in the course and in accordance with current Faculty regulations. Honours are Class 1 or Class 2 Division 1 or Class 2 Division 2.

### Registration and Professional Recognition

The degree of Bachelor of Architecture of the University of New South Wales is recognized by the Board of Architects

of New South Wales for the purposes of legal registration. In addition, to become registered the candidate must satisfy the following requirements:

1. Produce evidence of two years' approved practical experience, at least one of which has been subsequent to completion of the course; and
2. Pass a special examination in Architectural Practice.

Graduates with two years' approved practical experience, at least one of which is subsequent to completion of the course, are eligible for Associate Membership of the Royal Australian Institute of Architects.

Students enrolled in the BSc(Arch) program (3265) or the BArch program(3260) are eligible to become Student Members of the Royal Australian Institute of Architects.

The foregoing is a general statement and students are strongly advised to obtain further particulars from the RAlA and the Board of Architects of New South Wales.

### Schedule of Subjects

Year 1		C
<i>Sessions 1 and 2</i>		
ARCH6201	Architectural Computing 1 (S2)	6
ARCH6301	Theory of Architecture 1	6
ARCH6401	History of Architecture 1	9
ARCH6501	Architectural Construction 1	9
ARCH6601	Architectural Structures 1	6
ARCH6701	Environment 1	9
<b>Design Stage 1</b>		
ARCH6101	Design Studio 1	24
ARCH6211	Communication Seminar 1	18
ARCH6311	Theory Seminar 1	9
ARCH6511	Construction Seminar 1	12
ARCH6611	Structures Seminar 1	6
ARCH6711	Environment Seminar 1	6
Total		120
<b>Year 2</b>		
<i>Sessions 1 and 2</i>		
ARCH6302	Theory of Architecture 2	6
ARCH6402	History of Architecture 2	12
ARCH6502	Architectural Construction 2	12
ARCH6602	Architectural Structures 2	6
ARCH6702	Environment 2	12
General Education Elective/s Cat A (56 hours)		10
<b>Design Stage 2</b>		
ARCH6102	Design Studio 2	30
ARCH6212	Communication Seminar 2	12
ARCH6312	Theory Seminar 2	9
ARCH6512	Construction Seminar 2	9
ARCH6612	Structures Seminar 2	6
ARCH6712	Environment Seminar 2	6
Total		130
<b>Year 3</b>		
<i>Sessions 1 and 2</i>		
ARCH6303	Theory of Architecture 3	6
ARCH6403	History of Architecture 3	12
ARCH6503	Architectural Construction 3	12
ARCH6603	Architectural Structures 3	6
ARCH6703	Environment 3	12
General Education Elective/s Cat B (56 hours)		10

**Design Stage 3**

ARCH6103	Design Studio 3	30
ARCH6213	Communication Seminar 3	12
ARCH6313	Theory Seminar 3	9
ARCH6513	Construction Seminar 3	9
ARCH6613	Structures Seminar 3	6
ARCH6713	Environment Seminar 3	6
Total		130

**Year 4***Session 1*

Either

ARCH6804	Architectural Practice 1	6
ARCH6914	Research Methodology	6
Elective Subjects*		18

**Design Stage 4**

ARCH6104	Design Studio 4	24
ARCH6114	Design Seminar 1	3
ARCH6514	Technology Seminar 1	3
Total		60

or

ARCH6904 Practical Experience

**Year 4***Session 2*

Option remaining from Session 1.

**Year 5***Session 1*

ARCH6205	Architectural Computing 2	6
Elective Subjects*		24
General Education Elective Cat C: GSBE0002		5

**Design Stage 5**

ARCH6105	Design Studio 5	24
ARCH6115	Design Seminar 2	3
ARCH6515	Technology Seminar 2	3
Total		65

**Year 5***Session 2*

ARCH6806	Architectural Practice 2	6
Elective Subjects*		24

**Design Stage 6**

ARCH6106	Design Studio 6	24
ARCH6116	Design Seminar 3	3
ARCH6516	Technology Seminar 3	3
Total		60

**Year 6***Session 1*

ARCH6807	Architectural Practice 3	6
Elective Subjects*		24

and

**Design Stage 7**

ARCH6107	Design Studio 7	24
ARCH6117	Design Seminar 4	3
ARCH6517	Technology Seminar 4	3

or

ARCH6127	Major Design Project	30
or		
ARCH6907	Major Research Project	30
Total		60

**\* Elective Subjects**

A range of electives will be offered each year selected from the list below. Electives may also be chosen from subjects

within the BSc(Arch) course. Generally, the minimum enrolment for an elective to be offered will be 12 students. The listing for electives includes an allowance for Dissertation which is a prerequisite for Design Stage 7. Students are advised to enrol in Dissertation only in the session they intend to submit for assessment and not before.

ARCH5220	Computer Graphics Programming 1	6
ARCH5221	Computer Graphics Programming 2	12
ARCH5222	Computer Applications 1	12
ARCH5223	Computer Applications 2	6
ARCH5227	Advanced Graphics	6
ARCH5228	Drawing	6
ARCH5229	Painting	6
ARCH5230	Pottery & Ceramics	6
ARCH5231	Rendering	6
ARCH5320	Theory of Form	6
ARCH5321	Criticism and Evaluation	6
ARCH5322	Imagination	6
ARCH5323	Spirit in Architecture	6
ARCH5324	Spatial Construction Studies	6
ARCH5420	Building Conservation	6
ARCH5421	Recent Australian Architects	6
ARCH5422	Great Architects	6
ARCH5423	The City Sydney	6
ARCH5424	Urban Design	6
ARCH5425	Landscape Design	6
ARCH5426	The Modern Movement in Architecture	6
ARCH5427	Post Modernism in Architecture	6
ARCH5430	Architecture and Culture	6
ARCH5431	Japanese Architecture	6
ARCH5432	Urban Art	6
ARCH5433	Readings in Architecture	12
ARCH5520	Advanced Building Materials (Ceramics)	6
ARCH5521	Advanced Construction Systems	6
ARCH5522	Construction Planning & Management	6
ARCH5523	Advanced Building Materials (Organics)	6
ARCH5524	Advanced Building Materials (Metals)	6
ARCH5620	Conceptual Structural Design	12
ARCH5621	Advanced Structural Design	12
ARCH5622	Lightweight Structural Design	12
ARCH5720	Design for Energy Efficiency	6
ARCH5721	Design of Lighting	6
ARCH5722	Acoustics Studies	6
ARCH5723	Applied Environmental Psychology	6
ARCH5820	Building Economics & Development	6
ARCH5821	Project Management	6
ARCH5822	The Architect and the Law	6
ARCH5823	Quality Management Concepts	6
ARCH5824	Quality Management Practice	6
ARCH5923	Architectural Studies 1	12
ARCH5924	Architectural Studies 2	12
ARCH5925	Architectural Studies 3	12
ARCH5950	Industrial Archaeology 1	6
ARCH5951	Industrial Archaeology 2	6
ARCH5952	Traditional Technology 1	6
ARCH5953	Traditional Technology 2	6
ARCH6906	Dissertation	18

3265

**Bachelor of Science (Architecture) Course****Bachelor of Science (Architecture)  
BSc(Arch)**

This course provides architectural education for those whose interests and ambitions lie outside the field of professional practice. It offers an opportunity to select subjects on the basis of a student's individual interests.

**General Description of the Course**

The course may be completed in three years of full-time study. The first year is taken in common with BArch students. In each of the following three sessions an approved special research programme is undertaken followed by a research project in the final session. A selection of subjects is taken from those offered by the School of Architecture with the option of subjects totalling up to forty five credit points from outside the School. Specializations are provided in the fields of architectural computing, heritage studies, architectural technology, and interior design.

**General Education Requirement**

General Education subjects totalling twenty credit points must be taken during the course.

**Honours**

The Bachelor of Science (Architecture) degree may be awarded with honours after the successful completion of a two-semester honours program following the completion of the BSc(Arch) program, and in accordance with current Faculty regulations. Honours are Class 1 or Class 2 Division 1 or Class 2 Division 2.

**BSc(Arch)****Schedule of Subjects**

<b>Year 1</b>		<b>C</b>
<i>Sessions 1 and 2</i>		
ARCH6201	Architectural Computing 1 (S2)	6
ARCH6301	Theory of Architecture 1	6
ARCH6401	History of Architecture 1	9
ARCH6501	Architectural Construction 1	9
ARCH6601	Architectural Structures 1	6
ARCH6701	Environment 1	9
<b>Design Stage 1</b>		
ARCH6101	Design Studio 1	24
ARCH6211	Communication Seminar 1	18
ARCH6311	Theory Seminar 1	9
ARCH6511	Construction Seminar 1	12
ARCH6611	Structures Seminar 1	6
ARCH6711	Environment Seminar 1	6
Total		120

<b>Year 2</b>		<b>C</b>
<i>Session 1</i>		
ARCH6914	Research Methodology	6
ARCH5914	Special Research Programme 1	15
ARCH5930	Science Seminar 1	6
Choice of BArch subjects		33
General Education Elective Cat A (28 hours)		5
Total		65

<b>Year 2</b>		
<i>Session 2</i>		
ARCH5915	Special Research Programme 2	15
ARCH5930	Science Seminar 1	6
Choice of BArch subjects		39
General Education Elective Cat A (28 hours)		5
Total		65

<b>Year 3</b>		
<i>Session 1</i>		
ARCH5916	Special Research Programme 3	15
ARCH5931	Science Seminar 2	3
Choice of BArch subjects		42
General Education Elective Cat B (28 hours)		5
Total		65

<b>Year 3</b>		
<i>Session 2</i>		
ARCH5917	Research Project	24
ARCH5931	Science Seminar 2	3
Choice of BArch subjects		33
General Education Elective Cat B (28 hours)		5
Total		65

<b>Year 4</b>		
<i>Session 1 (Optional Honours year)</i>		
ARCH5918	Honours Project 1	60
General Education Elective Cat C: GSBE0002		5
Total		65

<b>Year 4</b>		
<i>Session 2</i>		
ARCH5919	Honours Project 2	60
Total		60

**Interior Design Major**

This is a structured study program within the BSc(Arch) course specifically tailored to the needs of the student seeking an education to professional qualification level in Interior Design. The common first year of the course is followed by two years of gradually more specialized studies at the completion of which the student is eligible to undertake an Honours year to seek the award of the degree BSc(Arch) Honours in Interior Design.

<b>Year 1</b>		<b>C</b>
<i>Sessions 1 and 2</i>		
ARCH6201	Architectural Computing 1 (S2)	6
ARCH6301	Theory of Architecture 1	6
ARCH6401	History of Architecture 1	9
ARCH6501	Architectural Construction 1	9
ARCH6601	Architectural Structures 1	6
ARCH6701	Environment 1	9

<b>Design Stage 1</b>		<b>C</b>	<b>Year 3</b>	<b>C</b>
ARCH6101	Design Studio 1	24	<i>Session 2</i>	
ARCH6211	Communications Seminar 1	18	ARCH5529	Fabric Design 6
ARCH6311	Theory Seminar 1	9	ARCH5230	Pottery and Ceramics 6
ARCH6511	Construction Seminar 1	12	ARCH5222	Computer Applications 1 12
ARCH6611	Structures Seminar 1	6	ARCH5820	Building Economics and Development 6
ARCH6711	Environment Seminar 1	6	General Education Elective Cat B (28 hours) 5	
Total		120	<b>Year 3</b>	
<b>Year 2</b>			<i>Sessions 1 and 2</i>	
<i>Session 1</i>			ARCH5961	Interior Design Studio 2 36
ARCH5428	History of Art and Design 1	6	ARCH6703	Environment 3 12
ARCH6804	Architectural Practice 1	6	ARCH6713	Environment Seminar 3 6
General Education Elective Cat A (28 hours)		5	Total	130
<b>Year 2</b>			<b>Year 4</b>	
<i>Session 2</i>			<i>Session 1 (Honours Year)</i>	
ARCH6205	Architectural Computing 2	6	ARCH5962	Interior Design Studio 3 18
ARCH5525	Furniture Design 1	6	ARCH5224	Computer Applications 3 6
General Education Elective Cat A (28 hours)		5	ARCH5821	Project Management 6
<b>Year 2</b>			ARCH5963	Interior Design Research Project 12
<i>Sessions 1 and 2</i>			General Education Elective Cat C: GSBE0002 5	
ARCH5960	Interior Design Studio 1	36	Choice of BArch & Elective Subjects 18	
ARCH6302	Theory of Architecture 2	6	<b>Year 4</b>	
ARCH6212	Communication Seminar 2	12	<i>Session 2</i>	
ARCH6502	Architectural Construction 2	12	ARCH5964	Interior Design Graduation Project 60
ARCH6602	Architectural Structures 2	6	Total	125
ARCH6612	Structures Seminar 2	6	The Special Research Programs, Science Seminars and Research Project may only be credited to the BSc(Arch) degree programme. The Honours Projects may only be credited to the BSc(Arch) degree programme at Honours level.	
ARCH6702	Environment 2	12		
ARCH6712	Environment Seminar 2	6	The subjects in the BArch and BSc(Arch) courses are offered on a credit point basis which indicates the level of commitment and workload. While there is normally a relationship between credit points and class contact hours, this may not necessarily be so in all subjects.	
Total		130		
<b>Year 3</b>			The subjects in the BArch and BSc(Arch) courses are offered on a credit point basis which indicates the level of commitment and workload. While there is normally a relationship between credit points and class contact hours, this may not necessarily be so in all subjects.	
<i>Session 1</i>				
ARCH5429	History of Art and Design 2	6	The subjects in the BArch and BSc(Arch) courses are offered on a credit point basis which indicates the level of commitment and workload. While there is normally a relationship between credit points and class contact hours, this may not necessarily be so in all subjects.	
ARCH5526	Furniture Design 2	6		
ARCH5527	Interior Materials	6	The subjects in the BArch and BSc(Arch) courses are offered on a credit point basis which indicates the level of commitment and workload. While there is normally a relationship between credit points and class contact hours, this may not necessarily be so in all subjects.	
ARCH5528	Interior Finishes	6		
ARCH6806	Architectural Practice 2	6	The subjects in the BArch and BSc(Arch) courses are offered on a credit point basis which indicates the level of commitment and workload. While there is normally a relationship between credit points and class contact hours, this may not necessarily be so in all subjects.	
ARCH5223	Computer Applications 2	6		
General Education Elective Cat B (28 hours)		5	The subjects in the BArch and BSc(Arch) courses are offered on a credit point basis which indicates the level of commitment and workload. While there is normally a relationship between credit points and class contact hours, this may not necessarily be so in all subjects.	

## School of Building

### Head of School

Associate Professor Roger Miller

### Undergraduate Course Co-ordinator

Dr Ojars Greste

3330

## Building Degree Course

### Bachelor of Building

#### BBuild

The Bachelor of Building is a four year full-time course which allows students to specialize for careers in Construction and Project Management, Quantity

Surveying, Property Development and Property Management.

This course prepares students for professional and executive employment within one of Australia's largest industries, the construction industry. Careers in a wide variety of areas, in both private enterprise and in the public sector are available to building graduates. More specifically, these include positions as project manager, master builder, construction consultant, building surveyor, building estimator, quantity surveyor, building economist, property manager and building scientist.

### General Description of the Course

The course is offered on a session basis. Students are required to complete a minimum of eight sessions. The course leads to the award of the degree of Bachelor of Building (BBuild).



The eight sessions of the course are structured as follows:

- sessions 1 to 6 consist of a fixed program of compulsory subjects,
- sessions 7 and 8 consist of electives and a compulsory Thesis.

In a normal session program, this usually results in six subjects requiring 17-18 class hours/week.

Credit points are allocated to all subjects. Usually a subject having one hour of classes per week for one session is rated at one credit point.

To qualify for a Bachelor of Building degree a student must complete a total of 139 credit points as follows:

All compulsory subjects	109 credit points
Elective subjects	20 credit points
General Education subjects	10 credit points
Industry Program	26 weeks

## General Education Requirements

All students are required to satisfy the University's General Education requirements by completing:

56 hours of Category A General Education subjects

56 hours of Category B General Education subjects

Part of the Category C requirement is met through components of the compulsory subjects: BLDG3005, BLDG1091, BLDG3264 and BLDG1311. The Category C requirement is completed by the subject GSBE0002 (2 credit points).

## Progress through the Course

Progression through the course is by subject, provided that:

- the necessary subject prerequisites are completed;
- failed subjects are repeated the next time they are offered.

In the event of failure in one or more subjects, the student may carry the failed subject(s) provided that:

- prerequisite subjects have been completed to the satisfaction of the Head of School;
- the total number of subjects taken at any time does not exceed 7 including General Education; and
- the total contact hours do not exceed 20 per week.

## Practical Experience

Prior to graduation, students are required to have gained a minimum of 6 months practical experience by appropriate employment in the building industry.

Qualification for membership of the Australian Institute of Building requires that 80 days of this experience be completed before the start of the final session of the course. The Australian Institute of Quantity Surveyors requires the full 6 months experience to be completed before the start of the final year of the course.

The proposal for employment must be submitted to the Head of the School of Building for approval prior to starting work and students will be required to produce documented evidence of their work experience. In order to formally complete the industry experience requirement, students

must enrol in BLDG9999 Building Industry Program or in BLDG9998 Quantity Surveying Industry Program.

## Elective Subjects

The availability of elective subjects will depend on the student demand for individual subjects. Subjects listed in this handbook may not necessarily be available in the year or session indicated.

## Award of the Degree at Honours Level

The award of honours is based on performance throughout the whole course, without requiring an additional honours program. Honours are determined on the basis of a score which is calculated by weighting more heavily the subjects taken in the later years of the course.

## Professional Recognition

The award of the degree, Bachelor of Building, is recognized for admission to membership by:

- (1) The Australian Institute of Building
- (2) The Australian Institute of Quantity Surveyors, subject to completion of the following electives in addition to all compulsory subjects:

BLDG4006	Construction 6
BLDG4274	Commercial Arbitration
BLDG4303	Quantity Surveying 3
BLDG4313	Building Economics 3
BLDG9998	Quantity Surveying Industry Program to be taken as 6 months <i>continuous</i> employment with a Quantity Surveying firm, and to be completed before the start of the final year of the course.

- (3) The Institution of Surveyors Malaysia, subject to completion of the following electives in addition to all compulsory subjects:

BLDG4006	Construction 6
BLDG4303	Quantity Surveying 3
BLDG4313	Building Economics 3
BLDG4274	Commercial Arbitration

- (4) The Australian Institute of Valuers and Land Economists, subject to the completion of the following electives in addition to all compulsory subjects:

BLDG4267	Management 7
BLDG4273	Law for Builders 3
BLDG4313	Building Economics 3
BLDG4390	Property Valuation
BLDG4391	Land Economics
BLDG4392	Property Development
BLDG4393	Management of Buildings

and selection of a thesis topic on Land Economics.

The course is also recognised as an educational qualification for licencing by the Building Services Corporation.

## Schedule of Subjects

### Year 1 (All subjects compulsory)

#### Session 1

BLDG1001	Construction 1 (Domestic Buildings)	3
BLDG1010	Communications and Resource Usage	3
BLDG1091	Built Environment 1	2
BLDG1111	Building Science 1 (Materials)	4
BLDG1170	Mathematics for Builders	4
BLDG1261	Management 1 (Management Principles)	2

#### Session 2

BLDG1002	Construction 2 (Low Rise Domestic)	4
BLDG1051	Structures 1	3
BLDG1151	Building Services 1 (Hydraulics)	2
BLDG1271	Law for Builders 1	2
BLDG1311	Building Economics 1	3
PHYS1939	Physics for Builders	4

### Year 2 (All subjects compulsory)

#### Session 3

ACCT9001	Introduction to Accounting A	2
BLDG2003	Construction 3 (Framed Buildings)	4
BLDG2052	Structures 2	4
BLDG2262	Management 2 (Planning)	3
BLDG2281	Introduction to Computing	2
SURV0411	Surveying for Builders	2

#### Session 4

ACCT9002	Introduction to Accounting B	2
BLDG2112	Building Science 2 (Concrete & Metals)	4
BLDG2152	Building Services 2 (Mechanical)	2
BLDG2263	Management 3 (Contracts)	3
BLDG2301	Quantity Surveying 1	4
General Education Elective Cat A (28 hours)		2

### Year 3 (All subjects compulsory)

#### Session 5

BLDG3004	Construction 4 (High Rise Buildings)	4
BLDG3264	Management 4 (Personnel Management)	3
BLDG3272	Law for Builders 2	2
BLDG3282	Computer Applications in Building	2
BLDG3302	Quantity Surveying 2	4
General Education Elective Cat A (28 hours)		2

#### Session 6

BLDG3005	Construction 5 (Techniques)	4
BLDG3050	Soil Mechanics for Building	2
BLDG3265	Management 5 (Project Management)	3
BLDG3312	Building Economics 2	3
BLDG3321	Estimating 1	2
General Education Electives Cat B (56 hours)		4

### Year 4

(Thesis preparation and Thesis are compulsory. Students must also enrol in Industry Program to present their industrial experience documentation. Students must take a total of 20 elective credit points.)

#### Session 7

### Compulsory Subjects

BLDG4401	Thesis preparation	6
GSBE0002	Social Responsibility and Professional Ethics (General Education Category C elective)	2

### Elective Subjects

BLDG4006	Construction 6 (Industrialization and Technological Change)	2
BLDG4266	Management 6 (Corporate Strategy)	2
BLDG4267	Management 7 (Marketing)	3
BLDG4273	Law for Builders 3	3
BLDG4313	Building Economics 3	2
BLDG4322	Estimating 2	2
BLDG4390	Property Valuation	3

#### Session 8

### Compulsory Subject

BLDG4402	Thesis	6
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### Elective Subjects

BLDG4113	Building Science 3 (Energy & Thermal)	3
BLDG4114	Building Science 4 (Timber)	2
BLDG4274	Commercial Arbitration	3
BLDG4284	Building Information Systems	3
BLDG4303	Quantity Surveying 3	3
BLDG4391	Land Economics	3
BLDG4392	Property Development	2
BLDG4393	Management of Buildings	2

### Compulsory Subjects

(Refer to practical experience information on previous page)

BLDG9999	Building Industry Program
or	
BLDG9998	Quantity Surveying Industry Program

## Department of Industrial Design

### Head of Department

John Redmond

Industrial design involves the research and design of the whole range of consumer and capital products used by people. Products as diverse as telephones and cranes, gas fires and exhibition systems, toothbrushes and motor cars. Ideally, the industrial designer works as part of a team involving engineering, production and marketing. The industrial designer initially concentrates on establishing the concept as a marketable, producible, usable and socially responsible product; and subsequently details the human factors (ergonomics), appearance (style) and mode of

operation. Frequently the designer becomes involved in the corporate image of companies and their products as well as the graphics of the product's packaging and the associated retail support systems.

The course prepares students for professional and executive employment in areas involving the research, design and development of new manufactured products. Whilst it is anticipated that most graduates will be initially employed in an industrial design capacity either in manufacturing companies or consultancies, it is likely that some graduates may subsequently choose to specialise in

aspects of marketing, engineering, product management or design management.

## 3385 Industrial Design Degree Course

### Bachelor of Industrial Design BlndDes

The course is an innovative 4 year industry cooperative program comprising approximately 50 percent industrial design and related subjects, 20 percent Faculty of Commerce, School of Marketing subjects and 25 percent engineering design and science subjects. This range of subjects offers graduates the capability to integrate their design work with industrial and commercial objectives, as well as offering a range of career paths.

The course is offered predominantly on a semester basis. Students are required to complete a minimum of eight semesters (sessions) including at least three months of industrial experience, taken either during the academic recesses or upon the completion of the academic part of the course, but in units of not less than one month.

Industrial design and ergonomics subjects make up approximately half the subjects and are taken within the Department. The industrial design studio work emphasises the need to find a balance between the requirements of design, ergonomics, marketing, engineering and production. Social and environmental issues as well as the professional and ethical responsibilities of the designer are also emphasised.

The industrial design subjects link their subject material to certain of the material covered in engineering and marketing subjects. In addition, a link subject (Product Studies Seminar), is given involving industrial design, engineering, production, and marketing disciplines in which product case studies are given and analysed.

Student progression may be subject to review by the Head of Department. If a student fails the industrial design studio subject of a particular stage, he/she would not normally be permitted to take any of the subjects in the next stage until that subject had been satisfactorily repeated.

### Coop education mode

The course is operated in a coop mode. Selected industrial and commercial companies will have the opportunity to provide practical experience and recess employment to selected students or alternatively to offer scholarships, in which case students will work for the companies in certain of the recesses without additional remuneration. Companies will also be involved in providing briefings, consultations, and evaluations for studio project work.

Three months approved practical experience are a requirement of the course.

### General Education Requirement

General Education Elective/s totalling 56 hours must be taken from each of Categories A and B of the General Education Program. The times allowed for this in the degree

program are shown below. The Category C requirement of the General Education Program is satisfied as follows:

1. The 28 hour subject ARCH0002 is taken in Year 4;
2. The following subjects include Category C issues: IDES1073, IDES2091, IDES2111, IDES2151, IDES2193, IDES3241, IDES4291, IDES4321, IDES4371, IDES4361 and IDES4382.

### Honours

The Bachelor of Industrial Design degree may be awarded with Honours based upon the quality of performance in the course. Honours are Class 1 or Class 2 Division 1 or Class 2 Division 2.

### Professional Recognition

The Department will be seeking recognition of the course by the Design Institute of Australia for the eligibility of students enrolled in the course to become student members of the Institute and Licentiates automatically upon graduation.

### Schedule of Subjects

Credit points generally indicate the numbers of hours per week of student/staff contact for one session.

Students who have not taken physics or science at HSC level, are recommended to take the relevant Unisearch bridging courses, after consultation with the Head of Department.

It should be noted that there will be some variation of order of subjects, as some subjects may, from time to time, not be available in a particular session. The course averages 22 hours per week over the four years and when finalising timetables for any particular year every attempt will be made to keep close to the average number of hours per week, and to the program outlined in this schedule.

Prerequisite: Mathematics either 2unit Mathematics HSC score range 60100, or 3unit Mathematics HSC score range 150, or 4unit Mathematics HSC score range 1100.

Note: The 2unit Mathematics subject cannot be the Mathematics in Society subject.

#### Year 1

##### Session 1

IDES1021	Basic Design
IDES1041	Visual Thinking & Drawing
IDES1051	Geometrical & Mechanical Drawing
IDES1061	History of Art, Architecture & Design
IDES1073	Principles of Ergonomics
MATH1011	General Mathematics 1B
GEP	General Education Program

##### Session 2

IDES1011	Workshop Technology
IDES1031	Design Studio 1
IDES1082	Engineering Design Mechanics
IDES2121	Introduction to Computing
MATH1021	General Mathematics 1C
PHYS1939	Physics

**Year 2***Session 1*

ACCT9001	Introduction to Accounting A
IDES2091	Design Methodology
IDES2101	Perspective & Rendering Techniques
IDES2111	Industrial Design Studio 2
IDES2132	Introduction to Materials Science
IDES2142	Mechanics of Solids for Industrial Design
IDES2151	Product Studies Seminar
MATH2819	Statistics SA

*Session 2*

ACCT9002	Introduction to Accounting B
IDES2151	Product Studies Seminar
IDES2161	Industrial Design Studio 2
IDES2171	Computer Aided Design
IDES2182	Materials & Manufacturing Processes for Industrial Design, A
IDES2193	Applied Ergonomics
MATH2819	Statistics SA
GEP	General Education Program

**Year 3***Session 1*

IDES2151	Product Studies Seminar
IDES3202	Materials & Manufacturing Processes for Industrial Design, B
IDES3212	Principles of Electrical Engineering for Industrial Design
IDES3221	Industrial Design Studio 3
IDES3231	Computer Graphic Applications
MARK2012	Marketing Fundamentals
MARK2032	Consumer Behaviour A

*Session 2*

IDES2151	Product Studies Seminar
IDES3241	Industrial Design Studio 3
IDES3252	Electrical Engineering Applications in Industrial Design
IDES3262	Production Design & Technology for Industrial Design
IDES3271	Form Theory
IDES3281	Photography
MARK2042	Consumer Behaviour B
MARK2052	Marketing Research
GEP	General Education Program

**Year 4***Session 1*

IDES2151	Product Studies Seminar
IDES4291	Industrial Design Studio 4
IDES4301	Project Research
IDES4311	Graphic Design for Industrial Designers
IDES4321	Environmental & Interior Design for Industrial Designers
IDES4331	History of Consumer Products
IDES4341	History of Industrial Design
MARK3073	Brand Management
GSBE0002	General Education Program (Cat C)

*Session 2*

IDES2151	Product Studies Seminar
IDES4351	Project
IDES4361	Professional Practice
IDES4371	Managing Product Innovation & Development
IDES4382	Product Management for Industrial Design
IDES4391	Industrial Experience
MARK3083	Strategic Marketing Management
GEP	General Education Program

It should be noted that, subject to the approval of the Faculty of the Built Environment, certain subjects from other Schools of the University may be substituted for the subjects shown.

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## School of Landscape Architecture

**Head of School**

Professor James Weirick

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## Landscape Architecture Degree Course

### Bachelor of Landscape Architecture BLArch

Landscape Architecture is a design discipline which is concerned with the environment as a whole. Landscape Architecture aims to create and sustain habitats for people and other living things in ways which conserve and celebrate ecological relationships, cultural values and symbolic associations.

The principle focus of Landscape Architecture is the theory and practice of landscape design with a strong emphasis on landscape planning, cultural studies and conservation of the environment.

At the University of New South Wales students are strongly encouraged to consider the study of landscape architecture as both a powerful way of thinking and as education for a specific vocation. On graduating from the course, students should have developed a critical awareness of social and environmental issues, a creative approach to landscape design and landscape planning, and a sound foundation in the technical and professional requirements of Landscape Architecture practice. In addition, the course aims to impress an ethical commitment to care of the environment and a strongly responsible attitude to the wider community.

## General Description of the Course

The Bachelor of Landscape Architecture course is of four years duration and requires full-time attendance throughout. Students are introduced to the theory and practice of landscape architecture through an exploration of design principles, graphic techniques, ecological processes and studies of human modification of the environment. As students progress through the course, increasing emphasis is laid upon creative design with particular application to Australian conditions. Projects related to the subject matter of concurrent lectures, and culminate in landscape studies of regional and national significance.

The majority of subjects are taught specifically within the School of Landscape Architecture. However, contact with the students and staff of other Schools is assured by the inclusion of subjects from the Schools of Botany, Geography, Town Planning and the Centre for Liberal and General Studies. Staff from the Schools of Civil Engineering and Geography also provide instruction within the curriculum.

The course seeks the synthesis of knowledge and skills through projectbased learning in a sequence of eight Design Studios. Support subjects are grouped into five broad strands: ecology and plant materials; history and theory of landscape architecture; communication skills; landscape planning; design documentation, construction and management.

## General Education Requirement

Students are required to complete 56 hours of Category A and 56 hours of Category B Electives. The General Education Category C requirement is met as follows:

1. In Year 3 the subject GSBE0002 is taken;
2. A number of compulsory subjects include Category C issues. These are: LAND1132, LAND1210, LAND2110, LAND2171, LAND3210, LAND3191, LAND3291, LAND4170, LAND4717, LAND4270, LAND3150 and LAND3250.

## Practical Experience

Students of the undergraduate course must obtain a total of four months' practical experience prior to graduation, of which a minimum of two months must be in a design office and a minimum of two months must be in landscape industry work. This normally takes the form of employment during long vacations under a landscape architect, landscape contractor or nurseryman. Each student entering upon practical experience must obtain prior approval of the Practical Experience Co-ordinator. Each student must obtain from the employer a statement of experience gained, maintain an accurate record in logbook form and submit a written report describing the work undertaken during the various practical experience components. This practical experience must be obtained prior to enrolling in LAND4270 Landscape Design 6.

## Honours

The Bachelor of Landscape Architecture degree may be awarded with Honours based upon the quality of performance in the course and in accordance with current

Faculty regulations. Honours are Class 1 or Class 2 Division 1 or Class 2 Division 2.

## Professional Recognition

The course is recognized by the Australian Institute of Landscape Architects and graduates holding the BLArch degree may qualify for corporate membership of the institute after a specified period of graduate experience and formal examination.

## 3380

## Landscape Architecture Course

### Bachelor of Landscape Architecture BLArch

The course structure shown below represents the normal pattern of progression which students entering course 3380 are expected to follow. In exceptional circumstances the Head of School may allow variation of the normal pattern, and in such cases progression in individual subjects will be governed by the prerequisites as indicated.

A student may be enrolled concurrently in the subjects of only two consecutive years, but this will not apply to students entering with advanced standing in their first year of attendance or to modifications of the course which are initiated by the School.

Students are required to participate in field exercises and practical construction programs outside the metropolitan area.

## Schedule of Subjects

Year 1		C
<i>Session 1</i>		
BIOS3004	Botany for Landscape Architects	5
GEOG1051	Global Environmental Problems & Processes	4
GEOL5110	Geology for Landscape Architects	1
LAND1130	Landscape Graphics 1	4
LAND1131	Introduction to Computer Applications	2
LAND1132	Introduction to Landscape Architecture	1
LAND1170	Design 1	3
General Education Elective (Cat A)		
Total		22
<i>Session 2</i>		
LAND1210	Landscape Analysis*	6
LAND1211	Horticulture for Landscape Architects	2
LAND1230	Landscape Graphics 2	4
LAND1270	Design 2	3
LAND1290	Landscape Materials and Construction	3
General Education Elective (Cat A)		2
Total		20

\* These subjects include a number of lectures and field trips for the purpose of practical observation. Students are expected to make their own transport arrangements for these trips.

<b>Year 2</b>		<b>C</b>
<i>Session 1</i>		
LAND2110	Environmental Sociology for Landscape Architects	2
LAND2171	History of Landscape Architecture	2
LAND2170	Landscape Design 1	10
LAND2190	Landscape Technology A	3
	General Education Elective (Cat B)	2
Total		19
<i>Session 2</i>		
LAND2270	Landscape Design 2	12
LAND2271	Planting Design	2
LAND2290	Landscape Technology B	3
	General Education Elective (Cat B)	2
Total		19
<b>Year 3</b>		
<i>Session 1</i>		
ARCH0002	Social Responsibility and Professional Ethics	2
LAND3130	Research Methods	1
LAND3151	Landscape Management 1	2
LAND3170	Landscape Design 3	8
LAND3190	Landscape Engineering A	3
LAND3191	Professional Practice A	2
PLAN9111	Town Planning	2
Total		20

<i>Session 2</i>		<b>C</b>
LAND3252	Landscape Management 2	2
LAND3270	Landscape Design 4	8
LAND3290	Landscape Engineering B	3
LAND3291	Professional Practice B	2
Total		15

<b>Year 4</b>		
<i>Session 1</i>		
LAND4031	Landscape Thesis A	10
LAND4170	Landscape Design 5	3
LAND4171	Urban Landscape Design	6
Total		19

<i>Session 2</i>		
LAND4032	Landscape Thesis B	4
LAND4270	Landscape Design 6	12
	Four months practical experience	
Total		16

**Note:** Due to course revisions some subjects as listed are subject to approval by the University.

## School of Town Planning

### Head of School

Professor Alexander Cuthbert

develop skills in policy formulation, land use allocation and control, design and communication.

### General Description of the Course

The course is of five years' duration and requires full-time attendance throughout Years 1, 2 and 5. Students are required to attend the University on a full-time basis for the first session of Year 3 and for the second session of Year 4, the intervening period being devoted to practical experience.

The course leads to the award of the degree of Bachelor of Town Planning (BTP).

### General Education Requirement

Students are required to complete 56 hours (= 4 credit points) of Category A and 56 hours (= 4 credit points) of Category B Electives. The General Education Category C requirement is met as follows:

1. In Year 5 the subject GSBE0002 is taken;
2. A number of compulsory subjects include Category C issues. These are: PLAN1111, PLAN1121, PLAN1131, PLAN1141, PLAN1151, PLAN1161, PLAN1171, PLAN2217 and PLAN2311.

### Practical Experience

For the period covered by Session 2 of Year 3 and Session 1 of Year 4 the students must be engaged in approved employment related to the course: for example, in

### 3360

### Town Planning Course

### Bachelor of Town Planning BTP

Town planning has as its focus the existing and future environment, ranging from small local precincts to metropolitan areas and regions. The town planner's task in this regard is to integrate and coordinate the aims and actions of a large number of government and private organizations and individuals to provide an equitable and efficient distribution of resources. This involves collecting and analysing information, identifying needs, making forecasts, preparing policies, plans and programs for consultation, decision and implementation, exercising development control, evaluating development proposals and evaluating results.

The objectives of the course are to create an awareness of the context in which planning operates, impart knowledge of how planning can influence the community and the physical environment, equip students with the competence to apply this knowledge at different levels in a wide range of situations, create an understanding of the contribution other disciplines can make to planning and vice versa, and

government planning and housing authorities, in local councils preparing or implementing Local Environment Plans, in private development companies or with planning consultants. The type of employment proposed must be submitted to the Head of the School of Town Planning for approval.

### Honours

Honours are awarded in the Bachelor of Town Planning degree course on the basis of quality of performance throughout the whole course and in accordance with current Faculty regulations.

For the purpose of calculating Honours at graduation, the Honours value of each subject is indicated by the credit points associated with that subject. Credit points generally reflect the workload required of students in subjects in which grades are awarded.

### Professional Recognition

The course is recognized by the Royal Australian Planning Institute as an academic qualification for corporate membership. The Institute requires that for corporate membership graduates must also have at least one year of practical experience subsequent to graduation.

### Schedule of Subjects

<b>Year 1</b>		<b>C</b>
<i>Session 1</i>		
PLAN1111	Introduction to Planning	14
PLAN2411	Communication Techniques I	4
PLAN2413	Computers and Information Systems	2
SURV0901	Introduction to Mapping	2
Total		22
<i>Session 2</i>		
PLAN1121	Planning Studies	14
PLAN2112	The Development Process	6
PLAN2421	Communication Techniques II	4
GENS0000	General Education Elective Cat A (56 hours)	4
Total		28
<b>Year 2</b>		
<i>Session 1</i>		
PLAN1131	Local Planning 1	14
PLAN2211	Environmental Science 1	3
PLAN2215	Engineering A	3
PLAN2216	Engineering B	2
PLAN2221	Environmental Science 2	3
Total		25
<i>Session 2</i>		
PLAN1141	Regional Planning 1	14
PLAN2114	History of Town Planning	4
PLAN2212	Transportation Planning	3
PLAN2213	Urban Design	4
Total		25

<b>Year 3</b>		<b>C</b>
<i>Session 1</i>		
PLAN1151	Planning Law and Administration 1	14
PLAN2217	Urban Society and Sociology	4
LAND0001	Landscape Architecture	3
GENS0000	General Education Elective Cat B (56 hours)	4
Total		25

<i>Session 2</i>	
PLAN1301	Practical Experience

### Year 4

<i>Session 1</i>	
PLAN1301	Practical Experience

<i>Session 2</i>		
PLAN1161	Local Planning 2	9
PLAN1162	Integrated Planning Project 1	8
PLAN2218	Heritage and Conservation Planning	4
PLAN2321	Planning Law and Administration 2	4
Total		25

### Year 5

Session 1	
PLAN1171	Regional Planning 1
PLAN1172	Integrated Planning Project 2
GSBE0002	Social Responsibility and Professional Ethics (General Education Category C)

<i>Session 2</i>		
PLAN2111	Professional Practice	2
PLAN2311	Politics, Power and Policy	4

### Full Year

PLAN1181	Thesis	20
PLAN3000	Planning Elective*	4
Total		51

\*Students are required to complete one Planning Elective. A selection of electives from the list below will be offered, depending on demand and staff availability, as Session 1, Session 2 or Full Year subjects.

PLAN3112	Regional Planning 3	4
PLAN3113	Urban Studies	4
PLAN3114	Social Planning	4
PLAN3115	Planning in Developing Countries 1	4
PLAN3116	Planning in Developing Countries 2	4
PLAN3211	Residential Planning	4
PLAN3212	Rural Planning	4
PLAN3213	Urban Conservation	4
PLAN3214	Environmental Psychology	4
PLAN3216	Transport and Environmental Management	4
PLAN3217	Urban Design 2	4
PLAN3311	Planning Law and Administration 3	4
PLAN3414	Computer Applications in Planning 1	4

**Note:** Due to course revisions, there is a transition period during which some subjects may be taught in different sessions than those indicated above, while other subjects may be phased in progressively. Details will be provided prior to enrolment.

## Subject Descriptions

Descriptions of all subjects are presented in alphanumeric order within organizational units. For academic advice regarding a particular subject consult with the contact for the subject as listed. A guide to abbreviations and prefixes is included in the chapter 'Handbook Guide', appearing earlier in this book.

### General Education Subjects

#### Categories A and B:

The student is to refer to the General Education Handbook for details of subjects available in these areas.

#### Category C:

##### GSBE0002

##### Social Responsibility and Professional Ethics

*Staff Contact: Dr R. Samuels, Architecture School C5*

The aim of the subject is to expose students in the Faculty to issues of social responsibility in their future professional activities. This is done by selecting for analysis two case studies. The exchange of information and the affirmation and contestation of values by students is considered as important a part of the learning process as the professional input through lectures. Instruction includes common lectures and small seminar groups made up of students from all schools in the Faculty. Assessment will include individual and collaborative submissions.

## Bachelor of Architecture

### Core Subjects

#### Architectural Design Studio

Architectural synthesis is the central function of the design studio, the locus of the application of knowledge gained in the lectures and seminars. The vehicles for study are projects and exercises of increasing depth and complexity covering a wide range of building types. Students are encouraged to seek design solutions which cater for the full range of human needs and aspirations. The studios provide continuing opportunities to consider environmental, social, historic, aesthetic, technical and professional factors affecting architecture and the architect's role in the community.

##### ARCH6101

##### Design Studio 1

*Staff Contact: School Office C24*

Analysis of the natural and built environment to develop an awareness of physical environment and the forces determining built form. An understanding of man's

functions, activities and aspirations and of the architects' essentially creative and conceptual role.

Introductory studio focusing on the application of design method through simple three dimensional design exercises culminating in the design of simple, small-scale buildings and an understanding of the parameters of design.

##### ARCH6102

##### Design Studio 2

*Staff Contact: School Office C30*

*Prerequisites:* ARCH6101, ARCH6501, ARCH6601, ARCH6701, four from ARCH6211, ARCH6311, ARCH6511, ARCH6611, ARCH6711

The design of simple residential and non-residential buildings with few spaces, relatively simple functional relationships for clearly defined and familiar user groups on straightforward sites requiring basic contextual understanding. Integration of basic structural, constructional, servicing and environmental control concepts. The development of design method.

##### ARCH6103

##### Design Studio 3

*Staff Contact: School Office C30*

*Prerequisites:* ARCH6102, ARCH6502, ARCH6602, ARCH6702, four from ARCH6212, ARCH6312, ARCH6512, ARCH6612, ARCH6712

The design of non-residential projects of moderate complexity and scale with more demanding siting and contextual consideration and more complex and less familiar user needs including some adaptive reuse.

Further emphasis on design method. Development of structure, construction, services, environmental control, building regulations and landscape design. Some group work, but largely individual work.

##### ARCH6104

##### Design Studio 4

*Staff Contact: School Office C24*

*Prerequisites:* ARCH6103, ARCH6503, ARCH6603, ARCH6703, four from ARCH6213, ARCH6313, ARCH6513, ARCH6613, ARCH6713

The design of small-scale buildings in considerable depth including detailed design of internal and external spaces including material and colour choices, fixtures and fittings, construction detailing, services and environmental control.

##### ARCH6105

##### Design Studio 5

*Staff Contact: School Office C24*

*Prerequisites:* ARCH6104, ARCH6114, ARCH6514, ARCH6904

The design of a relatively complex and large scale development, incorporating residential, involving a range of user groups. Resolution of conflicting issues such as site constraints, planning controls and building regulations, environmental context and the social role of the



development. Group and individual work with an emphasis on urban design.

### ARCH6106

#### Design Studio 6

*Staff Contact: School Office*  
C24

*Prerequisites:* ARCH6105, ARCH6115, ARCH6515

Exploration and resolution of relatively complex human activities not necessarily of a familiar pattern for non-residential buildings, with emphasis on integration of structure, construction, services and environmental controls at an advanced level and contemporary technology.

### ARCH6107

#### Design Studio 7

*Staff Contact: School Office*  
C24

*Prerequisites:* ARCH6106, ARCH6116, ARCH6516, ARCH6906

This subject represents the culmination of the BArch course for all students except those who take the Major Design Project or Research Project. It comprises a design project resolved in depth in all areas of architecture, including architectural design, urban design, interior design, construction, structure, services, acoustics, lighting and practice and management.

### ARCH6114

#### Design Seminar 1

*Staff Contact: School Office*  
C3

*Prerequisites:* ARCH6103, ARCH6503, ARCH6603, ARCH6703, four from ARCH6213, ARCH6313, ARCH6513, ARCH6613, ARCH6713

Understanding of the relation between building cost and architectural design. Preparation of a cost plan for design project in Design Studio 4.

### ARCH6115

#### Design Seminar 2

*Staff Contact: School Office*  
C3

*Prerequisites:* ARCH6104, ARCH6114, ARCH6514, ARCH6904

An understanding of the town planning process as a community based contextual system of decision-making directing the physical, social and economic fabric of human settlements. A detailed account of the role and function of environmental studies, planning controls, performance standards, statutory mapping, the development application process, the design review committee and process, the appeal process, the settlement of disputes. Lectures, seminars, case studies associated as appropriate with studio exercises covering community development and urban design issues.

### ARCH6116

#### Design Seminar 3

*Staff Contact: School Office*  
C3

*Prerequisites:* ARCH6105, ARCH6115, ARCH6515

Understanding of the role of the architect when engaged by a developer. Preparation of a timetable, submissions

and reports for a developer client for design project in Design Studio 6.

### ARCH6117

#### Design Seminar 4

*Staff Contact: School Office*  
C3

*Prerequisites:* ARCH6106, ARCH6116, ARCH6516, ARCH6906

Development and presentation of the theoretical basis of the students own design work in Design Studio 7.

### ARCH6127

#### Major Design Project

*Staff Contact: School Office*  
C30

*Prerequisite:* By approval

Under supervision of an individual member of staff, with a supportive package of Electives (C24) which are closely related to and form part of the final submission.

The scope and size of this project will have been agreed between the student, his/her supervisor and the School Committee set up to oversee these projects at the start of Year 5 Session 1. Much of the preliminary information gathering, site information, and associated research will have been done in the seminars and architectural research project during Year 5 Session 2.

The end result of this Major Design Project would be a building or a group of buildings of extremely high standard resolved in detail-structure, finishes, furnishings, environmental control, etc.

## Architectural Communication

**Objectives:** To develop skills in oral, written and graphic communication; to introduce students to experimentation with materials and techniques in the context of current architectural thinking, and to expose them to new or less well known techniques and media. To that end, the first year of the course is geared to the development of skills and the later years to more experimental work.

### ARCH6201

#### Architectural Computing 1

*Staff Contact: School Office*  
C6

An introduction to the technology of computing as it pertains to the practice of Architecture and Design. The computer is presented as a tool for storing and manipulating information by means of application programs which model the real-world needs and activities of architects. Emphasis is on the modelling of graphics information, including an introduction to CAD concepts and techniques. Basic principles of technology and programming are explained. Students engage in hands-on computer exercises to consolidate the knowledge gained in the lectures.

### ARCH6205

#### Architectural Computing 2

*Staff Contact: School Office*  
C6

*Prerequisite:* ARCH6201

Introduction to the techniques and processes of two-dimensional computer-aided drafting for the production

of architectural drawings. Hands-on experience; staged tutorial exercises and self-directed documentation tasks.

### **ARCH6211**

#### **Communication Seminar 1**

*Staff Contact: School Office*  
C18

By the end of first year, students will be expected to present their final design project by means of the following: a set of presentation drawings, rendered in colour orthographics, axonometric or isometric, perspective and simple construction drawings as required to explain the project fully. A model, written statement of intent and a verbal presentation to a jury will also be required.

To achieve this, they will receive information and practice in the following: drafting and drawing skills, with instruments and freehand, orthographic projection, axonometric, isometric, perspective, colour theory, rendering techniques, variety of media, model making, library use, study and research skills, scholarly writing, report and letter writing and oral presentation.

### **ARCH6212**

#### **Communication Seminar 2**

*Staff Contact: School Office*  
C12

*Prerequisites:* ARCH6101, ARCH6501, ARCH6601, ARCH6701, four from ARCH6211, ARCH6311, ARCH6511, ARCH6611, ARCH6711

To experiment with a range of dry techniques for presentation. Elementary exercises in two and three dimensional composition in combination with advanced colour theory studies. Architectural model making using various techniques. Observational drawing exercises. Library use, study and research skills.

Use of the computer for simple three-dimensional modelling of building form: form analysis; massing; visualization and perspective. Hands-on tutorial exercises linked to Studio design work. (3 cp segment of whole.)

### **ARCH6213**

#### **Communication Seminar 3**

*Staff Contact: School Office*  
C12

*Prerequisites:* ARCH6102, ARCH6502, ARCH6602, ARCH6702, four from ARCH6212, ARCH6312, ARCH6512, ARCH6612, ARCH6712

To experiment with a range of wet techniques for presentation. Advanced exercises in three dimensional composition and the display of this through two dimensional presentation techniques including overlays and collages. Introduction to architectural and model photography, dark room techniques, and lighting theory. Jury and sales techniques. Advanced exercises in scholarly writing, report and letter writing and oral presentation.

## **Theory of Architecture**

**Objective:** To provide a theoretical overview of the discipline of architecture and to explain the basis for and the limitations of its concepts, themes and practices.

### **ARCH6301**

#### **Theory of Architecture 1**

*Staff Contact: School Office*  
C6

The role of theory; theoretical terms and concepts used in architecture and design; designing as process; human constructs in architecture.

Studies and readings of selected writings and theories in architecture and related disciplines.

### **ARCH6302**

#### **Theory of Architecture 2**

*Staff Contact: School Office*  
C6

*Prerequisite:* ARCH6301

Formulations of the way architects conceive and design; social and behavioural considerations; selected architectural beliefs and values; relational and ordering systems in architecture.

Studies and readings of selected writings and theories in architecture and related disciplines.



### **ARCH6303**

#### **Theory of Architecture 3**

*Staff Contact: School Office*  
C6

*Prerequisite:* ARCH6302

Architectural positions and movements; aesthetic and symbolic aspects of architecture; urban and contextual issues; ethical considerations; criticism and evaluation.

Studies and readings of selected writings and theories in architecture and related disciplines.

### **ARCH6311**

#### **Theory Seminar 1**

*Staff Contact: School Office*  
C9

Discussion of and exercises embracing the concepts, themes and practices raised in ARCH6301 Theory of Architecture 1 related to projects in Design Studio 1.

### **ARCH6312**

#### **Theory Seminar 2**

*Staff Contact: School Office*  
C9

*Prerequisites:* ARCH6101, ARCH6501, ARCH6601, ARCH6701, four from ARCH6211, ARCH6311, ARCH6511, ARCH6611, ARCH6711

Discussion of and exercises embracing the concepts, themes and practices raised in ARCH6302 Theory of Architecture 2 related to projects in Design Studio 2.

### **ARCH6313**

#### ✱ **Theory Seminar 3**

*Staff Contact: School Office*  
C9

*Prerequisites:* ARCH6102, ARCH6502, ARCH6602, ARCH6702, four from ARCH6212, ARCH6312, ARCH6512, ARCH6612, ARCH6712

Discussion of and exercises embracing the concepts, themes and practices raised in ARCH6103 Theory of Architecture 3 related to projects in Design Studio 3.

## **History of Architecture**

**Objective:** To provide an overall view of the historical development of architecture, and its achievements within different cultural traditions, with reference, where appropriate, to Australian architecture, with a view to giving

the student a fuller awareness of design, and the objectives and influences that shape it.

### **ARCH6401**

#### **History of Architecture 1**

*Staff Contact: School Office*  
C9

Discussion of historical buildings and texts and the tools of the architectural historian, ie formal analyses of buildings, the use of manifestos and texts, and historiographical conventions.

General chronological exploration of selected buildings and architectural practices with emphasis on the range of influences on architecture, eg, cultural institutions and power structures; other arts such as music, painting, theatre; technology and material developments; models of urbanity; history of ideas in architecture.

Discussion and analysis of past definitions of history and architecture examining issues regarding taste, morality, style, continuity and an examination of many of the ideologies and attitudes arising from modernism.

### **ARCH6402**

#### **History of Architecture 2**

*Staff Contact: School Office*  
C12

*Prerequisite: ARCH6401*

A selection of theme units which broach both the conceptual structures and theoretical borders of architecture. Themes for this subject will include Aspects of Classicism; Romantic Classicism and the Picturesque; Craft Traditions and the Vernacular; Rituals in Urban Settlement; Historiography.

### **ARCH6403**

#### **History of Architecture 3**

*Staff Contact: School Office*  
C12

*Prerequisite: ARCH6402*

Extends the range of theme units initiated in History of Architecture 2, including the following: Modernity and Modernism; Australia and the Architecture of Western Imperialism; National and Regional Images in Australian Architecture; Power Structures and Popular Culture as Architectonic Forces in The City; Readings on Modern and PostModern Imagery.

### **Architectural Construction**

**Objective:** To develop breadth and depth in the understanding of the basic rationale governing the construction of buildings. Emphasis is placed upon design decisions which lead firstly to the selection of appropriate constructional systems and then to careful detail design. The theoretical field is mapped in the lecture series with complimentary exercises in practical application pursued in seminars, generally linked to studio projects. Progression is made from the study of the more familiar and small scale building types to that of larger scale buildings of a more complex technological nature.

### **ARCH6501**

#### **Architectural Construction 1**

*Staff Contact: School Office*  
C9

Introduction to the principles of architectural construction and their application to the design of simple, small-scale

buildings. Architectural construction as a design activity and its relationship to building materials, structure, services, process and regulation. Basic building materials, systems and processes and their historic development. Introduction to materials science. Basic structure, properties, manufacturing techniques, use and performance of materials in building and artifact design. Introduction to construction drawing practice and use of resource materials.

### **ARCH6502**

#### **Architectural Construction 2**

*Staff Contact: School Office*  
C12

*Prerequisite: ARCH6501*

The principles of architectural construction applied to the design of buildings of moderate scale and complexity through a detailed analysis of common constructional systems, their elements, components, assembly methods, detailing, construction processes and regulatory controls. Suitability, application and performance of principal construction materials including timber, masonry, steel and concrete. Durability, movement and moisture control. Resource materials, dimensional co-ordination and construction drawing practice.

### **X ARCH6503**

#### **Architectural Construction 3**

*Staff Contact: School Office*  
C12

*Prerequisite: ARCH6502*

The principles of architectural construction applied to the design of complex and large scale buildings. Appropriate construction systems, materials and organisation of the building process. Detailed analysis of junctions and connections between elements, components, materials and finishes. Construction durability, weathering and failure, regulatory controls, fire safety and protection. Rationalised systems, prefabrication, modular co-ordination and construction documentation.

### **ARCH6511**

#### **Construction Seminar 1**

*Staff Contact: School Office*  
C12

Exercises in the practical application of materials science and the principles of architectural construction. Emphasis on the exploration of basic building materials, systems and processes, dimensional co-ordination and construction drawing related where possible to Design Studio 1 communication and design projects.

### **ARCH6512**

#### **Construction Seminar 2**

*Staff Contact: School Office*  
C9

*Prerequisites: ARCH6101, ARCH6501, ARCH6601, ARCH6701, four from ARCH6211, ARCH6311, ARCH6511, ARCH6611, ARCH6711*

Exercises in the practical application of the principles of architectural construction to the design of small scale buildings. Emphasis on common constructional systems using timber, masonry, steel and concrete, resource and reference information, dimensional co-ordination and construction drawing practice related where possible to Design Studio 2 design projects.

✂ **ARCH6513**  
**Construction Seminar 3**  
*Staff Contact: School Office*  
 C9

*Prerequisites:* ARCH6102, ARCH6502, ARCH6602, ARCH6702, four from ARCH6212, ARCH6312, ARCH6512, ARCH6612, ARCH6712

Exercises in the practical application of the principles of architectural construction to the design of buildings of moderate scale and complexity. Emphasis on construction detailing as well as the general resolution of constructional systems related where possible to Design Studio 3 design projects.

✂ **ARCH6514**  
**Technology Seminar 1**  
*Staff Contact: School Office*  
 C3

*Prerequisites:* ARCH6103, ARCH6503, ARCH6603, ARCH6703, four from ARCH6213, ARCH6313, ARCH6513, ARCH6613, ARCH6713

Studies in the selection and application of structural and constructional systems, building materials and processes appropriate to Design Studio 4 design projects.

Aspects of climate, thermal, lighting or acoustics will be incorporated into the seminar program, appropriate to the current studio topics.

✂ **ARCH6515**  
**Technology Seminar 2**  
*Staff Contact: School Office*  
 C3

*Prerequisites:* ARCH6104, ARCH6114, ARCH6514, ARCH6904

Studies in the selection and application of structural and constructional systems, building materials and processes appropriate to Design Studio 5 design projects.

Aspects of climate, thermal, lighting or acoustics will be incorporated into the seminar program, appropriate to the current studio topics.

✂ **ARCH6516**  
**Technology Seminar 3**  
*Staff Contact: School Office*  
 C3

*Prerequisites:* ARCH6105, ARCH6115, ARCH6515

Studies in the selection and application of structural and constructional systems, building materials and processes appropriate to Design Studio 6 design projects.

Aspects of climate, thermal, lighting or acoustics will be incorporated into the seminar program, appropriate to the current studio topics.

**ARCH6517**  
**Technology Seminar 4**  
*Staff Contact: School Office*  
 C3

*Prerequisites:* ARCH6106, ARCH6116, ARCH6516, ARCH6906

Studies in the selection and application of structural and constructional systems, building materials and processes appropriate to the Design Studio 7 design project.

Aspects of climate, thermal, lighting or acoustics will be incorporated into the seminar program, appropriate to the current studio topics.

## **Architectural Structures**

**Objective:** To understand basic forces and the means of resisting them, to know the main structural systems used in buildings, to understand the relation of structure to architectural form as a basis for creative collaboration with structural consultants.

**ARCH6601**  
**Architectural Structures 1**  
*Staff Contact: School Office*  
 C6

General introduction to structures, their development and their role; natural and manmade structures.

Basic structural concepts; load, force, flow of force (loadpath); graphical and mathematical resolution of forces, equilibrium; moment (overturning); stability (element, assembly), strength and stiffness, supports and connections; types of loads; stress (tension, compression, shear, bending, torsion), strain, modulus of elasticity.

Basic structural elements and assemblies: cable and arch, strut and column, beam, truss, frame, grid, plate/slab, vault and dome, tent and pneumatic.

Elemental structural behaviour applied to the above: load application, loadpaths, connections, reactions at supports/connections, internal forces (stresses).

Graphical techniques and models as means for structural behaviour studies.

**ARCH6602**  
**Architectural Structures 2**  
*Staff Contact: School Office*  
 C6

*Prerequisite:* ARCH6601

The structural design and analysis process: definition of the structural task in relation to an architectural concept, system options and choice, establishment of loads and loadpaths (stability concept), estimation of loads, structural safety concept; satisfying equilibrium requirements; establishment of external and internal forces; sizing of elements.

Selective study of structural behaviour and application of the structural design and analysis process to simple structural assemblies (post/beam, frame, cable-stayed systems, truss, grid, plate/slab etc.) Graphic techniques and models as means for structural behaviour studies.

**ARCH6603**  
**Architectural Structures 3**  
*Staff Contact: School Office*  
 C6

*Prerequisite:* ARCH6602

Constructional aspects of structures; structural design related to materials (timber, steel, concrete and composites), foundations, connections and joints.

The morphology of structures, structural shape, structural systems; efficiency (the 'lightweight' concept), structural systems for widespanning and high-rise structures, selective studies of structural behaviour.

**ARCH6611****Structures Seminar 1***Staff Contact: School Office***C6**

Exercises aimed at developing an understanding of basic structural concepts and the fundamental behaviour of structural elements, related where appropriate to Design Studio 1 design projects.

**ARCH6612****Structures Seminar 2***Staff Contact: School Office***C6**

*Prerequisites:* ARCH6101, ARCH6501, ARCH6601, ARCH6701, four from ARCH6211, ARCH6311, ARCH6511, ARCH6611, ARCH6711

Exercises in the behaviour, selection, analysis and design of simple structural assemblages, related where appropriate to Design Studio 2 design projects.

**ARCH6613****Structures Seminar 3***Staff Contact: School Office***C6**

*Prerequisites:* ARCH6102, ARCH6502, ARCH6602, ARCH6702, four from ARCH6212, ARCH6312, ARCH6512, ARCH6612, ARCH6712

Exercises in the constructional aspects of structures, with particular emphasis on the characteristics of current and evolving structural systems, related where appropriate to Design Studio 3 design projects.

**Environment**

**Objective:** To present to students the theory in thermal behaviour, daylight, electric lighting, acoustics and air quality of buildings and the services to buildings in the context of contemporary building design. To present the principles of energy conservation and environmental impact to enable students to develop appropriate design strategies.

**ARCH6701****Environment 1***Staff Contact: School Office***C9**

Human response to the environment, thermal, visual and acoustic comfort and air quality. Climate and the sunlighting and daylighting of buildings. Subjective and objective assessments of aural, visual and thermal environments and their integration. Laboratory work and field studies.

The building envelope: Thermal performance; principles of heat transfer, solar radiation effects, absorptivity, reflectivity, conduction, thermal gradients, condensation and thermal insulation. Acoustic performance; properties and behaviour of sound, sound transmission loss, external noise levels, selection of building envelope elements. Daylighting performance: traditional methods of daylighting buildings, application of prediction methods, patterns of innovation and change, advanced glazing technologies. Integration of heat, light and sound in building envelope design.

**ARCH6702****Environment 2***Staff Contact: School Office***C12***Prerequisite:* ARCH6701

Thermal evaluation design tools, correlation and simulation models, degree day concept, the control of sunlight. Quantitative and qualitative aspects of lighting design, electric light sources, light control and prediction methods. Design of rooms, basic shape and volume, acceptable ambient sound levels, structure borne and impact sound, reverberation times, selection of interior building materials and elements.

Thermal mass and its effects, air movement and ventilation, introduction to solar passive design and case studies. Integration of daylight with electric light, lighting for energy conservation, application and evaluation of light in interiors, case and field studies. Buildings for education, music and places of assembly. Integration of thermal, lighting and acoustic design implications.

**✕ ARCH6703****Environment 3***Staff Contact: School Office***C12***Prerequisite:* ARCH6702

Building services; Sources and distribution of water, wastes and energy supplies, application of electric power, hydraulics, vertical transport, fire protection in buildings, equipment selection and space allocation.

Air conditioning, heating and ventilating of buildings, design of systems, selection of equipment and allocation of space.

**ARCH6711****Environment Seminar 1***Staff Contact: School Office***C6**

Emphasis on the implications of sun and climate in the design of comfort conditions in buildings, the relation between climate, occupants and envelope design, and envelope design and energy consumption; and the application of strategies to modify envelope properties; experimentation with innovative methods to introduce daylight into buildings for human well-being by model studies in design projects in Design Studio 1.

**ARCH6712****Environment Seminar 2***Staff Contact: School Office***C6**

*Prerequisites:* ARCH6101, ARCH6501, ARCH6601, ARCH6701, four from ARCH6211, ARCH6311, ARCH6511, ARCH6611, ARCH6711

Lighting, acoustics and thermal design linked where appropriate to design projects in Design Studio 2.

**✕ ARCH6713****Environment Seminar 3***Staff Contact: School Office***C6**

*Prerequisites:* ARCH6102, ARCH6502, ARCH6602, ARCH6702, four from ARCH6212, ARCH6312, ARCH6512, ARCH6612, ARCH6712

Emphasis on mechanical engineering systems in buildings. Analysis, calculation and design, selection of equipment

- and allocation of space. Application of thermal, lighting and acoustics principles to promote human comfort in buildings.

## Architectural Practice

Objective: To introduce aspects of professional ethics, management and administration and to develop communication skills relevant to architectural practice.

### ARCH6804

#### Architectural Practice 1

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Contract documentation and specification writing techniques. Estimating, cost planning and bills of quantities.

### ARCH6806

#### Architectural Practice 2

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6804*

Introduction to the legal system; aspects of the law of contract, torts, property, copyright. Legal consequences of architectural practice. Liability of architects. Professional indemnity insurance. Authorities controlling building. Types of building contract. Tendering and negotiating. The architect/client agreement. Budgets and estimates. Engagement of consultants. Contract administration procedures. Professional ethics.

### ARCH6807

#### Architectural Practice 3

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6806*

Alternative methods of building procurement. Detailed comparison of standard contracts in current use. Advanced contract administration procedures. Partial architectural services and liability. Professional defensive measures and crisis management.

Introduction to management theory. The structure and organisation of an architectural office; aspects of company and partnership law and insurance. Business principles and management procedures relevant to an architectural office.

## Other Required Studies

### ARCH6904

#### Practical Experience

*Staff Contact: School Office*

C0

*Prerequisite: ARCH6103*

Each student is required to obtain, before enrolling in Year 5, practical experience under a registered architect for a period of six months. The experience is to be recorded in a log book to be signed by the registered architect. No other subject may be taken concurrently with Practical Experience.

### ARCH6906

#### Dissertation

*Staff Contact: School Office*

C18

*Prerequisite: ARCH6914*

A dissertation is a formal and scholarly piece of writing demonstrating a student's ability to thoroughly investigate a selected topic of interest to the student. In order to achieve a high standard, students are encouraged to thoroughly investigate a concise topic: broad surveys tend to result in superficial generalities. At an undergraduate level it is not a requirement to undertake new research, although students wishing to do so will be given encouragement and assistance by the staff. All students will need to develop a bibliography and demonstrate an ability to critically evaluate the data and the interpretive arguments presented. Some may wish to undertake empirical and/or field research into a feasible aspect of the topic, present and analyse the data using some form of statistical analysis, then draw some conclusions. Opportunities occasionally occur for students to work closely with a member of staff on a major research project. In these instances staff will seek out interested students and/or students can approach staff members. The staff member will closely supervise research while expecting some independent contribution from the student, and will guarantee to acknowledge all satisfactory student contributions when tabling and publishing the results.

All work must be written in concise and clear English, apply a consistent and acceptable referencing system, include an up-to-date bibliography, include only relevant and properly referenced illustrations, include good graphic presentation of relevant data, and be word processed in A4 format. Submissions will normally be about 10,000 words and be submitted by Friday of Week 14.

### ARCH6907

#### Major Research Project

*Staff Contact: School Office*

C30

*Prerequisite: By approval*

Under supervision of an individual member of staff, with a supportive package of Electives (C24) which are closely related to and form part of the final submission. Students who have approval to take this subject may be exempt from Dissertation and permitted to make up credit points by taking appropriate electives.

The scope and format of this project will have been agreed between the student, his/her supervisor and the School Committee set up to oversee these projects at the start of Year 5 Session 1. Much of the preliminary information gathering will have been done in the seminars and architectural research project during Year 5 Session 2.

The end result of this project will be a research project of extremely high quality in a discipline related to the study of Architecture and of particular interest to the student.

### ARCH6914

#### Research Methodology

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

A core subject which introduces students to the basic empirical and interpretive research methods, explains some research tools and referencing requirements, and

presents a range of research fields currently undertaken within the School. Classes are normally by lecture and small group teaching. Assignments are designed to lead students through the processes of research, and to encourage a self-critical evaluation of the appropriateness of methodologies used and the value of the conclusions to be drawn. Work must be written in concise and clear English, apply a consistent and acceptable referencing system, include an up-to-date bibliography, and be word processed in A4 format.

## Elective Subjects

### ARCH5220

#### Computer Graphics Programming 1

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Introduction to the fundamentals of interactive computer graphics programming; techniques of computer programming utilising a high-level language; use of graphics library functions; PC graphics; user interaction techniques. Controlled series of programming exercises.

### ARCH5221

#### Computer Graphics Programming 2

*Staff Contact: School Office*

C12

*Prerequisite: ARCH5220*

Advanced techniques of interactive computer graphics programming; graphic techniques for user input; menu-based interfaces; colour manipulation; three-dimensional modelling. Design and development of a graphics-based application program.

### ARCH5222

#### Computer Applications 1

*Staff Contact: School Office*

C12

*Prerequisite: ARCH6103*

The application of three-dimensional computer graphics techniques to represent built form in Architecture; form description; colour shading techniques; use of multiple light sources; modelling surface textures. Design modelling exercises.

### ARCH5223

#### Computer Applications 2

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6205*

The advanced use of CAD in the practice of architecture: three-dimensional modelling; presentation techniques; customisation; macros and libraries; system management. Hands-on exercises and office visits.

### ARCH5227

#### Advanced Graphics

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

A theoretical and practical study of the relationship between the visual and the plastic arts. Media and material studies. Development of a professional level of performance in adapting graphic theory and techniques to contemporary needs.

### ARCH5228

#### Drawing

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Direct drawing from life and man-made environment to develop technical and perception skills, media studies, gallery visits and drawing theory.

### ARCH5229

#### Painting

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The theory and practice of painting. Figure and ground interaction, colour and media studies. Individual style and thematic development encouraged. Gallery visits.

### ARCH5230

#### Pottery and Ceramics

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Introduction to the geology of ceramic raw materials and their physical and chemical nature. The characteristics of earthenware, stoneware, and porcelain. Glazes, kilns and forming methods. Laboratory and studio; handbuilding, introductory throwing and design in pottery and ceramics.

### ARCH5231

#### Rendering

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Advanced architectural rendering.

### ARCH5320

#### Theory of Form

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The ontological basis and the antinomial qualities of form in the causal sense, reflected in nature, art and architecture. Practical investigation of the antinomial qualities of form with special emphasis on the brief and on the built fabric of contemporary architecture, and practical attempts to identify shortcomings and develop corrective measures.

### ARCH5321

#### Criticism and Evaluation

*Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The nature, function and value of criticism. Subjective and objective criticism. A short history of architectural criticism, architectural critics, past and present. Discrimination and values in a changing society; fashion, the influence of mass opinion, communication media, advertising, propaganda. Collection of data; establishment and application of critical criteria; effective communication of conclusions; recommendations and feedback. The use of criticism and evaluation during and after the design process. Practical evaluation of examples of architectural criticism, past and present. Criticism of contemporary buildings and projects. Criticism of current work by self and others.

**ARCH5322****Imagination***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Architecture built in the image of the cosmic order and of the ideas directing that order. The nature of imagination, analogy and proportion. The meaning of number, of the elements of space and time and of the geometrical order, and this image in architecture. Seminars and practical projects focus on selected case studies.

**ARCH5323****Spirit in Architecture***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Spatial symbolism and intellectual intuition, principles, and methods of sacred architecture. Spiritual doctrine reflected in the layout of Judao-Christian architecture with reference to the Architecture of sacred traditions. Seminars and practical projects focus on selected case studies.

**ARCH5324****Spatial Construction Studies***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

A rigorous and disciplined examination of skilfully, that is artfully, designed works of art. The subject will require students to investigate the physical - spatial and constructional - orders of two buildings with the aim of interpreting/understanding **what** these orders are and **why** they are the way they are. The investigations will be based on drawings and models of the chosen buildings (to be made by the students), on appropriate texts and on lectures given during the session. The selection of buildings will be partly based on the availability of good documentation and critical writings. These are necessary in order to achieve the desired level of rigour.

Students will be divided into two groups, each group focusing on one of the buildings. A comparison of the two buildings is an important means of initiating discussion and will be one of the aims of the investigation.

**ARCH5420****Building Conservation***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The role of building conservation in the field of architecture and planning. Guidelines for conservation and the role of statutory and voluntary bodies. Historical research and fabric documentation leading to the assessment of buildings and the preparation of conservation policies and conservation plans.

**ARCH5421****Recent Australian Architects***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Detailed study of the theories and work of selected Australian architects.

**ARCH5422****Great Architects***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Detailed study of the theories and work of selected architects throughout history. Normally four architects will be studied, two from the 20th century and two prior to the 20th century.

**ARCH5423****The CitySydney***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Studies of the social and technological systems that determine the form of contemporary cities. Government systems and controls, land and development economics, land use, transport, services. Sydney as a case study.

**ARCH5424****Urban Design***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Design Studies in the integration of buildings and groups of buildings in their urban context, and of spaces between buildings, accommodation of pedestrian and vehicular movement, micro-climate.

**ARCH5425****Landscape Design***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Aesthetic appreciation of chosen environments both urban and natural. The treatment of spaces between and upon buildings. 'Hard' and 'soft' landscape treatments. Functional uses of open space within the built environment and the design of street furniture.

**ARCH5426****The Modern Movement in Architecture***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

A detailed illustrated examination of the architecture and architects who make up this movement from 1885-1965 from Chicago to Europe then to USA and Europe. A study of Australian examples of this movement.

**ARCH5427****Post Modernism in Architecture***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The rise of Post Modernism as both a reaction to, and a continuation of the Modern Movement. The subject will attempt to define the various aspects of Post Modern architecture to include Deconstruction. Period covered 1964-1991.



**ARCH5430****Architecture and Culture***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Many architects and architectural theorists today are engaged in a critical questioning of widely held yet inadequate beliefs and processes, including unrestrained progress, instrumental reason and social control. These driving social forces have brought about a devaluing of human work and nature that courts ecological disaster and a degrading of our physical environment. Architects may formulate a resistance through careful reflection on: the role of the human faculties of imagination and memory in design and construction; the significance of decorum, of public and private realms and of boundaries in our buildings and cities; and the limits of the architectural profession's intrusion into all dimensions of life.

The subject will focus on several "cultural" critics, both writers and architects, assessing the value and limitation of their contributions. Investigation will be guided by a vigorous tradition of thought (extending through the nineteenth century to the present) which has defined the word "culture" as an idea of a whole way of life (and conflict) for individuals in a community. This is formulated as a challenge to the dominant values of "society".

**ARCH5431****Japanese Architecture***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

An exploration of contemporary and contrasting styles. Katsura Detached Palace and the Nikko Tōshō-gū were both started in the first half of the seventeenth century. They present two very different design attitudes and together incorporate influences from almost all major forms of earlier Japanese architecture. This subject uses the two buildings as starting points for analysing and assessing the religious, social, and artistic factors which produce a "Japanese aesthetic" including not only buildings but a total environment.

There will be one examination which will take the form of a simple model with explanatory notes.

**ARCH5432****Urban Art***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

An examination of recent Australian and overseas art that addresses ideas of place and context and that is situated in the public domain. Art in public places provides opportunities for artists to work with design professionals, and to grapple with historical, social, cultural, environmental and other issues in the creative process. Central to this subject will be an exposé and critique of the prevailing theoretical discourses on urban art that have developed in recent years.

Teaching/learning will be through lectures/tutorials and seminars. Assessment will be continual and will include seminar papers, a written submission and regular contributions to the class.

**ARCH5433****Readings in Architecture***Staff Contact: School Office*

C12

*Prerequisite: ARCH6103*

Readings will be selected related to various twentieth century architects. They will include works of criticism as well as explanatory texts. One architect will be studied each week and readings will address one particular issue relevant to the architect's theoretical position.

**ARCH5520****Advanced Building Materials (Ceramics)***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Ceramic materials; the nature of cements, concrete, glass bonded ceramics and glass. Building products and techniques using these materials and their implications including construction, maintenance and deterioration. Industrial visits and laboratory.

**ARCH5521****Advanced Construction Systems***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

A review of recent developments, current trends and possible future directions in building design, construction systems, detailing and documentation. Case studies, projects, seminars.

**ARCH5522****Construction Planning and Management***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The role of the architect in construction planning and management. Preplanning and building technology design for improved performance and management of the building process. Recent developments in constructional and structural engineering. Erection methods and equipment. Construction management and co-ordination of the building process. Building economics and cost planning, case studies, reports, seminars.

**ARCH5523****Advanced Building Materials (Organics)***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Organic materials; the nature of wood and synthetic polymers. Building products and techniques using these materials and their implications including construction, maintenance and deterioration. Industrial visits and laboratory.

**ARCH5524****Advanced Building Materials (Metals)***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

Metals, ferrous and non-ferrous, their nature and use. Building products and techniques using these materials and their implications including construction, maintenance and deterioration. Industrial visits and laboratory.

**ARCH5620****Conceptual Structural Design***Staff Contact: School Office*

C12

*Prerequisites:* ARCH6103, ARCH6503, ARCH6603

Choice of systems and their behaviour; scale, structural shape as a visual element in architectural design; conceptual design methods and structural shape-finding and shape-determination methods using analytical, model and computer methods. Model and computer laboratory exercises and project.

**ARCH5621****Advanced Structural Design***Staff Contact: School Office*

C12

*Prerequisite:* ARCH5620

The behaviour and analysis of indeterminate structures. Computational techniques for indeterminate and other complex structural systems. Structural CAD applications. Architectural/Structural design issues: envelope, structure interaction, structural detailing and structural expression; dynamic loads; new materials and systems; assembly and erection techniques etc.

**ARCH5622****Lightweight Structural Design***Staff Contact: School Office*

C12

*Prerequisites:* ARCH6503, ARCH6603, ARCH6104

Integrated architectural/ structural/ constructional/ environmental design of cable, cable-net, membrane, tensegrity, shell and folded surface structures in lightweight materials (concrete, timber, metals and composites). Current issues related to on-going research and development. Structural ideologies. Seminar and project(s). Model and computer laboratory work and occasional construction workshop.

**ARCH5720****Design for Energy Efficiency***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6103

The development of the design of buildings and building types incorporating technological means of energy conservation and generation, use of energy-efficient materials, maintaining ecological balance and developing suitable structural techniques.

**ARCH5721****Design of Lighting***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6103

Major factors influencing design and application in buildings. Evaluation of impact of current technologies on lighting using computer simulations, appraisals and model studies. Design project.

**ARCH5722****Acoustics Studies***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6103

Experimental investigation and research in a selected aspect of acoustics. Laboratory and field work, methodology of results, development of techniques of application. Laboratory work.

**ARCH5723****Applied Environmental Psychology***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6103

Designing with and for people; environmentally benign design; interactions between people and places; spatial behaviours; the meaning of the environment; user satisfaction; post occupancy evaluation.

**ARCH5820****Building Economics & Development***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6103

1.The Economy: structure of the economy. History and development of modern economics. 2. Investment investigation in buildings, property (public and private), large scale, small scale. 3. Valuation; statutory valuations, market value, unimproved and improved land depreciation and obsolescence, valuation of improvements, valuation law, land laws. 4. Feasibility; economic models, optimisation, feasibility studies on small-medium-large-scale development and subdivisions. 5. Rationalised Building: dimensional control, component technology, building systems, cost planning. 6. Seminars.

**ARCH5821****Project Management***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6103

1. Principles of scientific management and organisation, individual group behaviour, management functions, planning, organising, staffing, directing, coordinating, monitoring, appraisals and evaluation. 2. Operations research techniques; network analysis, multi-activity charting. 3. Decision theory and procedures. 4. Contract and contract documents. 5. Industrial relations, employment. 6. Industrial organisation. 7. Seminars.

**ARCH5822****The Architect and the Law***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6103

1. Arbitration and litigation. 2. Appeals to the Land and Environment Court. 3. Environment law. 4. Industrial Law. 5. Case studies.

**ARCH5823****Quality Management Concepts***Staff Contact: School Office*

C6

*Prerequisite:* ARCH6806

The basic principles of quality management including quality control, quality assurance and the design of quality systems. Exploration of issues relating to the quality of design and procurement process and of the end product of the construction process. Relevance of Australian standards and professional manuals in quality assurance.

**ARCH5824****Quality Management Practice***Staff Contact: School Office*

C6

*Prerequisites: ARCH5823*

Application of the concepts of quality management. Preparation, documentation and evaluation of quality systems. Industrial and site visits.

**ARCH5923****Architectural Studies 1***Staff Contact: School Office*

C12

*Prerequisite: ARCH6914*

An elective designed for students wishing to pursue an independent course of study in a field of architecture not falling within the domain of any existing elective. It requires the gathering of data, analysis of that material and reaching a conclusion. Descriptive summaries of published material are not an acceptable alternative to a well argued critical essay. Students are required to present a detailed program of study for approval by the Head of School by the Friday of the first week of the session in which it is intended to enrol in this elective. For special conditions consult the Head of School. The work must be written in concise and clear English, apply a consistent and acceptable referencing system, include an up-to-date bibliography, include only relevant and properly referenced illustrations, and be word processed in A4 format. Submissions will normally be about 5,000 words and be submitted by Friday of Week 13.

**ARCH5924****Architectural Studies 2***Staff Contact: School Office*

C12

*Prerequisite: ARCH5923*

The intellectual and procedural requirements for this subject are as described in ARCH5923. The work must be written in concise and clear English, apply a consistent and acceptable referencing system, include an up-to-date bibliography, include only relevant and properly referenced illustrations, and be word processed in A4 format. Submissions will normally be about 5,000 words and be submitted by Friday of Week 13.

**ARCH5925****Architectural Studies 3***Staff Contact: School Office*

C12

*Prerequisite: ARCH5924*

The intellectual and procedural requirements for this subject are as described in ARCH5923. The work must be written in concise and clear English, apply a consistent and acceptable referencing system, include an up-to-date bibliography, include only relevant and properly referenced illustrations, and be word processed in A4 format. Submissions will normally be about 5,000 words and be submitted by Friday of Week 13.

**ARCH5950****Industrial Archaeology 1***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The range of industrial sites and individual engineering structures of heritage significance still extant in Sydney. Documentation of sites and structures. The conservation strategies for the protection of industrial sites and engineering structures.

**ARCH5951****Industrial Archaeology 2***Staff Contact: School Office*

C6

*Prerequisite: ARCH5950*

The history and development of selected industries in Sydney, including hydraulic power, electricity generation, rail and tram transport and engineering. Techniques of historical research into industrial sites and structures. Field excursions, recording, preparation of listing proposals and the use of statutory regulations for the protection of relevant sites.

**ARCH5952****Traditional Technology 1***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The scope of traditional technologies with particular reference to the building technologies of foundry work, blacksmithing, plastering and stained glass manufacture. Methods of recording including sketching, photography and the unstructured interview. The role of the architect in conservation of traditional technologies.

**ARCH5953****Traditional Technology 2***Staff Contact: School Office*

C6

*Prerequisite: ARCH6103*

The detailed study of a selected traditional technology. Interview and documentation techniques for recording processes and activities. The role of traditional craftspeople in the conservation of heritage buildings. The assessment of the work of traditional craftspeople and the role of authenticity in conservation.

**Students may also, with the approval of the Head of School, select subjects as electives from the BSc(Arch) course.**

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## Bachelor of Science (Architecture)

**Core Subjects****ARCH6914****Research Methodology***Staff Contact: School Office*

C6

*Prerequisite: ARCH6101*

A core subject which introduces students to the basic empirical and interpretive research methods, explains some research tools and referencing requirements, and presents a range of research fields currently undertaken within the School. Classes are normally by lecture and small group teaching. Assignments are designed to lead students through the processes of research, and to

encourage a self-critical evaluation of the appropriateness of methodologies used and the value of the conclusions to be drawn. Work must be written in concise and clear English, apply a consistent and acceptable referencing system, include an up-to-date bibliography, and be word processed in A4 format.

#### **ARCH5914**

##### **Special Research Programme 1**

*Staff Contact: School Office*  
C15

*Prerequisite:* Head of School's approval

Introductory programme on a topic area selected by the student in accordance with his or her field of specialisation. Approval of topic by Head of School and supervision by appropriate staff is required. The special research programmes provide the opportunity to practice research methods, planning, organising and conducting and documenting study in the chosen field.

#### **ARCH5915**

##### **Special Research Programme 2**

*Staff Contact: School Office*  
C15

*Prerequisites:* ARCH5914 or equivalent, Head of School's approval

Further development of the topic previously selected by the student in ARCH5914. Approval of topic by Head of School and supervision by appropriate staff is required.

#### **ARCH5916**

##### **Special Research Programme 3**

*Staff Contact: School Office*  
C15

*Prerequisites:* ARCH5915 or equivalent, Head of School's approval

Culmination of study in topic area previously undertaken in ARCH5914 and ARCH5915. Approval of topic by Head of School and supervision by appropriate staff is required.

#### **ARCH5917**

##### **Research project**

*Staff Contact: School Office*  
C24

*Prerequisite:* ARCH5916 or equivalent

This project represents the culmination and integration of knowledge and skill gained in the student's field of specialisation, including social, environmental and ethical aspects. The research project report should be presented in a thesis format.

#### **ARCH5918**

##### **Honours Project**

*Staff Contact: School Office*  
C60

*Prerequisite:* ARCH5917 or equivalent

The honours project provides opportunity for advanced study in a particular area of specialisation.

#### **ARCH5919**

##### **Honours Project 2**

*Staff Contact: School Office*  
C60

*Prerequisite:* ARCH5918

The honours project provides opportunity for advanced study in a particular area of specialisation.

#### **ARCH5930**

##### **Science Seminar 1**

*Staff Contact: School Office*  
C12

*Prerequisite:* ARCH6101

Student preparation of research programmes, methodologies, results and conclusions. Discussion and Debate of ethical, environmental and related issues. Exercises in aspects of communication, computing, structures and environmental control.

#### **ARCH5931**

##### **Science Seminar 2**

*Staff Contact: School Office*  
C6

*Prerequisite:* ARCH5930

Student presentation of research programs. Discussion and debate of ethical, environmental and related issues. Exercises in architectural construction, particularly relating to building defects and their prevention.

### **Core subjects specific to BSc(Arch) Interior Design major**

#### **ARCH5960**

##### **Interior Design Studio 1**

C36

*Prerequisite:* ARCH6101

A series of interior design projects dealing predominantly with small to medium scale domestic and commercial interiors interspersed with a number of basic design and colour theory exercises.

#### **ARCH5961**

##### **Interior Design Studio 2**

C36

*Prerequisite:* ARCH5960

**Note/s:** Subject not offered in 1994.

A series of interior design projects dealing with subjects selected from small to large scale community, commercial, heritage, public and semi-public interiors interspersed with a number of basic design and colour theory exercises.

#### **ARCH5962**

##### **Interior Design Studio 3**

C18

*Prerequisite:* ARCH5961

**Note/s:** Subject not offered in 1994.

A subject requiring a very high level of development of a design project selected from predominantly large-scale community, commercial, heritage, public and semi-public interiors.

#### **ARCH5963**

##### **Interior Design Research Project**

C12

*Prerequisite:* ARCH5961

**Note/s:** Subject not offered in 1994.

Research specifically for the Graduation Project submitted for assessment based on the demonstration of a professional level of research and presentation skills.

**ARCH5964**  
**Interior Design Graduation Project**  
 C60

*Prerequisite:* ARCH5963

**Note/s:** Subject not offered in 1994.

An approved interior design project thoroughly executed from first client contact to at least the completion of all documentation - to a standard accepted as fully professional. To be monitored by means of regular appointments with a supervising member of staff.

**ARCH5224**  
**Computer Applications 3**  
 C6

*Prerequisite:* ARCH5222

**Note/s:** Subject not offered in 1994.

Advanced techniques in computer aided modeling and visualisation.

**ARCH5428**  
**History of Art & Design 1**  
 C6

*Prerequisite:* ARCH6401

A series of lectures dealing with the cultural significance of art and design throughout history with particular reference to the cultural and artistic heritage of the western world.

**ARCH5429**  
**History of Art and Design 2**  
 C6

*Prerequisite:* ARCH5428

**Note/s:** Subject not offered in 1994.

A series of lectures devoted to a study of the history of art and design with particular reference to furniture design and interior design of the twentieth century.

**ARCH5525**  
**Furniture Design 1**  
 C6

*Prerequisite:* ARCH6101

A series of research and design projects concentrating on the design and manufacture of furniture and furnishings. Practical work.

**ARCH5526**  
**Furniture Design 2**  
 C6

*Prerequisite:* ARCH5525

**Note/s:** Subject not offered in 1994.

A series of research and design projects following on from Furniture Design 1 concentrating on the design and manufacture of furniture and furnishings. Practical work.

**ARCH5527**  
**Interior Materials**  
 C6

*Prerequisite:* ARCH6101

**Note/s:** Subject not offered in 1994.

A series of lectures dealing with the manufacture, properties, characteristics and uses of a range of materials commonly used in interiors.

**ARCH5528**  
**Interior Finishes**  
 C6

*Prerequisite:* ARCH6101

**Note/s:** Subject not offered in 1994.

A series of lectures dealing with a range of interior finishes.

**ARCH5529**  
**Fabric Design**  
 C6

*Prerequisite:* ARCH6101

**Note/s:** Subject not offered in 1994.

A series of fabric design projects exploring the history, practice and theory of a wide range of techniques of weaving, dying, printing and use of fabrics used in interiors.

## Elective Subjects

**ARCH5942**  
**Architectural Computing Seminar**  
*Staff Contact: School Office*

C15

*Prerequisite:* ARCH6205

Handson implementation and application of computing theory. Students are engaged in a selfdirected project involving significant usage of either an existing application program or the development of new software. The aim of this subject is to gain significant exposure to some aspect of architectural computing that is related to the particular interests of the student.

**ARCH5943**  
**Theory of Architectural Computing**  
*Staff Contact: School Office*

C12

*Prerequisite:* ARCH6201

A study of the body of knowledge that underlies the application of computers to the theory and practice of architecture. This subject looks initially at traditional approaches to architectural computing including space planning, facilities management, building performance analysis, information systems and operations research. It then extends that understanding to knowledge-based systems and knowledge representation techniques, shape grammars, expert systems and design information systems. Assessment is by means of essays and the preparation and presentation of a seminar paper.

**ARCH5944**  
**Information Technology for Architects**  
*Staff Contact: School Office*

C12

*Prerequisite:* ARCH6201

This subject introduces the issues, problems and solutions relating to the creation and distribution of information within architectural practices. It includes topics such as: database systems; interaction with CAD system graphics databases; transmission of data; networking and communication technologies; shared technical databases; establishment of product information standards; conceptual modelling techniques; and design information systems. Assessment is by means of projects and student seminars.

**ARCH5945****CAD Management for Architects***Staff Contact: School Office***C12***Prerequisite: ARCH6201*

This subject raises the issues relating to the implementation and management of CAD systems in architectural practices. Topics will include: CAD system selection and installation; cost issues (purchase, maintenance, upgrades); political implications within practices; software customisation; resource management; office standards; and training. Assessment is by means of projects and student seminars.

**Summer Term Subjects**

The following subjects are offered only in Summer Term. Not all subjects may be offered in any year.

**ARCH6140****Design 'A'***Staff Contact: School Office***C30**

Architectural synthesis is the central function of the design studio. The vehicles for study are projects and exercises of increasing complexity and depth covering a wide range of building types. Students are encouraged to seek design solutions which cater for the full range of human needs and aspirations. The studio provides continuing opportunities to consider the environmental, social, historic, aesthetic, technical and professional factors affecting architecture and the architect's role in the community. Design "A" is concerned with the design of simple residential and non-residential buildings with few spaces, relatively simple functional relationships for clearly defined and familiar user groups on straightforward sites requiring basic contextual understanding. Integration of structural, constructional, servicing and environmental control concepts. Development of the design process. Individual work on a series of design projects of varying complexity and length.

**ARCH6340****Theory of Architecture 'A'***Staff Contact: School Office***C15**

The object of the subject is to lead to an understanding and application of the principles of design, in particular architectural design. The fundamental purpose of architectural design, the enhancement of life-events by spatial arrangements is illuminated by the logic of the process of designation - aim, possibilities, idea, acts and fulfilment. The exploration of the design process embraces both the physical and non-physical requirements and influences; the measure of the human body and of the collective events of many bodies; the mental and cultural influences operating in such events; the meaning of spatial extensions, directions, closure and order, especially geometric order.

The importance of the relationship between human behaviour and the built environment is introduced with an emphasis upon personal space, community and privacy, and the various characteristics of the public domain. Composition, especially the theory of wholes and parts is examined in the light of unity and multiplicity, continuity and change: principles and conditions applicable either to a

single building or, in a much wider context, to the task of fitting a building into its physical and cultural environment.

**ARCH6440****History of World Architecture 'A'***Staff Contact: School Office***C15**

The role of architectural history. An account of world architecture from the earliest times to the present day, generally but not exclusively following a chronological format, covering such topics as: nomadic lifestyles and the beginnings of civilisation; ancient and mediaeval civilisations in Europe, the Middle East, Asia and the Americas; the growth of Christianity, Islam and the other major religions; the Renaissance and its effects around the world; the Industrial Revolution in Europe and North America; European Imperialism; the architecture of the twentieth century; Australian architecture. Visits to sites in and around Sydney. Seminars and project work.

**ARCH5926****Architectural Studies 4***Staff Contact: School Office***C15**

An elective designed for students wishing to pursue an independent course of study in a field of architecture not falling specifically within the domain of any other elective. Students wishing to undertake a number of these research subjects are encouraged to think of these subjects as following on from each other and that, together, they form a larger package of academic study.

**ARCH5927****Architectural Studies 5***Staff Contact: School Office***C15**

An elective designed for students wishing to pursue an independent course of study in a field of architecture not falling specifically within the domain of any other elective. Students wishing to undertake a number of these research subjects are encouraged to think of these subjects as following on from each other and that, together, they form a larger package of academic study.

**ARCH5928****Architectural Studies 6***Staff Contact: School Office***C15**

An elective designed for students wishing to pursue an independent course of study in a field of architecture not falling specifically within the domain of any other elective. Students wishing to undertake a number of these research subjects are encouraged to think of these subjects as following on from each other and that, together, they form a larger package of academic study.

**ARCH5540****Technological Design Development***Staff Contact: School Office***C15***Prerequisite: ARCH6105*

This subject will investigate in detail the technological requirements of technology - intensive buildings. Methodology; owners' and managers' requirements. Site, access and foundation constraints; constructional processes; structural systems and materials; cladding and

enclosure; finishing materials and fittings; services (environmental control, lighting, acoustics, transportation and communication); fire and egress constraints; security and building management, etc. The application of the above considerations to aspects of the design development of a schematic proposal for a suitable building. The major vehicle for both teaching and assessment will be a design project that has already been taken to a schematic stage; it will be the student's task to develop this project to the stage where all building systems have been selected, and where potential conflicts between systems have been resolved to the point where satisfactory details can be prepared. The student brief would contain a statement of user-needs, and a proposed schematic solution; the student would be required to work within the confines of the given proposal, and would not be permitted to re-design the schematic. Site visits.

### **ARCH5741**

#### **Design for Environmental Efficiency**

*Staff Contact: School Office*

C15

This subject aims to bring together the basic knowledge of environmental science gained in the junior years of the Bachelor of Architecture course and develop it in a structured manner which would make it applicable to real design situations. In any balanced design solution there is an equal interplay of the built environment, the natural environment and human participation. An imbalance of any of these factors will result in architectural failure. This subject will investigate real problems in the built environment as we attempt to address the issues of a sustainable environment. Class contact times will include visiting speakers, workshops for sustainable ideas, site visits and debates. Assessment will be based on involvement, participation and the submission of a report related to an area of study.

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## **Building**

### **Year 1**

#### **Session 1**

### **BLDG1001**

#### **Construction 1 (Domestic Buildings)**

*Staff Contact: Mr C.D. Smythe*

C3 S1 HPW3

**Note/s:** Compulsory.

Functional requirements and methods of building single family dwellings: brick, brick veneer and timber frame; domestic joinery; staircase construction; finishes; plumbing, drainage and electrical services; methods of setting out and supervision, on site observation and report on house construction.

### **BLDG1010**

#### **Communications and Resource Usage**

*Staff Contact: Mr J. Kim and Mr D. Lawson*

C3 S1 HPW3

**Note/s:** Compulsory.

Using the library. Accessing information: reading, summarizing and report writing. Organization of and

participation in meetings, seminars and lectures. Graphic communication: photography, drafting and detailing.

### **BLDG1091**

#### **Built Environment 1**

*Staff Contact: Prof J. Haskell*

C2 S1 HPW2

**Note/s:** Compulsory.

The intention is to develop an understanding of the relevance of man's "culture" (that thing which his social, economic, political, religious and physical environment gives rise to) to the nature of buildings and settlements which he devises, and an appreciation of the architecture and building (in particular in terms of materials and construction) of those cultures which can be seen to be providing the line to modern 'western' building from as far back as "the stone ages".

### **BLDG1111**

#### **Building Science 1 (Materials)**

*Staff Contact: Mr D. Lawson*

C4 S1 HPW4

**Note/s:** Compulsory.

Properties of materials; plasticity, elasticity, density, porosity, hardness. Optical, electrical, thermal and acoustic properties. Deterioration. Properties and manufacture of building materials; wood, wood products, cements, limes, concrete, bricks, metals, fibre cement, ceramics, plastics, sealants and mastics, stones.

### **BLDG1170**

#### **Mathematics for Builders**

*Staff Contact: Prof A.R. Toakley*

C4 S1 HPW4

**Note/s:** Compulsory.

Calculus: differentiation and integration; practical applications. Probability: sample spaces and probabilities; probability trees; distribution of random variables; expected value and decision analysis. Statistics: mean, mode, median, standard deviation and variance; normal and binomial distributions; linear regression.

### **BLDG1261**

#### **Management 1 (Management Principles)**

*Staff Contact: Mr G.E. Levido*

C2 S1 HPW2

**Note/s:** Compulsory.

Basic management principles, scientific management, management objectives. Structure of building industry. Building Acts and Regulations, codes, local government authority powers.

### **Session 2**

### **BLDG1002**

#### **Construction 2 (Low Rise Domestic)**

*Staff Contact: Mr C.D. Smythe*

C4 S2 HPW4

*Prerequisites:* BLDG1001, BLDG1010

**Note/s:** Compulsory

Small multistorey buildings from the functional and construction operation viewpoints. Quality control and supervision. Basement, ground floor and upper floor construction; methods of roofing, waterproofing; joinery; internal finishes; minor construction plant, formwork.

Construction drafting, onsite observation and report on home unit building.

#### **BLDG1051**

##### **Structures 1**

*Staff Contact: Dr O. Greste & Mr J. Senogles*

C3 S2 HPW3

**Note/s:** Compulsory.

Loads on structures; external and internal forces; free body diagrams; conditions of force and moment equilibrium. Analysis of statically determinate structures; member forces in pin-jointed trusses. Beam section properties; bending moment, shear force and deflection diagrams; stresses in bending and shear. Qualitative structural behaviour of arch, cable, membrane, plate and shell structures; the function of bracing.

#### **BLDG1151**

##### **Building Services 1 (Hydraulics)**

*Staff Contact: Mr N. Kenny*

C2 S2 HPW2

**Note/s:** Compulsory.

Hydraulic services pertaining to small and medium size projects; hot and cold water reticulation; sewer and storm water drainage; sanitary plumbing, introduction to fire fighting equipment and services; regulatory authorities and requirements.

#### **BLDG1271**

##### **Law for Builders 1**

*Staff Contact: Mr I. George*

C2 S2 HPW2

**Note/s:** Compulsory.

Law, including brief outline of sources of law in New South Wales and the system of judicial precedent. General principles of law of contracts. Contractual rights and obligation. Court structures; sale of goods; a general introduction to the law of bankruptcy. General principles of law of agency. Law of partnership.

#### **BLDG1311**

##### **Building Economics 1**

*Staff Contact: Mr B. Reece*

C3 S2 HPW3

**Note/s:** Compulsory.

Introduction to building economics, the interrelationship between the national economy and the building industry; quantitative techniques and the interpretation of economic data, economic principles applied to aspects of the building industry; introductory investment analysis and decision theory.

#### **PHYS1939**

##### **Physics 1 (Building and Design)**

*Staff Contact: First Year Director*

C4 S2 HPW4

Energy transfer: concepts of temperature and heat; calorimetry; gas laws; phase changes and humidity; heat transmission; refrigeration. Electrostatics and electromagnetism: electric and magnetic fields; DC circuits; electromagnetic induction. Sound: wave properties; absorption of sound. Properties of matter: atomic bond types and their relation to elasticity, plasticity and fracture; pressure in stationary and moving fluids.

#### **Year 2**

##### **Session 3**

#### **BLDG2003**

##### **Construction 3 (Framed Building)**

*Staff Contact: Mr C.D. Smythe*

C4 S3 HPW4

*Prerequisites:* BLDG1002, BLDG1151

**Note/s:** Compulsory.

Study of structural steel and concrete frames; large span factory roofing, precast concrete walling, welding techniques, fire requirements, cladding methods, installation of cranes and machine footings, site works, dewatering, shoring, piling on site observation and report on factory building.

#### **BLDG2052**

##### **Structures 2**

*Staff Contact: Dr O. Greste*

*Prerequisites:* BLDG1051

C4 S3 HPW4

**Note/s:** Compulsory.

Principles of structural design for strength, stability and serviceability. Load carrying mechanisms in various structure types. Failure modes in beams and columns: bending, shear, local crushing, lateral buckling. Design of beams and columns in steel. Bolted joints in steel structures. Ultimate strength design for reinforced concrete. Design of concrete beams and one way slabs for bending, shear, deflection. Bond and anchorage; durability and concrete cover; column behaviour; two way slabs; footings and other elements; reinforcement detailing.

#### **BLDG2262**

##### **Management 2 (Planning)**

*Staff Contact: A/Prof T. Uher*

C3 S3 HPW3

*Prerequisite:* BLDG1261

**Note/s:** Compulsory.

Operation Research techniques and their relevance to building, concept of planning and control, CPM, PERT, Line of Balance, Multiactivity Chart, computer applications of CPM. Principles and application of Work Study. Risk analysis, decision making process.

#### **BLDG2281**

##### **Introduction to Computing**

*Staff Contact: Dr O. Greste*

C2 S3 HPW2

**Note/s:** Compulsory.

Introduction to programming with Pascal; use of spreadsheet, word processor and data base software using personal computers; introduction to operating system functions. Overview of computer hardware and applications software. Awareness of computer use in society and its social impact.

#### **ACCT9002**

##### **Introduction to Accounting B**

*Staff Contact: School Office*

S2 L1.5

*Prerequisite:* ACCT9001

**Note/s:** Architecture - 2 credit points; compulsory for BBuild degree course students.

Introduces non-commerce students to managerial accounting: long-range planning, budgeting and



responsibility accounting; cost determination, cost control and relevant cost analyses.

#### **SURV0411**

##### **Surveying for Builders**

*Staff Contact: Mr P. Amin*

C2 S3 HPW4

**Note/s:** Compulsory

Introduction. Chaining, methods of measurement, corrections, chain surveys. Level, differential levelling, booking. Contours, volumes of earthworks. Theodolite, methods of reading angles, applications in building. Traversing, setting out.

#### **Session 4**

#### **BLDG2112**

##### **Building Science 2 (Concrete and Metals)**

*Staff Contact: Dr N. Gowripalan & Dr S. Bandyopadhyay*

C4 S4 HPW4

**Note/s:** Compulsory.

Concrete technology: cement, aggregates, water and admixtures; properties of fresh concrete; strength considerations; durability, shrinkage and creep; special concretes; nondestructive testing; mix design. Metals in building: structural ferrous alloys; structural and architectural nonferrous alloys; corrosion and protection; welding; types of failure, brittle fracture, fatigue, creep; impact resistance; tensile properties; hardness; strain hardening. Fire: behaviour of building materials and structures.

#### **BLDG2152**

##### **Building Services 2 (Mechanical)**

*Staff Contact: Mr G. Hogan*

C2 S4 HPW2

*Prerequisites:* PHYS1939, BLDG1151

**Note/s:** Compulsory.

Ventilation theory; ventilation systems and equipment; refrigeration theory; air conditioning heat loads; air conditioning equipment; electrical equipment; telephones and security; lifts and escalators; detection and fire protection; garbage and incinerators.

#### **BLDG2263**

##### **Management 3 (Contracts)**

*Staff Contact: A/Prof T. Uher & Mr P. Davenport*

C3 S4 HPW3

*Prerequisite:* BLDG2262

**Note/s:** Compulsory.

Concept of contracting and subcontracting, different options for project delivery. Contract law, building contracts and contract administration, standard forms of contracts, contract claims and disputes, contract negotiation. Principles of insurance, contract insurance, professional negligence.

#### **BLDG2301**

##### **Quantity Surveying 1**

*Staff Contact: Mr P. Marsden*

C4 S4 HPW4

**Note/s:** Compulsory.

Quantity surveying; historical background; functions of the quantity surveyor; introduction to Australian Standard Method of Measurement of Building Works, its importance and application; methods of recording dimensions,

checking and correlating plans and specifications; principles of measurement and billing; Bill of Quantities format; elementary billing and measurement of basic trades including finishes, brickwork, woodwork, roofing, concrete and groundworks.

#### **ACCT9002**

##### **Introduction to Accounting B**

*Staff Contact: Mr B. Booth*

C2 S4 HPW2

*Prerequisite:* ACCT9001

**Note/s:** Compulsory.

An introduction for noncommerce students to managerial accounting. Longrange planning, budgeting and responsibility accounting: cost determination, cost control and relevant cost analyses.

#### **Year 3**

#### **Session 5**

#### **BLDG3004**

##### **Construction 4 (Highrise Buildings)**

*Staff Contact: A/Prof R. Miller & Mr D. Lawson*

C4 S5 HPW4

*Prerequisites:* BLDG2003, BLDG2052

**Note/s:** Compulsory.

Functional requirements and building techniques of highrise buildings and major building projects; structural systems, enclosure systems and environmental control systems and their interrelation from a building standpoint; various methods and materials commonly used to solve functional demands; comparison of systems of construction, selection of plant and equipment cranes hoists concrete pumps etc.; building loads and load factors; stability of structures and structural components; creep, settlement and other movement; principles of fire protection in highrise projects; cladding in concrete, metal and glass; ceiling and partition systems; integration and co-ordination of services. On site observation and report on high rise building.

#### **BLDG3264**

##### **Management 4 (Personnel Management)**

*Staff Contact: Mr D. Dombkins*

C3 S5 HPW3

*Prerequisite:* BLDG2263

**Note/s:** Compulsory.

Personnel management, human motivation, employment. industrial relations, employers and employer groups, unions and unionism. Conciliation and arbitration. Site organization (labour aspects), safety management.

#### **BLDG3272**

##### **Law for Builders 2**

*Staff Contact: Mr P. Davenport*

C2 S5 HPW2

*Prerequisite:* BLDG1271

**Note/s:** Compulsory.

Commercial law; Corporations; Trade practices; Consumer protection; Torts; Remedies; Succession; Local government; Real property; Administrative law.

#### **BLDG3282**

##### **Computer Applications in Building**

*Staff Contact: Dr O. Greste*

C2 S5 HPW2

*Prerequisite:* BLDG2281

**Note/s:** Compulsory.

Use of MS-Excel for developing feasibility, estimating, data base and other spreadsheet applications in building; use of MS-Project for project planning. Introduction to relational data file structures. Current hardware, software, and communications developments. Computer applications in quantity surveying, estimating and construction management.

### **BLDG3302**

#### **Quantity Surveying 2**

*Staff Contact:* Mr P. Marsden

C4 S5 HPW4

*Prerequisite:* BLDG2301

**Note/s:** Compulsory.

Advanced billing and measurement of structural and services trades; preliminaries, etc in accordance with Standard Method of Measurement of Building Works; contract administration; exercises in variations, cost adjustment and progress claims; relationship between the Specification and the Bill of Quantities.

## **Session 6**

### **BLDG3005**

#### **Construction 5 (Techniques)**

*Staff Contact:* A/Prof R. Miller & Mr D. Lawson

C4 S6 HPW4

*Prerequisite:* BLDG3004

**Note/s:** Compulsory.

Specialized building techniques employed on major projects including the use of plant, equipment and various construction systems: excavation equipment, shoring, ground anchorage, pile drivers, formwork, slip form, craneage, concrete handling. Construction methods with minimal impact on the environment. Integrated construction systems. Students undertake onsite studies. Emphasis on method of construction rather than the attributes of the finished product.

### **BLDG3050**

#### **Soil Mechanics for Building**

*Staff Contact:* Dr S. Valliappan

C2 S6 HPW2

**Note/s:** Compulsory.

The origins and formation of soils; clay mineralogy; classification of soils; soil as an engineering material; site investigation; boring, sampling and insitu testing; shear strength of soils; stress distribution in earth masses; consolidation and settlement; earth pressure calculations; bearing capacity; improvement of soil properties by compaction and stabilization; introduction to foundation design; laboratory testing of soils.

### **BLDG3265**

#### **Management 5 (Project Management)**

*Staff Contact:* Mr G.E. Levido

C3 S6 HPW3

*Prerequisite:* BLDG3264

**Note/s:** Compulsory.

Project management and site organization. Theory and concept of project management. Alternative organization of the building process. Application of project management in building. Management of predesign, design and

construction activities. Strategic planning, construction strategy. Site organization (physical), planning of materials handling. Project management control.

### **BLDG3312**

#### **Building Economics 2**

*Staff Contact:* Dr J. Hutcheson

C3 S6 HPW3

*Prerequisite:* ACCT9002

**Note/s:** Compulsory.

The business environment; business structures; taxation, depreciation; operating costs; economics of building plant and materials handling systems; financial control in the erection, management and demolition of buildings.

### **BLDG3321**

#### **Estimating 1**

*Staff Contact:* Mr P. Marsden

C2 S6 HPW2

*Prerequisite:* BLDG2301

**Note/s:** Compulsory.

Introduction to techniques used by building estimators. Topics include the analysis of costs of material, plant and labour, and the estimation of unit rates; labour and plant scheduling, preliminary items, general and site overheads, the preliminary estimate.

## **Year 4**

## **Session 7**

### **BLDG4006**

#### **Construction 6 (Industrialization and Technological Change)**

*Staff Contact:* A/Prof M. Marosszeky

C2 S7 L2

*Prerequisite:* BLDG3005

**Note/s:** Elective.

Factors influencing change in building techniques: technological change in building; implication of level of demand; new products, materials and processes; the regulatory system; the effect of government policy. The implications of changing techniques; the changing structure of work, skills loss, methodologies for coordinating building components; the evaluation of performance, social consequences of industrialization. Teaching centres around case studies of Australian and overseas building techniques, building systems, construction systems, portable buildings and mobile homes.

### **BLDG4266**

#### **Management 6 (Corporate Strategy)**

*Staff Contact:* Dr J. Hutcheson

C2 S7 HPW2

*Prerequisite:* BLDG3265

**Note/s:** Elective.

Corporate strategy and the overall general management of an enterprise in the building and development industry, derivation of policy by top management together with planning of policy implementation; tax planning. There is an integration and application of knowledge acquired in previous and concurrent courses. By using case studies students appraise the present position and future prospects of enterprises in the building industry; assess potential risks and opportunities; plan the human and physical resources and activities of the enterprises required to achieve corporate objectives.

**BLDG4267****Management 7 (Marketing)***Staff Contact: Dr J. Hutcheson*

C3 S7 HPW3

*Prerequisite:* BLDG3265**Note/s:** Elective.

Marketing for builders and developers in the Australian and Pacific environment with particular emphasis on the marketing mix, the relationship between a marketing system and its environment, development of marketing, tactics and strategy, market segmentation and the buyer decision process. Listing, selling and the auction process.

**BLDG4273****Law for Builders 3***Staff Contact: Mr I. Morrison*

C3 S7 HPW3

*Prerequisite:* BLDG3272**Note/s:** Elective.

Recognition of the significance of different land titles, tenures and interests in land; understand the construction and content of contracts, leases and other forms of agreement required for property dealings and use; develop a familiarity with public and private controls and restrictions on land use and development; appreciate the relationship between planning policies at all levels and the valuation process; a knowledge of the valuation review and determination processes of the Land and Environment Court and similar tribunals; appreciate the requirements for presentation of evidence as an expert witness; acquire a familiarity with major court cases, relevant to a valuer, which establish valuation principles; understand the major objectives of principal New South Wales Acts dealing with real estate or interests therein.

**BLDG4313****Building Economics 3***Staff Contact: Dr J. Hutcheson*

C2 S7 HPW2

*Prerequisite:* BLDG3312**Note/s:** Elective.

Capital investment analysis; advanced investment evaluation; feasibility studies; financial management and analysis; growth and development; the financial market.

**BLDG4322****Estimating 2***Staff Contact: Mr P. Marsden*

C2 S7 HPW2

*Prerequisite:* BLDG3321**Note/s:** Elective.

Advanced estimating techniques, competitive tendering, contract cost adjustments; computer techniques applied to estimating.

**BLDG4390****Property Valuation***Staff Contact: Mr C.D. Smythe*

C3 S7 L3

**Note/s:** Elective.

General principles of valuation. Judicial valuations, legal precedent, land titles and rights. Depreciation assessment. Building maintenance cycles. Time value of money and equivalence. Methods and philosophies of determining market value. Case studies of property valuations.

**BLDG4401****Thesis Preparation***Staff Contact: Mr G. Runeson*

C6 S7 HPW2

**Note/s:** Compulsory.

Thesis research requirements, format, writing style, mode of referencing, information sources, library facilities and thesis topic selection. Students will be required to produce a summary of objectives, a plan for their subsequent thesis research and a preparatory table of contents.

**Session 8****BLDG4007****Construction 7 (Special Project)***Staff Contact: Mr G. Levido*

S8 L2

*Prerequisite:* BLDG3005**Note/s:** Elective.

The study of special advanced topics in building construction on either a group or individual basis.

**BLDG4113****Building Science 3 (Energy and Thermal)***Staff Contact: Mr D. Hassall*

C3 S8 HPW3

**Note/s:** Elective.

Thermal design of buildings. Climate, thermal comfort. Heat flow through building materials, thermal storage, resistance, insulation. Ventilation and infiltration. Solar radiation, suncharts, sun control, solar reflections, shade and shading, solar access. Passive design. Daylight and artificial light.

**BLDG4114****Building Science 4 (Timber)***Staff Contact: Mr D. Lawson*

C2 S8 HPW2

**Note/s:** Elective.

The production and marketing of timber; test methods and properties; stress grading of timber, codes of practice, chemical, physical and biological attack and weathering of timber, protection and preservation; thermal, acoustic and aesthetic properties: factory techniques, plywood, particle board, hardboard, softboard, prefabricated building components, laminated beams.

**BLDG4274****Commercial Arbitration***Staff Contact: Mr P. Davenport*

C3 S8 HPW3

*Prerequisite:* BLDG2263**Note/s:** Elective.

The nature and function of arbitration in relation to building contract disputes, the parties to arbitration, the arbitrator, his/her duties and powers. Case studies, moot arbitration.

**BLDG4284****Building Information Systems***Staff Contact: Dr O. Greste & A/Prof R. Miller*

C3 S8 HPW3

*Prerequisite:* BLDG3282**Note/s:** Elective.

The specification, development and use of computer based information systems in the management of building

companies. Information system components, attributes and lifecycle; system and procedure representation tools. Data files structures and access modes; database systems. Information system response, distribution, size and controls; logical and physical design. Computer hardware; communications; local area networks. Case studies of computer systems in building construction and management companies. The subject involves extensive use of microcomputer based database and spreadsheet packages.

#### **BLDG4303**

##### **Quantity Surveying 3**

*Staff Contact: Mr P. Marsden*

C3 S8 HPW3

*Prerequisite:* BLDG3302

**Note/s:** Elective.

Functions of the cost planner; liaison with consultants; cost planning techniques including practical exercises; cost control and design economics; professional practice.

#### **BLDG4391**

##### **Land Economics**

*Staff Contact: Mr G. Beckett*

C3 S8 HPW3

*Prerequisite:* BLDG3312, BLDG4390

**Note/s:** Elective.

Ability to apply relevant valuation techniques to a broad range of common land use types; acquisition of knowledge of efficient property management techniques; identification of a range of unusual property types which require specialised valuation skills and knowledge and the means of developing such skills and knowledge; knowledge to develop novel valuation techniques for application to specific property types; ability to determine the highest and best use for nominated property types; the application of inspection techniques for broad property types; competency in the use of property valuation and inspection aids; familiarity with resource materials and information sources required to undertake specific types of valuation.

#### **BLDG4392**

##### **Property Development**

*Staff Contact: Dr J. Hutcheson*

C2 S8 HPW2

*Prerequisite:* BLDG3312

**Note/s:** Elective.

A total approach to the building process through the four stages of pre-design, design, construction and post-construction. Market research, establishing client's needs, site selection and analysis, feasibility studies and financing methods. Selection and monitoring the work of the design team, preliminary designs, preparation of development applications, cost value analysis, value management, life cycle costing and services integration. Preplanning the building process, utilization of construction and management consultants. Development control during construction and in completion, tenant fitouts and handing over to clients of the completed project.

#### **BLDG4393**

##### **Management of Buildings**

*Staff Contact: Dr J. Hutcheson*

C2 S8 HPW2

**Note/s:** Elective.

Maintenance and obsolescence; economics of refurbishment; marketing; tenancy management; building control and security systems; management of commercial, retail, industrial and large scale residential complexes; legal aspects of tenancy management; energy conservation; taxation law and implications.

### **Other Subjects**

#### **BLDG4402**

##### **Thesis**

*Staff Contact: Mr G. E. Levido*

C6 S8

*Prerequisite:* BLDG4401

**Note/s:** Compulsory.

Results of research on selected Thesis topic, written up in technical report format. The Thesis requires the student to survey the literature on the chosen topic, collect information and data, effectively process and document the research results and draw reasoned conclusions from them.

#### **BLDG9000**

##### **Special Programme**

*Staff Contact: Mr G. E. Levido*

S7 or 8 HPW2

**Note/s:** Elective.

This subject, to be presented by visiting lecturers, would allow presentation of subject material not covered elsewhere in the course. The subject is to be presented on an occasional basis; subject content dependent on lecturer.

#### **BLDG9998**

##### **Quantity Surveying Industry Program**

*Staff Contact: Mr B. Reece*

S2-6

**Note/s:** Compulsory.

Students proposing to apply for membership in the Australian Institute of Quantity Surveyors after graduation should enrol in this subject rather than BLDG9999. It must be completed before the start of the final year of the course.

The Industry Program is to be taken as a six months continuous employment with a professional Quantity Surveying firm or with a firm or building company where quantity surveying activities are undertaken. Students should be under the direct supervision of a corporate member of the Australian Institute of Quantity Surveyors or, where this is not possible, under the guidance of a mentor appointed by the Institute. Submission requirements are a daily diary, report and a completed form from the employer.

#### **BLDG9999**

##### **Building Industry Program**

*Staff Contact: Mr B. Reece*

S18

**Note/s:** Compulsory.

6 months of approved building industry experience at any time prior to graduation. Qualification for membership of the Australian Institute of Building requires that 80 days of the industry experience be completed prior to the start of the final session of the course. Submission requirements are a daily diary, report and a completed form from the employer.

## Industrial Design

### Design Studios

#### IDES1021

##### Basic Design

*Staff Contact: Department Office*

C4 S1 L1 T3

The basic elements of two and three dimensional design, and the development of the analytical and communication skills necessary for their understanding. Development of the creative processes concerned with the exploration and manipulation of the elements. Studies are undertaken within the context of art and design.

#### IDES1031

##### Design Studio 1

*Staff Contact: Department Office*

C4 S2 L1 T3

*Corequisites: IDES1021*

Theoretical and project work to introduce design methodologies and their application to three dimensional design problems.

#### IDES2161

##### Industrial Design Studio 2

*Staff Contact: Department Office*

C10 F L1 T4

*Prerequisite: IDES1031*

The introduction of industrial design and research methodologies. Studies and projects are undertaken within the context of social, commercial and industrial requirements.

#### IDES3221

##### Industrial Design Studio 3

*Staff Contact: Department Office*

C10 F L1 T4

*Prerequisite: IDES2161*

Continuation of the theoretical and project work of Industrial Design Studio 2. These two subjects cover examples from the range of major industrial design problems.

#### IDES4291

##### Industrial Design Studio 4

*Staff Contact: Department Office*

C5 S1 L1 T4

*Prerequisite: IDES3221*

Advanced theoretical and project work taking a particular project to an advanced state of development, preparatory to undertaking the Project.

#### IDES4301

##### Project Research

*Staff Contact: Department Office*

C4 S1 L1 T3

*Prerequisite: IDES3221*

Product research methodologies and their application to an individual project chosen in conjunction with the School. This work provides the research basis for the Project.

#### IDES4321

##### Environmental & Interior Design for Industrial Designers

*Staff Contact: Department Office*

C2 S1 L1 T2

*Prerequisite: IDES2161*

Understanding the nature of environmental space and spatial ambience, and the relationship of objects and products to the surrounding space. Environmental and interior design projects.

#### IDES4351

##### Project

*Staff Contact: Department Office*

C12 L1 T11

*Prerequisite: IDES3221*

*Corequisites: IDES4301*

A project within the practice areas of industrial design, chosen by the student in consultation with the School at the commencement of Project Research. The project is based upon the research base established in Project Research.

### Design Skills

#### IDES1011

##### Workshop Technology

*Staff Contact: Department Office*

S2 L0.5 T1.5

Introduction to workshop techniques involved in the production of models and prototypes. Development of safe working practices using a range of hand tools and basic machining processes.

#### IDES1041

##### Visual Thinking & Drawing

*Staff Contact: Department Office*

C4 S1 L1 T3

The development of the capacity to see and the hand/eye co-ordination skills to record what is seen using a variety of media and methods. The capacity to develop and express visual concepts. The relationship between visual thinking and creative processes.

#### IDES1051

##### Geometrical & Mechanical Drawing

*Staff Contact: Department Office*

C4 S1 L1 T3

Introduction to orthographic drawing with particular reference to the Australian Engineering Drawing Standard. Mechanical projections other than perspective. Descriptive geometry and the analysis and synthesis of form and spatial relationships.

#### IDES2101

##### Perspective & Rendering Techniques

*Staff Contact: Department Office*

C4 S2 L1 T3

*Prerequisites: IDES1041 and IDES1051*

Review of the major mechanical perspective systems and rendering techniques with particular reference to their applications in product design. Project studies are undertaken within the range of systems and media.

**IDES2121****Introduction to Computing***Staff Contact: Department Office*

C3 S2 L1 T2

Introduction to the computer with emphasis on its application in industrial design, engineering and information systems. Hardware and software. Experience in the use of equipment and development of basic programming skills.

**IDES2171****Computer Aided Design***Staff Contact: Department Office*

C4 L2 T2

*Prerequisite: IDES2121*

Computer aided design and drafting systems and their applications in product development. Mathematical optimization techniques.

**IDES3231****Computer Graphic Applications***Staff Contact: Department Office*

C4 L2 T2

*Prerequisite: IDES2171*

Development of Computer Aided Drafting with particular reference to perspective and rendering techniques using computing equipment, as well as the application of computing to other graphic problems.

**IDES3281****Photography for Industrial Design***Staff Contact: Department Office*

C2 S2 L1 T1

*Prerequisite: IDES2161*

The theory and practice of colour and black and white photography with particular reference to product and design presentation applications. Projects develop studio and dark room skills.

**IDES4311****Graphic Design for Industrial Designers***Staff Contact: Department Office*

C3 S1 L1 T2

*Prerequisite: IDES1031*

The major graphic production processes, and their application in graphic design. Type and typesetting systems. Graphic design projects.

**Design Theory****IDES1061****History of Art/Architecture/Design***Staff Contact: Department Office*

C1 S1 L1

General overview of the history of art, architecture and design from earliest times to the present, within the context of aesthetic and sociocultural influences.

**IDES2091****Design Methodology***Staff Contact: Department Office*

C1 2 L1

*Prerequisite: IDES1031*

Design methodology and its applications in the industrial situation, analysis of problems, strategy planning, the

application of research methods. The methods. The problem of problem solving.

**IDES2151****Product Studies Seminars***Staff Contact: Department Office*

C2 T2

*Prerequisite: IDES1031**Corequisites: IDES2161*

A series of case studies, in which products and their related systems are analysed for design, engineering, marketing and production factors and qualities. The Seminars are given by panels of staff experts and professional practitioners. The subject is taken during years 2, 3 and 4. Students undertake an assignment based on the Seminars and submit it during Year 4.

**IDES3271****Form Theory***Staff Contact: Department Office*

C1 S2 L1

*Prerequisite: IDES1021*

Study of form in nature, art and design. Theories of form. Form organisation, typology, and description.

**IDES4331****History of Consumer Products***Staff Contact: Department Office*

C0.5 LO.5

*Prerequisite: IDES1061**Corequisites: IDES4341*

Products as an aspect of our culture/society and commerce/industry from 1750 to the present day. The development of consumer products is examined within the context of the changes taking place in industry and society.

**IDES4341****History of Industrial Design***Staff Contact: Department Office*

C0.5 LO.5

*Prerequisite: IDES1061**Corequisites: IDES4331*

This subject is normally taken in conjunction with IDES229 and is a chronological study of the emergency and development of industrial design from 1850 to the present day.

**IDES4361****Professional Practice***Staff Contact: Department Office*

C1 L1

*Prerequisite: IDES2161*

Professional practice in industry and on consultancies. Organisation and management of design offices and projects. Professional and ethical responsibilities. Contracts, determination of fees, patents, design registrations, legal responsibilities and liabilities.

**IDES4371****Managing Product Innovation and Development***Staff Contact: Department Office*

C1 L1

*Prerequisite: IDES2091*

The problem of integrating innovative product design and development within the overall managerial and financial structure of industry. Australian and overseas case studies

are given. Particular emphasis is placed on the development of appropriate design management structures and methods for the Australian situation.

## Ergonomics

### IDES1073

#### Principles of Ergonomics

*Staff Contact: Department Office*

C2 S1 L2

Applied anatomy and kinesiology, anthropometrics and application in product and environmental design. Physiological and psychological aspects of ergonomics, work, environment effects, man-machine interface. Principles of ergonomics research methods.

### IDES2193

#### Applied Ergonomics

*Staff Contact: Department Office*

C3 L1.5 T1.5

*Prerequisite: IDES1073*

Analysis of ergonomic requirements within the context of product development. Ergonomic methodology and experimental methods and their application in the product research and development process.

## Industrial Experience

### IDES4391

#### Industrial Experience

*Staff Contact: Department Office*

C2 S2

*Prerequisite: IDES2161*

Students obtain 3 months of approved practical experience in a design office. The subject may be taken from the end of the second year but at least half of the requirement must be taken from the end of the third year. The subject cannot be taken in units of less than 1 month. The experience is to be recorded in a logbook to be signed by the employer.

## Science and Engineering Subjects

### IDES1082

#### Engineering Design Mechanics

*Staff Contact: Department Office*

C4 S2 L2 T2

*Prerequisites: MATH1021 and PHYS1939*

Equilibrium, Friction Systems of multibody members, coplanar. Mass centre; centroid. Fluid statics. Plane particle kinematics; rectilinear, motion. Plane particle kinetics; equations motion; work, power, energy; impulse, momentum, impact.

### IDES2132

#### Introduction to Materials Science

*Staff Contact: Department Office*

C1 S1 L1

*Prerequisite: PHYS1939*

Structure and properties of major engineering materials, including polymers and timbers. Including materials recognition and design potential.

### IDES2142

#### Mechanics of Solids for Industrial Design

*Staff Contact: Department Office*

C3 S1 L2 T1

*Prerequisite: IDES1082*

Stress and strain. Bars under axial loading. Stresses and deformation due to bending. Strain energy. Flexibility and stiffness. Stress and deformation due to torsion. Helical springs.

### IDES2182

#### Materials and Manufacturing Processes for Industrial Designers A

*Staff Contact: Department Office*

C2 L2 T1

*Prerequisite: IDES2132*

Engineering materials including polymers and timbers and their application in manufacturing processes. The range of processes.

### IDES3202

#### Materials and Manufacturing Process for Industrial Designers B

*Staff Contact: Department Office*

C3 S2 L2 T1

*Prerequisite: IDES2182*

Economics of production processes, design constraints alternate design and manufacturing strategies. Test procedures.

### IDES3212

#### Electrical Engineering for Industrial Design A

*Staff Contact: Department Office*

C2 L1.5 TO.5

*Prerequisite: PHYS1939*

Ohm's law, concepts of AC and DC voltage and current. The basics of transformers, motors and electromechanical product systems. Electromagnetic interference, shielding and earthing.

### IDES3252

#### Electrical Engineering for Industrial Design B

*Staff Contact: Department Office*

C2 S2 L1 T1

*Prerequisite: IDES3212*

Feedback Systems. Thermo, active and passive control elements. Analog and digital systems. Microprocessor systems and instrumentation.

### IDES3262

#### Production Design and Technology for Industrial Design

*Staff Contact: Department Office*

C2 S2 L1.5 TO.5

Basic metrology and tolerancing, introduction to plasticity theory and its application to theories for machining and forming, economics of production processes; interaction of machines and tools; principles of process selection; review of major processes, interaction of design, production quantity, materials and processes; value analysis, design constraints. Quality assurance.

**IDES4382****Production Management for Industrial Design***Staff Contact: Department Office*

C2 S2 L1.5 TO.5

*Prerequisite: IDES2182*

Methods engineering, motion and time study, financial incentives, applications to machine controlled processes, work sampling and data collection. Factory layout. Control of jobbing, repetitive batch and continuous production. Manufacturing organisations, functions, interrelationships and information flow. Sampling techniques in quality control, control charts, quality assurance. Economic objectives of the firm. Economic measure of performance net present value, annual equivalent value and the DCF rate of return (including the incremental rate of return) and their application in the selection and replacement of processes and equipment.

**MATH1011****General Mathematics 1B***Staff Contact: School of Mathematics First Year Office*

U1 S1 HPW6

*Prerequisites:* HSC exam score range required: 2 unit Mathematics (60100) or 2 and 3 unit Mathematics (1150) or 3 and 4 unit Mathematics (1200). (2 unit Mathematics in this instance refers to the 2 unit Mathematics subject which is related to the 3 unit Mathematics subject. It does not refer to the subjects Mathematics in Society or Mathematics in Practice. These numbers may vary from year to year.)

**Note/s:** Excluded MATH1032, MATH1042, ECON2200, ECON2201, ECON2202.

Functions (and their inverses), limits, asymptotes, continuity; differentiation and applications; integration, the definite integral and applications; inverse trigonometric functions; the logarithmic and exponential functions and applications; sequences and series; mathematical induction; the binomial theorem and applications; introduction to probability theory; introduction to 3dimensional geometry; introduction to linear algebra.

**MATH1021****General Mathematics 1C***Staff Contact: School of Mathematics First Year Office*

U1 S2 HPW6

*Prerequisite: MATH1011*

**Note/s:** Excluded MATH1032, MATH1042, ECON2200, ECON2201, ECON2202.

Techniques for integration, improper integrals; Taylor's theorem; first order differential equations and applications; introduction to multivariable calculus; conics; finite sets; probability; vectors, matrices and linear equations.

**MATH2819****Statistics SA***Staff Contact: School Office*

U1 F HPW2

*Prerequisite: MATH1021 or MATH1032*

**Note/s:** Restricted to Science students in programs 6832, 6833 and course 3950.

Probability, random variables, independence. Binomial, Poisson and normal distributions, transformations to normality, estimation of mean and variance, confidence intervals, tests of hypotheses, contingency tables, two sample tests of location, simple and multiple linear regression, analysis of variance for simple models.

**PHYS1939****Physics 1 (Building and Industrial Design)***Staff Contact: First Year Director*

Energy transfer: concepts of temperature and heat; calorimetry; gas laws; phase changes and humidity; heat transmission; refrigeration. Electrostatics and electromagnetism: electric and magnetic fields; DC circuits; electromagnetic induction. Sound: wave properties; absorption of sound. Properties of matter: atomic bond types and their relation to elasticity, plasticity and fracture; pressure in stationary and moving fluids.

**Commerce Subjects****ACCT9001****Introduction to Accounting A***Staff Contact: School Office*

S1 L1.5

**Note/s:** Architecture - 2 credit points compulsory for BBuild degree course students.

Introduces non-commerce students to the nature, purpose and conceptual foundation of accounting: information systems including accounting applications, and analysis and use of accounting reports.

**ACCT9002****Introduction to Accounting B***Staff Contact: School Office*

S2 L1.5

*Prerequisite: ACCT9001*

Introduces non-commerce students to managerial accounting: long-range planning, budgeting and responsibility accounting; cost determination, cost control and relevant cost analyses.

**MARK2012****Marketing Fundamentals***Staff Contact: School Office*

S1 L2 T2

*Prerequisites: ACCT1511, ECON1102, ECON1203**Corequisite: MARK2032*

This subject provides a conceptual framework for developing and understanding of marketing including the marketing process, marketing environment and marketing planning. It covers product, service, consumer, industrial, global and social aspects of marketing and introduces the marketing mix, market segmentation, positioning and product differentiation.

**MARK2032****Consumer Behaviour A***Staff Contact: School Office*

S1 L2 T2

*Prerequisites: ACCT1511, ECON1102, ECON1203**Corequisite: MARK2012*

This subject studies in details the internal influences on behaviour as they apply to the consumption process. The course is designed to understand how consumers process information and the emotions and motivations that impact on that process. The focal topics include: the study of cognition, memory, learning, perception, motivation, and the communication process as these relate to marketplace behaviour.



**MARK2042****Consumer Behaviour B***Staff Contact: School Office*

S2 L2 T2

*Prerequisites:* MARK2012, MARK2032

This subject studies in detail the external influences on behaviour and the role of the marketplace in the sociopolitical system. Topics of study include attitude formation, the impact of reference groups and institutions on marketplace behaviour. Specific attention is given to the purchase and consumption situation in terms of individual and group purchase behaviour. In the latter particular attention is given to household and organizational buying behaviour.

**MARK2052****Marketing Research***Staff Contact: School Office*

S2 L2 T2

*Prerequisite:* ECON1203 or approved substitute, MARK2012

This subject examines the sources and types of marketing information relevant to marketing management. Topics include: problem definition and research design; questionnaire design; sampling; data collection; interpretation and reporting; management control of research including briefing, evaluation of proposals and distinction between research results and marketing implications; the use of continuous research; and new developments in market research.

**MARK3073****Brand Management***Staff Contact: School Office*

S1 L2 T2

*Prerequisite:* MARK2012, MARK2042

This subject provides an overview of marketing planning for products and services with a focus on planning at the brand level. Marketing concepts such as segmentation, differentiation, positioning and product lifecycle will be re-examined from a strategic perspective. The marketing mix will be expanded to address strategies of new product development, pricing, distribution and promotions management. Case analysis will be introduced to develop strategic thinking.

**MARK3083****Strategic Marketing Management***Staff Contact: School Office*

S2 L2 T2

*Prerequisite:* MARK3073

Concepts introduced in previous subjects will be broadened to address issues at the business unit level. Corporate mission, competitive stance of the organization, pricing policies, trade relations, internal marketing and logistics will be addressed. The management of organizational resources such as financial and human resources are considered using, for example, portfolio analysis. Decision support systems are also examined.

General Education Program

12 credit points of General Education Program subject taken throughout the course.

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**Town Planning****Core Subjects****PLAN1111****Introduction to Planning***Staff Contact: Mr S. Harris*

C14 S1

Nature and scope of planning and planning education. Basic planning skills and knowledge. Problem solving techniques. The physical, social, economic and political environment of planning, the methodology of planning, and the activities of planners. Collection, analysis, recording and presentation of information; organisation of problems; preparation of proposals.

**PLAN1121****Planning Studies***Staff Contact: A/Prof R. Zehner*

C14 S2

Lectures, seminars and projects concerning principles of research related to assessment of the urban environment. Role of planning studies in the planning process, relationship to planning objectives and decision making. Research Methodology: social science research methods. Study design, sampling techniques, questionnaire design, data collection, data analysis using packaged computer programs. Introduction to statistics. Introduction to demographic concepts and methods. Social Science Research and Planning Issues: a series of student-led seminars that focus on topics of importance to planning (e.g., measuring environmental quality, social indicators, social mix, community design and crime) which have been studied from a variety of viewpoints using various research techniques.

**PLAN1131****Local Planning 1***Staff Contact: Dr T. Lukovich*

C14 S1

*Prerequisites:* PLAN1111 and PLAN1121

A lecture, seminar and practical exercise program dealing with the principles and practice of planning, from the small scale of housing to the larger scale of urban districts. Factors which influence the shape of urban areas, and which affect the quality of life within them: physical factors noise, sunlight and shade, microclimate and wind, soils and other site engineering factors, traffic and accessibility, design and aesthetics; socioeconomic factors demography, ethnicity, and politics. Processes of urban change. Students undertake reading and exercises in integrated planning, are brought to the level at which they will be able to prepare simple local environmental studies, and to assess development applications with a full awareness of the issues to be considered and the implications of their decisions.

**PLAN1141****Regional Planning 1***Staff Contact: Dr P. Murphy*

C14 S2

*Prerequisites:* PLAN1111 and PLAN1121

Introduction to major land-use and infrastructure patterns, economic and social processes, in large urbanised and less

urbanised regions; examples of the latter include, respectively, metropolitan Sydney and the far north coast of NSW. Biophysical, social, and economic dimensions of regional systems, and the typical public management issues to which their operation gives rise, are analysed. Regional management is presented as a means of meeting social and economic objectives of the community, both in itself and by providing a policy framework within which local government planning operates. Lecture and tutorial format.

#### **PLAN1151**

##### **Planning Law and Administration**

*Staff Contact: Mr P. Williams*

C14 S1

*Prerequisites: PLAN1131 and PLAN1141*

Theory and practice of techniques and administrative procedures needed to transform policies and details of planning proposals into documents which have legal effect.

The subject comprises three parts, Planning Law, Planning Administration and Land Valuation. Planning Law: conceptual/theoretical nature of the law; relationship between the environmental context, the Crown, the parliament and the judiciary; ways in which the laws are made and promulgated, relationship between laws and regulations, the legal concept of property in land, definition of various legal concepts of interests in land, Australian Constitution and legal relationship between Commonwealth and States, particularly in regard to matters affecting land, the place of administrative law. An historical introduction to planning law in Australia. A detailed account of principles and practice of strategic and statutory planning in Australia. State environmental planning policies, regional environmental plans, local environmental plans, the role and function of environmental studies, statutory mapping, the development application process, the appeal process, the settlement of disputes. Planning Administration: administrative context within which planning operates as a function of government, especially the role and function of statutory bodies in the planning and environment area, the administration of the planning function at national, state and local levels, the art of management, administrative theory, personnel administration, the role and responsibility of the professional planner in the public and private sector. Land Valuation: principles and practice of land valuation in Australia. Definitions of value, methods of valuation, the role of the valuer, compensation and betterment.

#### **PLAN1161**

##### **Local Planning 2**

*Staff Contact: Ms S. Thompson*

C9 S2

*Prerequisites: PLAN1131 and PLAN1151*

*Corequisites: PLAN1162*

The subject focuses on the concept of the humane city and on diversity and difference within urban communities. The subject aims to develop an understanding of the nature of different community groups, their characteristics, special needs and difficulties. Planning policy is critically assessed in terms of its ability to respond to these groups. Practical skills and research approaches are explored; better communication in conflict situations is developed. The subject is undertaken by a series of lectures, site visits, critical readings, practical exercises and seminars.

#### **PLAN1171**

##### **Regional Planning 2**

*Staff Contact: Dr R. Freestone*

C9 S1

*Prerequisite: PLAN1151 and PLAN1141*

*Corequisites: PLAN1172*

The official and policy issues in metropolitan form and structure, with particular reference to the spatial impacts of economic growth and restructuring. Focus on Sydney in a national and international context. Teaching in lectures, seminars, field-trips and directed research.

#### **PLAN1181**

##### **Thesis**

*Staff Contact: Prof A. Cuthbert*

C20 F

A specialized individual study taken under staff supervision with the object of allowing students either to gain knowledge in some aspect of town planning which is not covered in the course or to increase their knowledge of some aspect which has been covered. The study does not require original experimental research for the purpose of discovering new facts or the testing of an hypothesis; neither is it an essay permitting the student's unsupported opinion. The thesis topic is submitted by the student for the approval of the Head of the School of Town Planning at the end of Year 4 of the course and the completed thesis is submitted for examination towards the end of Year 5.

Students participate in seminars on report and thesis writing during Year 5 and present progress reports on their theses at the seminars. The subject is not complete until a bound copy has been submitted.

### **Related Subjects**

#### **PLAN1162**

##### **Integrated Planning Project 1**

*Staff Contact: Ms S. Thompson*

C8 S2

*Corequisites: PLAN1161*

Each year a project is designed which requires knowledge and skills from the several subdisciplines of planning. The general focus is on a selected metropolitan and local urban planning issue. The aim of the project is to further develop skills in the complementarity of knowledge and perspectives typically required to deal with complex problems in the real world. Depending on the topic under investigation, students may be required to attend an offcampus survey camp of up to one week's duration. The project will involve research, analysis, presentations and community liaison.

#### **PLAN1172**

##### **Integrated Planning Project 2**

*Staff Contact: Dr R. Freestone*

C10 S1

*Corequisites: PLAN1171*

Each year a project is designed which requires knowledge and skills from the several subdisciplines of planning. The aim of the project is to further develop skills in the complementarity of knowledge and perspectives typically required to deal with complex problems in the real world. Depending on the topic under investigation, students may be required to attend an offcampus survey camp of up to

one week's duration. The project will involve research, analysis, environmental planning and implementation.

#### **PLAN1301**

##### **Practical Experience**

*Staff Contact: School Office*

For the purpose of practical experience covered by Session 2 of Year 3 and Session 1 of Year 4 the student shall be engaged in approved employment related to the course; for example, in government planning and housing authorities, in municipal and shire councils preparing or implementing town and country planning schemes, in private development companies or with planning consultants. The type of employment proposed must be submitted to the Head of the School of Town Planning for approval.

Students are expected to attend a seminar to discuss their experience approximately half way through their year off campus and are required to submit a diary describing and assessing their experience when they enter Year 4, Session 2.

#### **PLAN2111**

##### **Professional Practice**

*Staff Contact: School Office*

C2 S2

Planning as a profession, professional standards, ethics, preparing studies and plans, preparing and giving evidence, briefing and consulting, management, corporate planning, continuing education.

#### **PLAN2112**

##### **The Development Process**

*Staff Contact: School Office*

C6 S2

Introduction to land development process in N.S.W. Basics of investment analysis, elemental costing and marketing. Society, the market place, land development and the role of town planning.

#### **PLAN2114**

##### **History of Town Planning**

*Staff Contact: Dr R. Freestone*

C3 S2

Planning theories and practices in the late 19th and 20th century. The origins and evolution of town planning ideas and ideology in Australia and overseas. Recent planning theories and practices. The material is covered through lectures, projects, discussion seminars and field-trips.

#### **PLAN2211**

##### **Environmental Science 1**

*Staff Contact: Dr P. Murphy*

C3 S1

Elements of the biophysical environment which may have direct significance for people and their occupation of the earth. These elements are considered both as controls on peoples' activities and as targets for society's impacts, in ways relevant to the work of urban and regional planners. Physical processes directly related to planning problems; human occupation of areas subject to natural hazards; impact of urbanization on the environment; environmental issues in general; skills in map interpretation.

#### **PLAN2212**

##### **Transportation Planning**

*Staff Contact: Dr T. Lukovich*

C4 S2

The relationship between the planning and management of transport and the planning and management of land-use and the environment. Transport demand and supply at strategic, tactical and operational levels; networks; policies for the integrated management of precincts, corridors and centres; transport assessment of development applications; environmental assessment of transport proposals. At least one computer application is tested, and there are further assignments and exercises to develop basic skills in analysis.

#### **PLAN2213**

##### **Urban Design**

*Staff Contact: Prof A. Cuthbert*

C4 S2

The aim is to develop a greater awareness of the character and quality of our physical surroundings and to provide some knowledge as to how improvements can be made. Slide lectures and site visits are used to illustrate good or interesting developments in Australia and overseas. Townscape elements are studied and performance standards and other controls affecting the appearance are discussed. Small design exercises and, where feasible, at least one bigger project dealing with a real situation are undertaken.

#### **PLAN2215**

##### **Engineering A**

*Staff Contact: School Office*

C2 S1

Transport engineering: road hierarchy, road geometry, arterial roads, access streets, intersections, cross sections, road layouts in residential areas, public transport. Traffic and environment: accidents and safety, noise, air pollution. Traffic engineering: characteristics of road vehicle, driver, and road system, levels of performance, traffic management.

#### **PLAN2216**

##### **Engineering B**

*Staff Contact: School Office*

C1 S1

The provision of public utilities: town water supplies, sewerage, drainage, flood management, electricity and gas supply, telecommunications, waste disposal.

#### **PLAN2217**

##### **Urban Society and Sociology**

*Staff Contact: A/Prof R. Zehner*

C4 S1

A series of lectures and seminars on the relationship between planning and the social structure of urban areas with reference to both social theorists and empirical studies. The origins and concerns of the discipline of sociology and of urban sociology. Urban effects on living patterns. The relationships between different groups, including town planners, in the urban context. The evaluation of planning objectives and outcomes. Sociological views of the planner's role in contemporary urban society.

**PLAN2218****Heritage and Conservation Planning***Staff Contact: Mr S. Harris*

C4 S2

Definitions and philosophy of heritage and conservation planning. Setting objectives and formulating policy, criteria for selecting and assessing heritage and conservation areas; planning considerations to protect and enhance the community fabric; legislation and mechanisms for heritage and conservation existing in New South Wales and elsewhere; potential; some effects of heritage and conservation (physical, social, economic); attitudes to heritage and conservation. Case studies of selecting and planning a heritage and/or conservation area.

**PLAN2221****Environmental Science 2***Staff Contact: Dr P. Murphy*

C3 S1

Introduction to methods used to incorporate consideration of physical environmental variables into the planning process. Environmental impact studies.

**PLAN2311****Politics, Power and Policy***Staff Contact: Mr P. Williams*

C4 S2

The aim of the subject is to create an understanding of the complex forces and processes (political, ideological, economic etc) which operate in the management of urban areas. Issues covered will include relationships between urban government, politics, planning, the community and various interest groups. Urban theory. The relationship between public policy and planning. The social context of planning. The different social needs within Australian society. The formulation and implementation of policy.

**PLAN2321****Planning Law and Administration 2***Staff Contact: Mr P. Williams*

C4 S2

The objective of this subject is to provide practical guidance on the operation of the Land and Environment Court, the significance of court judgments and the role of planners. While emphasis is placed on taking steps in plan making, urban design and development control to avoid planning appeals the major concern is with preparing for an appeal, legal research, preparation of evidence, appearing as a professional witness and small group psychology.

**PLAN2411****Communication Techniques 1***Staff Contact: Ms S. Thompson*

C4 S1

Graphics as an effective communication medium for town planners. Technical information and studio experience in essential skills for creative graphics as a functional tool for communicating factual information to peers and clients. Exercises in basic drawing, drafting and lettering. Photography and visual presentation techniques for brochures and displays are also covered.

**PLAN2413****Computers and Information Systems***Staff Contact: A/Prof R. Zehner*

C2 S2

Computer use in the planning professions. Components of computers and their interrelationships; time sharing, batch and standalone processing. Exercises using integrated software including data bases, spreadsheets, graphics and word processing. Planning information systems: applications, establishment, maintenance.

**PLAN2421****Communication Techniques 2***Staff Contact: Mr S. Harris*

C4 S2

The range of nongraphic techniques of planners' information communication: reports and letters language, structure, style; audiovisual presentation video and slide/tape; public speaking telephone, one-to-one, small groups, large meetings; physical models, basic techniques and uses.

**PLAN7128****Research Methodology***Staff contact: A/Prof R. Zehner*

C6 SS

Social science research methods. Sampling techniques, questionnaire design, interviewing, data processing, use of packaged computer programs. Introductory statistical methods, applications to data.

**PLAN7212****Economic Issues in Planning**

S2

The market mechanism and market failure. Macroeconomic policy, investment patterns and economic change in cities and regions. Financing urban services and the impact of growth on local government. Economic impacts of development proposals.

**Planning Electives**

Students are required to select an elective from the topics listed (subject to availability) for the session where such an elective is part of the course program. Students are permitted to select electives offered by other schools subject to approval of the lecturer concerned and the Head of the School of Town Planning.

**PLAN3000****Planning Elective***Staff Contact: School Office*

C4 F or SS

For initial enrolment only.

**PLAN3111****Local Planning 3**

Research and design into a topic at the neighbourhood, district or town scale of current concern in planning.

**PLAN3112****Regional Planning 3**

C4 F or SS

Planning methodology in metropolitan areas; a critical overview and a detailed examination of planning processes, policies and programs for selected areas/functions/institutions.

**PLAN3113**  
**Urban Studies**  
 C4 F or SS

An evaluation of the effects of one or more aspects of the urban environment on individuals and/or communities. Emphasis on individual research which expands the student's experience in methodological and substantive areas beyond what is encountered elsewhere in the course.

**PLAN3114**  
**Social Planning**  
 C4 F or SS

Planning responsibilities in equalizing resources distribution. Discussion of consensual goal definition and achievement versus social engineering. Popular participation in planning: why, where and how. Methodology and aids to social planning. Policy formulation and case studies. Parts of the program may be presented by and with practitioners in the field and include role playing games and a problem solving essay. Involvement in an area project may be substituted for some of the program.

**PLAN3211**  
**Residential Planning**  
 F or SS

Procedures and legal controls over land subdivision in NSW, land studies in terms of climate, terrain, vegetation, slopes, soils, drainage, etc; land development in relation to earthworks, roads, drainage and other utilities; detailed consideration of road and drainage design; subdivision design, land values and land economics. Innovative designs.

**PLAN3212**  
**Rural Planning**  
 C4 F or SS

Original research into a topic of current concern in rural planning.

**PLAN3213**  
**Urban Conservation**  
 C4 F or SS

Definitions and philosophy of urban conservation; setting objectives and formulating policy, criteria for selecting and assessing conservation areas; planning consideration to protect and enhance the urban fabric; legislation and mechanisms for urban conservation existing in NSW and elsewhere; potential; some effects of urban conservation (physical, social, economic); attitudes to urban conservation; case study of selecting and planning a conservation area.

**PLAN3214**  
**Environmental Psychology**  
 C4 F or SS

The environment considered subjectively and objectively. The individual as a social and psychological rather than a strictly economic being. The significance for decisionmaking, of individual and group values held on the environment (natural and built), from individual decisions on where to live through to government decisions on policy. Forces influencing the formation of these values. The distinction between value held and actual behaviour. The emergence of different viewpoints and resultant conflicts. The role of planning in understanding, anticipating and reconciling such conflicts.

**PLAN3216**  
**Transport and Environmental Management**  
 C4 F or SS

The integration of transport and environmental management at the local level.

**PLAN3217**  
**Urban Design 2**  
 C4 F or SS

Research into and design of an area, from an urban design perspective.

**PLAN3311**  
**Planning Law and Administration 3**  
 C4 F or SS

Aimed at increasing knowledge and awareness of issues in the general areas of Planning Law, Planning Administration and Statutory Planning.

**PLAN3414**  
**Computer Applications in Planning 1**  
 C4 F or SS

Computer applications in planning and related fields. An exploration and documentation of available software of use to the planning profession which has not been covered earlier in the course. Students also may develop and document their own planning related software.

**PLAN3115**  
**Planning in Developing Countries 1**  
 C4 F or SS

Issues in the planning of cities and regions in developing countries. Seminars, lectures and independent study.

**PLAN3116**  
**Planning in Developing Countries 2**  
 C4 F or SS

Supervised independent research on issues in the planning of cities and regions in developing countries.

**Subjects Offered to Other Schools**

**PLAN7123**  
**Environmental Planning**  
*Staff Contact: School Office*  
 S2 L2

**PLAN7124**  
**Environmental Planning**  
*Staff Contact: School Office*  
 S2 L2 T2

The aim of this subject is to provide the student with an understanding of the objectives of environmental planning and how the system operates with particular reference to New South Wales. The nature of planning philosophy, environmental law and administrative structures are the core aspects of the course. Within this framework specific areas of concern are introduced and discussed: the central business district of cities, housing and equity, land-use and transport interaction, urban design, location theory, and urban and rural conservation.

As planning is a temporal concept, historical, contemporary, and future themes are built into the subject. At the completion of the program the student should

understand the environmental planning process and the individual's rights under it.

PLAN7124 is also offered as a half elective (PLAN7123) consisting of the lecture sessions only. Assessment is by written assignment, tutorial paper, and class participation. The assignment is based on the lecture material, and students are also required to prepare a written paper for tutorial discussion.

#### **PLAN9111**

##### **Town Planning**

*Staff Contact: Ms S. Thompson*

S1 L2 T1

Introduction to the purpose, scope and application of planning. The urban planning process. Objectives and means of planning environmental policies, regional environmental plans, local environmental plans. Problems in planning: equitable distribution of resources. Environment and environmental impact statements. Planning law and administration. Future of cities, housing and transportation.

## **Landscape Architecture**

#### **LAND1130**

##### **Landscape Graphics 1**

*Staff Contact: Ms E. Mossop*

S1 L2 T2

Basic techniques of creative drawing with emphasis upon two dimensional graphics, use of pencil techniques. Assorted point media. Basic technical drawing with emphasis on twodimensional graphics. Pencil techniques, drafting conventions, layouts, lettering, instruments and scale presentation. The principles and application of orthographic, axonometric and isometric projection. Development of plan and section drawing techniques.

#### **LAND1131**

##### **Introduction to Computer Applications**

*Staff Contact: Ms A. Todd*

S1 L1 T1

The use of computers by landscape architects. Necessary knowledge to make full use of opportunities that the computer can provide including time sharing, batch processing and the use of graphic output. Components of the computer and their interrelationships, data processing, file management, use of library programs, interpretation of results, basic programming.

#### **LAND1132**

##### **Introduction to Landscape Architecture**

*Staff Contact: Ms H. Evans*

S1 L1

Introduction to the discipline of landscape architecture. Outline of the program and its major stands of planning; design and implementation; natural and social sciences; skills (graphic, verbal and written communication). Brief exposure to examples of landscape planning, design and implementation throughout history, both overseas and in Australia. Issues and opportunities for landscape architects.

#### **LAND1170**

##### **Design 1**

*Staff Contact: A/Prof F. Thorvaldson; Ms C. Duffy*

S1 L1 T2

Basic visual design exploration to appreciate the language of design elements and principles. Investigation into the methods of expression and media used in art and design. Practical exercises in communication of ideas in both two and three dimensional projects. Sketching, painting and construction exercises in both studio work and assignments.

#### **LAND1210**

##### **Landscape Analysis**

*Staff Contact: Ms A. Todd; Mr C. Burton*

S2 L2 T4

*Prerequisites:* GEOG1051, BIOS3004, GEOL5110, LAND1130

**Note/s:** This subject includes a number of lectures and field trips for the purpose of practical observation. Students are expected to make their own transport arrangements for these trips.

Observation and interpretation of both physical and biological environment and their interrelationships. Landscape character through sensory inputs and prehistory. Fundamental characteristics of biological systems, with emphasis on relationships with the physical environment, particularly geology, soils. Survey of Australian plant communities and associated fauna with particular emphasis on the Sydney Region. Recording and presentation techniques associated with landscape surveys, field excursions.

#### **LAND3151**

##### **Landscape Management 1**

*Staff Contact: Mr D. Crawford; Ms A. Todd*

S1 L1 T1

*Prerequisite:* LAND1210, LAND2110

Basic methods and techniques of resource data collection, analysis and valuation. Emphasis on an ecological approach to the investigation of resources and their management in relation to a range of land use types.

#### **LAND3252**

##### **Landscape Management 2**

*Staff Contact: Mr D. Crawford; Ms A. Todd*

S2 L1 T1

*Prerequisite:* LAND3151

Planning and management of both natural and cultural landscapes. Historical review of landscape planning and management in Australia and overseas. Examination of a range of landscape management methodologies and processes. Projects will include critical evaluation of three case studies.

#### **LAND1211**

##### **Horticulture for Landscape Architects**

*Staff Contact: Ms A. Todd; Mr J. Stowar*

S2 L1 T1

*Prerequisite:* BIOS3004

General horticultural study of propagation techniques, current nursery practice, impact of weeds, plant diseases, planting techniques and forestry practice. Plant collecting and identification.

**LAND1230****Landscape Graphics 2***Staff Contact: Ms E. Mossop*

S2 L2 T2

*Prerequisite: LAND1130*

Advanced techniques of creative drawing with emphasis on various media. Advanced technical drawing techniques including the use of various media, with emphasis on three-dimensional graphic concepts. Investigation of the basic principles of perspective theory. Application of perspective drawing to landscape architectural works, including landforms and other elements.

**LAND1270****Design 2***Staff Contact: A/Prof F. Thorvaldson; Ms C. Duffy*

S2 L1 T2

*Prerequisite: LAND1170, LAND1130*

Design theory and processes of spatial design and composition in both two and three dimensional projects, with references to present day and historical examples. Explorations of the geometry of form and principles of organisation. Development of a definite thought process and sequence of design development using two and three dimensional exercises in selected media. Concepts of abstraction and naturalism. Studio work includes sketching, photography and model making in order to develop conceptual awareness, perceptual sensitivity and visual literacy.

**LAND1290****Landscape Materials and Construction***Staff Contact: Ms H. Evans*

S2 L1 T2

Materials science: the relationship between the properties and structure of materials. The derivation, conversion or production of materials commonly used in landscape construction. Investigation of structures: elements and systems, loads and structural requirements and basic structural form.

**LAND2110****Environmental Sociology for Landscape Architects***Staff Contact: Ms H. Armstrong*

S1 L1 T1

Perception of human requirements through behavioural studies, including territoriality and personal space identity. The effect of environmental changes on people. Sociological techniques for understanding user requirements. Post design evaluation. Application of simple statistical methods.

**LAND2170****Landscape Design 1***Staff Contact: Ms E. Mossop*

S1 L2 T8

*Prerequisite: LAND1270, LAND1210, LAND1230 (OR LAND3203)*

Basic Design. The interpretation of aesthetic values of sites and environments used in design exercises. Freehand drawing in the field. Applied Design. Logical design process applied to simple landscape design exercises with emphasis on site survey, site analysis and functional analysis. Applied graphic presentation techniques for site survey and analytical drawings.

**LAND2171****History of Landscape Architecture***Staff Contact: Ms H. Armstrong; Mr C. Burton*

S1 L2

Chronological development of cultural landscapes described by the investigation of philosophical, aesthetic and social aspects of Eastern and Western cultures with an emphasis on the Australian context. Changing attitudes to nature as reflected in land uses. The development of garden design and landscape architecture.

**LAND2190****Landscape Technology A***Staff Contact: Ms H. Evans*

S1 L1 T2

*Prerequisite: LAND1290*

Site surveying and mapping techniques. Land surface manipulation including contour planning and basic earthworks. Field work exercises.

**LAND2270****Landscape Design 2***Staff Contact: Prof J. Weirick*

S2 L2 T8

*Prerequisite: LAND2170*

Basic Design. Aesthetic appreciation of chosen environments both urban and natural. Graphic communication using selected media. Seminars on design philosophy. Applied Design. An understanding of materials and construction as applied to a range of medium scaled projects with an emphasis on practical relationships between design, use of appropriate materials and construction detailing.

**LAND2271****Planting Design***Staff Contact: Ms H. Armstrong*

S2 L1 T1

*Prerequisite: LAND1211, LAND2170*

Plants as design elements; management of plant designs. Plant designs for specific sites; water plants, indoor plants, roof gardens, industrial and reclaimed sites. Observation of existing landscape schemes. Documentation of plant design.

**LAND2290****Landscape Technology B***Staff Contact: Ms H. Evans*

S2 L1 T2

*Prerequisite: LAND2190*

Landscape construction methods, including documentation of grading, drainage, earthworks and structures. Application of materials in detailed design development.

**LAND3130****Research Methods***Staff Contact: Ms A. Todd*

S1 L1

Investigation of various research methods with application to study in landscape architecture. Development of the critical logical and stylistic skills involved in researching, writing and presenting essays, thesis, articles, papers and reports.

**LAND3170****Landscape Design 3***Staff Contact: Ms H. Evans*

S1 L2 T6

*Prerequisites:* LAND2270, LAND2110, LAND2290

More advanced design exercises within the context of both natural and urban environments. Emphasis is on gaining a knowledge of site planning with specific reference to sites located within the geological areas of the Sydney Region. Projects are of a large scale and further emphasis is directed towards consideration of appropriate environmental management and realisation of required maintenance ends in relation to design solutions.

**LAND3190****Landscape Engineering A***Staff Contact: Mr P. Bliss*

S1 L2 T1

*Prerequisite:* LAND2290, LAND2270

Design and construction techniques related to basic civil works, including earthworks, hydraulics, municipal services, urban and rural drainage. Interpretation of engineering design and development documents. Projects incorporating detail resolution of civil works.

**LAND3191****Professional Practice A***Staff Contact: Ms E. Mossop*

S1 L2

*Prerequisites:* LAND2270, LAND2290

The Landscape Architect's responsibilities in Law. A study of the development of Law in Australia. Project procedure, the stages of a capital development project. Cost planning and feasibility studies. Construction contracts, including tender documentation, subcontract conditions and subconsultative responsibilities. The specification, its function and styles. A comparative analysis of various standard contract forms.

**LAND3270****Landscape Design 4***Staff Contact: Ms H. Evans*

S2 L2 T6

*Prerequisite:* LAND3170

Experience of dealing with medium to large scale projects of specific land uses such as schools and residential subdivisions, in which research is encouraged to assess environmental impacts, both physical and social. Emphasis on practical solutions and the preparation of contract documents including preliminary costing of design proposals.

**LAND3290****Landscape Engineering B***Staff Contact: Mr P. Bliss*

S2 L1 T2

*Prerequisite:* LAND3190, LAND3170

Design and construction techniques related to transport planning and route alignment. Overview of the principles of transportation systems including railway permanent ways, airports, ports and harbours.

**LAND3291****Professional Practice B***Staff Contact: Ms H. Evans; Mr P. Knox*

S2 L2

*Prerequisites:* LAND3191, LAND3170

Preparation of contract documentation, including technical sections. Contract administration and project supervision, the role of the consultant. Tender evaluation, award of contracts, site inspections, variation procedure, claims and certificate issue and general site administration. Practical completion and final certification. The rights and duties of the principal and contractor, including the relationship with consultants. Postcontract activities, maintenance manuals, appraisal of design and construction, and retention of records.

**LAND4031****Landscape Thesis A***Staff Contact: A/Prof F. Thorvaldson; Ms A. Todd*

S1 or S2 HPW10

*Prerequisite:* LAND3130, LAND3270

A specialized individual study, enabling each student to gain or extend knowledge and understanding in some aspect of landscape architecture. The thesis is essentially evidence of this individual study, under staff supervision, which is completed as two subjects Landscape Thesis A followed by Landscape Thesis B, culminating in a written document deposited in the Faculty library.

The Landscape Thesis A subject allows each student to carry out the required research, organisation or material, and writing in order to submit a complete draft of a written thesis at the end of Session. This one session subject is graded as either Satisfactory or Fail. The proposed topic area and title must be submitted and approved by the Head of the School of Landscape Architecture prior to enrolment in Landscape Thesis A.

**LAND4032****Landscape Thesis B***Staff Contact: A/Prof F. Thorvaldson; Ms A. Todd*

S2 or S1 HPW4

*Prerequisite:* LAND4031

The Landscape Thesis B subject, follows on from Landscape Thesis A and allows each student to refine the draft material submitted previously. It also allows the preparation of illustrative material and completion of all necessary references and bibliography, before the submission of the final unbound manuscript for assessment, usually in week 8. The unbound manuscript is assessed by at least two readers and returned with corrections noted (if necessary), so that a bound copy of the thesis can be lodged with the School by the end of the Session. This one session subject is graded in accordance with the normal University grading system, although it reflects the assessment and worth of the final thesis document prepared over two sessions in both landscape Thesis A and Landscape Thesis B.

**LAND4170****Landscape Design 5***Staff Contact: Prof J. Weirick*

S1 L1 T2

*Prerequisites:* LAND3270, LAND3250

Investigation of the relationship between design and planning issues through a major Regional Study. Preparation of a masterplan for a selected site to be used



in conjunction with Landscape Design 6. Discussions on contemporary environmental planning, design and management issues.

#### **LAND4171**

##### **Urban Landscape Design**

*Staff Contact: Prof J. Weirick; Ms H. Armstrong*

S1 L1 T5

*Prerequisites: LAND3270*

An exploration of the relationships within the fabric of the urban environment including concepts of city functions and the analysis of disparate parts of the city with physical design being the primary focus. Context and place, history and theory are considered as well as analytical techniques. Design studios, lectures and seminars.

#### **LAND4270**

##### **Landscape Design 6**

*Staff Contact: Ms E. Mossop*

S2 L2 T10

*Prerequisites: LAND4170, Four months approved practical experience*

Students are called upon to employ all the knowledge, skill and understanding they have gained in previous years. The graduating design project follows from LAND4170 Landscape Design 5 and involves sketch design, detail design development and construction documentation. Emphasis on professional standard. Graduating project is related to the natural, urban or rural environment.

### **Landscape Electives for Students of Architecture and Related Disciplines**

The following landscape electives require attendance of two hours per week over a period of 14 weeks. They are offered subject to demand and availability of resources, consequently students are advised to contact the School before finalizing their program. Credit point values specifically refer to students of Architecture enrolled in courses 3260 or 3265.

#### **LAND0001**

##### **Landscape Architecture**

*Staff Contact: Ms H. Evans*

C3 S1 or S2 L2

Landscape and planting within the built environment with particular reference to functional, ecological and aesthetic considerations; the treatment of spaces between buildings and in road reservations; hard and soft landscape treatments; establishment and maintenance cost.

#### **LAND0002**

##### **Site Planning Elective**

*Staff Contact: Prof J. Weirick*

C6 S2 L2

Recognition of natural processes and factors in site analysis. Opportunities and constraints with respect to potential development. Development of a logical approach to site planning.

#### **LAND0003**

##### **Planting Design Elective**

*Staff Contact: Prof J. Weirick*

C6 S2 L2

The selection and use of plant materials within the built environment with particular reference to visual and ecological considerations.

#### **LAND0004**

##### **Urban Landscape Elective**

*Staff Contact: Prof J. Weirick*

C6 S1 L2

The treatment of spaces between and upon buildings 'hard' and 'soft' landscape treatments. Functional uses of open space within the built environment and the design of street furniture.

#### **LAND0005**

##### **Recreation Planning Elective**

*Staff Contact: Prof J. Weirick*

C6 S1 L2

Various recommended provisions for open space allocation for recreation are examined and classified in terms of contemporary needs. Specific requirements of a range of recreation facilities are studied in detail and successful Australian and overseas examples evaluated.

### **Servicing Subjects**

#### **Mines**

##### **GEOL5110**

##### **Geology for Landscape Architecture**

*Staff Contact: A/Prof A.D. Albani*

Minerals and rocks. Igneous, sedimentary and metamorphic rocks; their origin and their relationship with the landscape. Geological structures and their graphic representation. Interpretation of geological maps and sections.

#### **Geography**

##### **GEOG1051**

##### **Global Environmental Problems and Processes**

*Staff Contact: Dr I. Prosser*

S1 L2 T1

The subject outlines the principles and processes necessary to appreciate the physical background behind major global scale environmental problems. Principles and processes include the linkages between the lithosphere, hydrosphere and biosphere, atmospheric circulation, energy and radiation balance and ecosystem function. Problems covered are the issues of desertification, deforestation, 'greenhouse', ozone depletion, energy conservation and pollution.

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## Faculty of the Built Environment Graduate Enrolment Procedures

All students enrolling in graduate courses should obtain a copy of the free booklet *Enrolment Procedures 1994* available from School Offices and the Admissions Office. This booklet provides detailed information on enrolment procedures and fees, enrolment timetables by faculty and course, enrolment in miscellaneous subjects, locations and hours of cashiers and late enrolment.

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## Higher Degrees - Research

Following the award of a first degree in Architecture, Building, Industrial Design, Landscape Architecture or Town Planning of the University of New South Wales or other approved university, graduates may apply to register for study leading to the award of the degree of:

1. Doctor of Philosophy (available in each School)
2. Master of Architecture
3. Master of Building
4. Master of the Built Environment
5. Master of Industrial Design
6. Master of Landscape Architecture
7. Master of Town Planning
8. Master of Science (available in Architecture and in Town Planning)

For details concerning these degrees see Conditions for the Award of Higher Degrees later in this handbook or write to The Head of School concerned.

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## Higher Degrees - Coursework

In addition to the facilities available for the pursuit of higher degrees by research, formal courses are offered as follows:

1. Master of Project Management
2. Master of Science (Industrial Design)
3. Master of the Built Environment (Building Conservation)
4. Master of Industrial Design
5. Master of Construction Management
6. Master of Landscape Planning
7. Master of Architecture
8. Master of Real Estate
9. Graduate Diploma in Real Estate
10. Graduate Diploma in Valuation
11. Graduate Diploma in Landscape Planning
12. Graduate Diploma in Town Planning
13. Graduate Diploma in Housing and Neighbourhood Planning.

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## Duration

Each course is programmed over one year full-time or two years part-time study in the University, involving attendance on two or three evenings per week. Subjects in the Master of Project Management course are normally timetabled on two evenings and one afternoon per week. Subjects in the Master and Diploma of Landscape Planning courses are normally timetabled on three afternoons per week.

The Diploma of Housing and Neighbourhood Planning and the Master of Science (Acoustics) are under review, and no new enrolments in these courses are currently being accepted.

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## Graduate School of the Built Environment

### Head of School

Professor A.R. Toakley

### Chair, Graduate School Executive Committee

Dr B.H. Judd

The purpose of the Graduate School is to provide opportunities for inter-disciplinary postgraduate research and advanced study in the area of the built and natural environment across the various disciplines that make up the Faculty of the Built Environment. It offers research degrees at doctoral and masters level as well as a coursework masters degree in Building Conservation. Additional coursework programs in Housing Studies and Urban Design are being planned.

Areas of built-environment research of particular interest to the school include Building and Urban Conservation, Housing Studies, Urban Design, Environment-Behaviour Studies and Facilities Planning and Management. Research students follow a largely self-determined program of study with joint supervision arranged from the wide range of expertise available in the Faculty and, where necessary, from elsewhere in the University.

The School welcomes applications from graduates in disciplines represented in the undergraduate programs of the Faculty of the Built Environment, as well as from graduates in any other relevant discipline. Prospective students are advised to contact the Head of School to discuss their academic interests and objectives before lodging a formal application.

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## 1120

### Doctor of Philosophy

#### Doctor of Philosophy

#### PhD

This is a research degree requiring an original and significant contribution to knowledge in an approved subject.

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## 2240

### Master of the Built Environment

#### Master of the Built Environment

#### MBEnv

This degree is available to part-time and external candidates in addition to full-time candidates. It requires the submission of a thesis embodying the results of an original investigation or design.

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## 8130

### Master of the Built Environment (Building Conservation) Course

#### Master of the Built Environment (Building Conservation) MBEnv

#### Course Co-ordinator

Mr D.M. Godden

This course consists of graduate work in the major areas of building conservation. It is designed for graduates who wish to specialize in the conservation of the built environment as government or private-sector conservation architects, planners or other heritage specialists. Training is provided for the preparation and critical examination of conservation policies, heritage assessments and management plans for a wide spectrum of heritage precincts, buildings, structures and relics.

#### Admission Requirements

The conditions governing registration as a candidate for this course are given later in this handbook. In summary, admission is open to applicants who have completed at least a four year full-time university course in an appropriate area of an approved discipline.

In certain cases it may be necessary for applicants to complete a program of preparatory subjects set out by the Higher Degree Committee of the Faculty of the Built Environment, whose decision is influenced by the education and experience of each applicant.

#### Course Structure

The course is designed to be taken over a minimum of two sessions of full-time study or over four sessions of part-time study. It comprises 120 credit points with each credit point representing approximately 4 hours class contact. Full-time study requires 18 contact hours per week, while part-time study requires 9 hours per week.

A full-time course of study will be introduced in 1994 only if demand is sufficient. On current applications it is expected that the course will be offered on a part-time basis only.

The course is divided into four basic subject groupings plus the Graduate Project. One of the four subject groups is offered in each session for part-time candidates while two are offered in each session for full-time candidates. The Graduate Project, which has a loading of 20 credit points, is commenced in the early part of the course with the majority of work being completed in the latter stages. Both full-time candidates and part-time candidates are to produce two progress reports and participate in one colloquium before the graduate project is submitted. The reports and the colloquium participation will be assessed and are rated at 5 credit points.

Integrated with the subjects in all subject groups there will be a series of site visits and excursions. These will take place in scheduled class hours.

<b>Course Subject Areas</b>	<b>(Total Credit Points)</b>
Contextual Studies	25
History of the Built Environment	25
Conservation Practice	25
Conservation Management	10
Graduate Project and Research	35
<b>Total</b>	<b>120</b>

### Typical Study Pattern for Full-time Candidates

The following table shows the subjects (and their credit points) which would normally be taken by full-time candidates.

<i>Session 1</i>	<b>CP</b>
GSBE0001 Conservation Policy and Practice	5
LAND9010 Environmental Heritage Studies	10
GSBE0004 Cultural Significance	5
GSBE0503 Postgraduate Research Design and Methodology	10
GSBE0008 Conservation Technology	10
GSBE0009 Conservation Research	10
GSBE0011 Conservation Processes	5
GSBE0014 Graduate Project (Report Colloquium)	5
<b>Total</b>	<b>60</b>
<i>Session 2</i>	<b>CP</b>
GSBE0002 Heritage Legislation	5
GSBE0005 Historical Processes I - The Built Environment	10
GSBE0006 Historical Processes II - Technology	5
GSBE0007 Traditional Building Materials and Technologies	10
GSBE001 Adaption, Recycling and Conservation Management	10
GSBE0014 Graduate Project	20
<b>Total</b>	<b>60</b>

### Typical Study Pattern for Part-time Candidates

<i>Session 1</i>	<b>CP</b>
GSBE0001 Conservation Policy and Practice	5
LAND9010 Environmental Heritage Studies	10
GSBE0004 Cultural Significance	5
GSBE0503 Postgraduate Research Design and Methodology	10
<i>Session 2</i>	
GSBE0002 Heritage Legislation	5
GSBE0005 Historical Processes I - The Built Environment	10
GSBE0006 Historical Processes II - Technology	5
GSBE0007 Traditional Building Materials and Technologies	10
<i>Session 3</i>	
GSBE0008 Conservation Technology	10
GSBE0009 Conservation Research	10
GSBE0011 Conservation Processes	5
GSBE0014 Graduate Project (Report Colloquium)	5
<i>Session 4</i>	
GSBE0012 Adaption, Recycling & Conservation Management	10
GSBE0014 Graduate Project	20

## Department of Industrial Design

**Head of Department**  
John Redmond

### 8145

#### Master of Industrial Design Course

**Master of Industrial Design**  
**MID**

### 8146

#### Master of Science (Industrial Design) Course

**Master of Science (Industrial Design)**  
**MSc(IndDes)**

These courses of graduate study have a common core of subjects in the major areas of industrial design. They are designed for graduates in industrial and environmental design, architecture, engineering, and marketing and business studies who wish to make careers in industrial design or to be involved in industrial design as a part of their career activity, eg, mechanical engineering with industrial design.

The MID degree course is intended for holders of four year industrial design degrees who wish to specialize and develop expertise in particular areas of industrial design. In addition to the common core of subjects, MID degree students are also required to submit a major graduate

project, a design theory report and have a greater choice of electives related to their field of specialization.

The MSc(IndDes) degree course is intended for graduates from design fields related to industrial design, such as architecture or engineering, or for graduates from non-design areas, such as marketing, who have satisfactorily completed preparatory studies. The course is designed to adapt and apply the students' existing design knowledge and experience to the methodology and practice of industrial design. The project work is less specialized and covers a broad range of industrial design problems. The students are required to submit a minor graduate project. There are additional compulsory subjects in this course, with a more restricted range of electives, closely related to industrial design.

## Admission Requirements

The conditions governing registration as a candidate for the MSc(IndDes) degree course are given later in this handbook: see below under Conditions for the Award of Higher Degrees. In summary, admission is open to applicants who have been admitted to an appropriate degree of at least four years' full-time duration, or its equivalent. For the MID degree course, admission is restricted to applicants who have been admitted to a degree with a major in industrial design of at least four years' full-time duration, or its equivalent. Candidates who have completed part or all of the requirements for the award of the degree of the MSc(IndDes) course may elect to apply for admission to the MID degree course, subject to the recommendation of the School and the approval of the Higher Degree Committee of the Faculty of the Built Environment.

In certain cases, particularly for applicants from non-design undergraduate courses, it is necessary to complete a qualifying program of preparatory units in industrial design, as prescribed by the Higher Degree Committee of the Faculty. These units are selected from appropriate undergraduate courses. The Committee's decision is influenced by the academic and professional experience of each applicant.

## Course Structure

The minimum duration of both courses is two sessions of full-time study or four sessions of part-time study. The availability of the full-time and part-time programs of study depends upon student demand and the University's resources at that time.

The MID degree course comprises 38 credit points. The MSc(IndDes) degree course comprises 3638 credit points. One credit point is normally equivalent to one hour per week for one session. Full-time study normally requires an attendance of approximately 18 hours per week, while part-time study normally requires approximately 9 hours per week for the duration of the course. The project work for both degree courses, part and full-time, is run simultaneously and is staffed according to the requirements of each project.

Most of the work is undertaken within the School, but industrial visits and experience forms an important component of the course.

The program is so arranged that eminent visitors as well as guest lecturers and designers may participate.

To avoid duplication of classes for full-time and part-time students, subjects are timetabled wherever possible on afternoons and evenings. In addition to timetabled commitments, the studios and laboratories are available during normal University hours for industrial design project work. Occasionally students are required to attend professional and industrial visits and lectures at other institutions.

The requirements for the course include an equivalent period of at least four weeks of approved professional or industrial experience. Part-time students with approved employment are exempt from this requirement.

## Course Subjects

### Common Core

IDES5071	Industrial Design Studies
IDES5193	Ergonomics for Industrial Designers
IDES5124	Business Studies for Industrial Designers
IDES5152	Manufacturing Technology
IDES6171	Industrial Experience*

### MID only

IDES6081	Graduate Project (MID)
IDES6101	Design Theory
IDES5131	Industrial Design
Approved Electives**	

### MSc(IndDes) only

IDES5091	Design Media and Communication
IDES5111	Visual Thinking***
IDES5141	Industrial Design A
IDES6161	Industrial Design B
IDES6181	Graduate Project (MSc(IndDes))
Approved electives**	

\* 4 week block during recesses. Part-time students in approved employment are exempt.

\*\* Approved electives may be taken from subjects offered in other schools of the University of New South Wales, subject to the approval of the Heads of the Graduate School of the Built Environment and the school offering the subject.

MID electives may be chosen to increase specialist knowledge relevant to the student's theory studies, project report or planned career activities. At least six credits must be taken of which up to four credits may be taken in undergraduate units at half their point value.

MSc(IndDes) electives are taken in approved subjects directly related to the development of the student's industrial design knowledge and skill. At least four credits must be taken of which up to two credits may be taken in undergraduate units at half their point value.

\*\*\* Graduates of visually oriented courses, eg architecture, are normally exempt.

Depending upon course requirements, the availability of University staff and Faculty resources, it may be possible to substitute some existing graduate or undergraduate courses in other faculties for certain subjects of the course. This development would be subject to the approval of the Higher Degree Committee of the Faculty of the Built Environment and the Heads of the schools offering the courses. Where the credit point of subjects is increased by substitution of subjects from other schools, the requirement for the stated number of credits in elective subjects is correspondingly reduced.

## Typical Full-time Study Patterns for MID and MSc(IndDes)

### Common Core

IDES5071	Industrial Design Studies
IDES5193	Ergonomics for Industrial Designers
IDES5124	Business Studies for Industrial Designers
IDES5152	Manufacturing Technology
IDES6171	Industrial Experience*

### MID only

#### Common Core

IDES6081	Graduate Project (MID)
IDES6101	Design Theory
IDES5131	Industrial Design
Approved	Electives
Ten hours per week MID	

### MSc(IndDes) only

IDES5091	Design Media and Communication
IDES5111	Visual Thinking***
IDES5141	Industrial Design A
IDES6161	Industrial Design B
IDES6181	Graduate Project (MSc(IndDes))
Approved Electives	

## Typical Part-time Study Patterns for MID and MSc(IndDes)

### Common Core

IDES5071	Industrial Design Studies
IDES5193	Ergonomics for Industrial Designers
IDES5152	Manufacturing Technology
IDES6171	Industrial Experience
Session 3	
IDES5124	Business Studies for Industrial Designers
IDES6171	Industrial Experience

### MID only

#### Sessions 1 and 2

IDES6081	Graduate Project (MID)
IDES6101	Design Theory
IDES5131	Industrial Design
Approved Electives	

#### Sessions 3 and 4

IDES6081	Graduate Project (MID)
IDES6101	Design Theory
Approved Electives	

### MSc(IndDes) only

#### Sessions 1 and 2

IDES5091	Design Media and Communication
IDES5111	Visual Thinking
IDES5141	Industrial Design A
Approved electives	

### MSc(IndDes) only

#### Sessions 3 and 4

IDES6161	Industrial Design B
IDES6181	Graduate Project MSc(IndDes)
Approved Electives	

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## School of Architecture

The School of Architecture offers facilities for research and welcomes enquiries from students who wish to pursue programs for the degrees of Master of Architecture (MArch) or Doctor of Philosophy (PhD). Prospective students should consult the Head of School to discuss their research interests prior to making a formal application.

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### 1130

#### Doctor of Philosophy

#### Doctor of Philosophy

##### PhD

This is a research degree requiring an original and significant contribution to knowledge in an approved subject.

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### 2200

#### Master of Architecture (by Research)

#### Master of Architecture

##### MArch

This degree is available to part-time and external candidates in addition to full-time candidates. It requires the submission of a thesis embodying the results of an original investigation or design.

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### 2206

#### Master of Science (by Research)

#### Master of Science

##### MSc

The conditions governing the award of the degree of Master of Science by research are set out in the next section.

**8100****Master of Science (Acoustics) Course****Master of Science (Acoustics)  
MSc(Acoustics)**

This course is currently under review and no new admissions will be made in 1994. Students already enrolled may continue with their studies until completion of the degree. Students should consult pages 61 and 62 of the 1992 Architecture Faculty handbook for details of this course.

**8142****Master of Architecture Program**

with majors in:

- Architectural Design
- Architectural Computing
- History and Theory of Architecture

**Master of Architecture  
MArch**

This Program provides for graduate study and research in one of several specialised aspects of the discipline of architecture. At the present time, three strands of study are offered to prospective candidates: architectural design; the history and theory of architecture; and architectural computing. The School may, from time to time, adjust the specialist strands that are available, subject to both demand and available staff resources.

The Programs are primarily designed for graduates in architecture and other relevant disciplines who wish to advance their knowledge in these specialised areas as either practitioners, consultants or academics. They are also suitable for specialist members of multi-disciplinary teams in industry or architectural practice.

The degree is awarded as Master of Architecture with a statement on the testamur identifying the area of specialisation undertaken by the candidate.

**Admission Requirements**

The conditions governing registration as a candidate for the degree of Master of Architecture are described later in this handbook, but the attention of applicants is drawn to the following admission requirements.

Registration is offered to candidates who have been awarded an appropriate degree of Bachelor of minimum 4 years duration from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee). Candidates may, where considered appropriate (including insufficient background in the proposed area of specialisation) be required to undertake a qualifying programme as determined by that Committee.

Those applicants wishing to pursue the architectural design strand of the Course are specifically required to hold a Bachelor of Architecture degree at Honours level and to have had at least 12 months professional practice experience. In addition, all such applicants are required to submit a design portfolio demonstrating the range and quality of their architectural design experience prior to their final acceptance into the Program.

Notwithstanding any other provisions of these conditions, the Committee may require an applicant to demonstrate fitness for registration by carrying out such work and sitting for such examinations, as the committee may determine.

**Program Structure**

Students undertaking the Program are required to select their area of specialisation before commencement. They must then complete a set of prescribed core subjects in that area of specialisation, supplemented by elective subjects to bring their total credit points to 120 for the degree. Note that each of the general core and elective subjects offered have a credit point value of 10. Most strands, as part of the core component, require the completion of a Graduate Project to the value of 60 credit points, representing half the requirement for the award of the degree. This is not so for the architectural design strand which is centred around two compulsory studio design and research projects (in lieu of the Graduate Research Project), in this case representing two-thirds of the total requirement for the award of the degree.

The degree may be commenced in either Session of the academic year subject to the availability of places in the Programs as well as appropriate subjects being offered at that time. It is normally undertaken over two full-time sessions or four part-time sessions. In general, candidates are required to complete as many core subjects as possible before undertaking their elective options.

Note that where a candidate is required to undertake a Graduate Research Project as part of their area of specialisation, it is normally expected that they would complete the subject GSBE0503 Postgraduate Research and Design Methodology at the beginning of their candidature. Exemptions from this requirement may be granted by the Head of School where candidates can demonstrate prior research experience or the completion of an equivalent subject. Where that is the case, the candidate is required to undertake an approved elective subject in its place.

Notwithstanding the above, work on a Graduate Research Project is always spread over the entire period of candidature as follows: during the first half of the programme (one session for full-time and two sessions for part-time students), candidates are expected to complete one-third of the work on their Graduate Research Project, leading to the presentation of a graduate seminar introducing the topic of the project, outlining current work in the area from the literature and indicating their research strategy; during the second half, candidates must complete that work, leading to the preparation of a Research Thesis and its defense in a second graduate seminar.

Candidates wishing to undertake the architectural design strand on a part-time basis must note that the studio design subjects (Architectural Design Project 1 & 2) must each be undertaken and completed within a single session, even though they represent two-thirds of a session workload.

For each area of specialisation, candidates are required to take each of the prescribed core subjects as listed in the programs given below. These generally make up the bulk of the requirements for the degree. The remaining credit points are then earned by taking electives, generally selected from the recommended list provided for each strand. Notwithstanding that, candidates may, with the permission of the Head of School, undertake electives chosen from among other graduate subjects offered by the Faculty or University. Subject to the same conditions, students may also enrol in undergraduate subjects offered in the University, but only to a maximum contributing a total of 20 credit points calculated at an agreed credit point value as graduate subjects.

Notwithstanding any of the above, the coursework subjects offered in any one academic session will depend on student numbers and interests. Students must therefore plan their programs in consultation with Course Advisers. As a guide, the following table shows the number of credit points that would normally be taken in each Session for a full-time or part-time program, depending on the selected major.

### Architectural Design Major

Full-time	Credit points	
	S1	S2
Architectural Design Project	40	40
Core and Elective Subjects	20	20
Total	60	60

#### Part-time

##### Year 1

Core and Elective Subjects	20	
Architectural Design Project		40

##### Year 2

Core and Elective Subjects	20	
Architectural Design Project		40
Total	40	80

### Architectural Computing and History Major

Full-time		
Core and Elective Subjects	30	20
Research Design and Methodology	10	
Graduate Research Project	20	40
Total	60	60

#### Part-time

##### Year 1

Core and Elective Subjects	20	
Research Design and Methodology	10	
Graduate Research Project		20

##### Year 2

Core and Elective Subjects	10	10
Graduate Research Project	20	20
Total	60	60

The following sections detail the prescribed academic program for each of the specialisation strands available at the present time.

### Master of Architecture majoring in Architectural Design

#### Prescribed Academic Programme:

ARCH7101	Architectural Design Project 1	40	C
ARCH7102	Architectural Design Project 2	40	
	Electives	40	
	Total	120	

#### Recommended Electives:

ARCH7320	Architectural Theory	10
ARCH7301	Architecture and the City	10
ARCH7302	Theories in History	10
ARCH7303	Theory and Contemporary Architectural Practice	10
ARCH7321	The New Functionalism in Architectural Theory	10
ARCH7220	ComputerAided Architectural Drafting	10
ARCH7221	Computer Modelling & Rendering	10

### Master of Architecture majoring in Architectural Computing

#### Required Academic Program:

ARCH7001	Graduate Research Project	60
GSBE0503	Postgraduate Research Design and Methodology	10
ARCH7201	Computational Design	10
ARCH7202	Computer Graphics Programming	10
ARCH7203	Information Technology in Architecture	10
	Electives	20
	Total	120

#### Recommended Electives

ARCH7222	Architectural CAD Management	10
COMP9021	Introduction to Computer Science	10
COMP9022	Digital System Structures	10
COMP9311	Data Base Systems	10
COMP9511	Human-Computer Interaction	10

### Master of Architecture majoring in the History and Theory of Architecture

#### Required Academic Programme:

ARCH7001	Graduate Research Project	60
GSBE0503	Postgraduate Research Design and Methodology	10
ARCH7301	Architecture and the City	10
ARCH7302	Theories in History	10
ARCH7303	Theory & Contemporary Architectural Practice	10
	Electives	20
	Total	120

#### Recommended Electives

ARCH7320	Architectural Theory	10
ARCH7321	The New Functionalism in Architectural Theory	10
LAND9010	Environmental Heritage Series	10
COFA8591	Postgraduate Seminars	10



## School of Building

The School of Building has active programs of coursework and research studies and welcomes enquiries from students who wish to pursue programs for the degrees of Master of Building (MBuild), Master of Project Management (MPM) (part-time), Master of Construction Management (MCM) (full-time), Master of Real Estate (part-time or full-time), Graduate Diploma of Real Estate (part-time or full-time), Graduate Diploma of Valuation (part-time or full-time) or Doctor of Philosophy (PhD). Graduates enrolled in these courses need not necessarily be building graduates. Prospective students should consult the Head of School to discuss their research interests prior to making a formal application.

The School also offers each year a series of short noncredit midcareer courses which are designed to provide practical ongoing education for experienced members of the building industry.

For further information contact:

**Continuing Education Co-ordinator**  
Dr. J. Hutcheson

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### 1140 Doctor of Philosophy

#### Doctor of Philosophy PhD

This is a research degree requiring an original and significant contribution to knowledge in an approved subject.

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### 2210 Master of Building

#### Master of Building MBuild

This degree is available to part-time and external candidates in addition to full-time students. It requires the submission of a thesis embodying the results of an original investigation or design relative to building.

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### 8116 Master of Project Management Course

#### Master of Project Management MProjMgt

**Course Co-ordinator**  
Mr Jinu Kim

This foursession course has been designed to provide opportunities for advanced study in project management and building economics. It allows for study in two interrelated areas:

1. Planning and management aspects of a design or construction organization, including programming, evaluation, costing, performance feedback, feasibility and management of properties.
2. Operations and control aspects of a design or construction organization, concentrating on estimating and cost analysis, contract or design administration and building economics.

The course aims at attracting the qualified practitioner who wishes to widen his/her knowledge and understanding of construction planning, operation and economics related to project management.

### Admission Requirements

The general conditions governing registration as a candidate for the degree Master of Project Management are given later in this handbook but the attention of intending applicants is directed to the following specific requirements:

1. Applicants will have been admitted to the degree of Bachelor of Architecture or Bachelor of Building in the University of New South Wales or an equivalent degree in another approved university and have appropriate industrial experience.
2. Graduates with a Bachelor of Architecture or Engineering or other four year degree, who have appropriate experience in building may be admitted to the course depending on the individual case.
3. Eligible applicants may be required to complete a program of preparatory or concurrent study set out by the Head of the School of Building whose decision will be influenced by the education and experience of each applicant.

Graduate experience and involvement in the building industry is considered an advantage in the selection of candidates.

### Course Structure

The Master of Project Management is a formal four session part time degree course comprising 12 subjects. The subject program comprises studies in management, computations, building economics, operations planning, contract law and documentation. A student must successfully complete all the subjects in one session before progressing to the next session. Students with a grade average of Credit or better in their course may choose to write a Project Report to qualify for the degree with honours.

### Course Program

Subjects are offered on a four-session cycle. Subjects are normally timetabled on two evenings and one afternoon per week. Except in exceptional circumstances, a student is required to be concurrently enrolled in all subjects in a given session to allow for syllabus integration between subjects.

**Session One**

BLDG5111	Economics and Project Environment
BLDG5112	Project Management Framework
BLDG5113	Project Management Information Systems

**Session Two**

BLDG5211	Project Finance
BLDG5212	Human Resources Management
BLDG5213	Project Time Management

**Session Three**

BLDG5301	Project Feasibility
BLDG5312	Contracts Management
BLDG5313	Quality and Cost Management

**Session Four**

BLDG5401	Management of Buildings
BLDG5412	Project Integration
BLDG5413	Project Applications in Building

**Sessions Five and Six**

BLDG5100	Project Report (full-time or part-time)
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**8125****Master of Construction Management****Master of Construction Management  
MConstMgt****Course Co-ordinator**

A/Professor Thomas E. Uher

Construction Management comprises all the modern management methodologies directed at the control of time, cost and quality in the design and construction of buildings and other structures.

This two-session full-time full-fee course has been designed to provide opportunities for advanced study in construction technology, project management and building economics. The course aims at improving proficiency of qualified practitioners in the construction industry to meet present and future challenges.

**Admission Requirements and Fees**

1. Applicants must hold degrees acceptable to the University of New South Wales in either building, civil engineering, architecture, quantity surveying or equivalent and must have appropriate industrial experience.
2. Applicants may proceed directly into the course, or be required to complete prerequisite or corequisite programs of reading or study, with assessed assignments.
3. Applicants from non-English speaking countries must supply a certified statement of results in the IELTS Test or another equivalent recognised test.
4. The tuition fee is \$A12,000.

**Course Structure**

The Master of Construction Management course is a formal one year full-time full-fee degree course comprising two sessions of academic study, up to 6 weeks of industry training and the Project Report. A student must successfully

complete all the subjects in the first session before progressing to the second session.

**Course Program****Session One**

BLDG6151	Construction Methods and Techniques
BLDG6154	Economics in Construction
BLDG6155	Computers in Construction Management
BLDG6253	Construction Planning and Control
BLDG6158	Principles and Practice of Management
BLDG6257	Quantitative Methods in Management

**Session Two**

BLDG6153	Management of Construction
BLDG6157	Property Management
BLDG6251	International Construction Practice
BLDG6255	Contracts Management and Law
BLDG6256	Cost Planning and Analysis
BLDG6258	Construction Management Applications

**Other Subjects**

BLDG6150	Industry Training
BLDG6250	Research Report

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**8128****Master of Real Estate****Master of Real Estate  
MRE****Course Co-ordinator**

Dr John M. Hutcheson MC

This four-session part-time and two-session full-time course has been designed to provide opportunities for advanced study in Real Estate. It allows for study in five interrelated areas:

1. Valuation of property to an advanced level including rural to specialist valuations.
2. Law with special attention to contracts, consumer protection, land, environment and arbitration.
3. Agency studies, including trust accounting, marketing, property management, finance and tax.
4. Property studies and development including forecasting, investment analysis and development of complex projects.
5. Property economics involving urban economics, planning and land policy.

The course aims at attracting the qualified practitioner who wishes to widen his/her knowledge and understanding of valuation and real property economics.

**Admission Requirements**

The general conditions governing registration as a candidate for the degree of Master of Real Estate are given later in this handbook but the attention of intending applicants is directed to the following specific requirements:

1. Applicants will have been admitted to the degree of Bachelor of Building, BSc Arch (Hons), Town Planning, Landscape Architecture, Quantity Surveying or Engineering in the University of New South Wales or an

equivalent degree in another approved university and have appropriate industrial experience.

2. University graduates from non-construction disciplines who have appropriate experience in property may be admitted to the course depending on the individual case.

3. Eligible applicants may be required to complete a program of preparatory or concurrent study laid down by the Head of the School of building whose decision will be influenced by the education and experience of each applicant.

Graduate experience and involvement in the property industry is considered an advantage in the selection of candidates.

## Fees

This is a full fee paying course. Contact School for details.

## Course Structure

The Master of Real Estate is a formal four session part-time or two session full-time degree course comprising 20 subjects. The subject program comprises studies in valuation, law, agency studies, property studies and development and property economics. Students with a grade average of Credit or better in their course may choose to write a thesis to qualify for the degree with honours.

## Course Program

Subjects are offered on a four-session cycle. Subjects are normally timetabled on two evenings per week. Except in exceptional circumstances, a student is required to be concurrently enrolled in all subjects in a given session to allow for syllabus integration between subjects.

### Session 1

BLDG7101	Valuation 1 (Introduction)
BLDG7102	Real Estate Marketing
BLDG7103	Market Forecasting
BLDG7104	Contracts, Agency & Consumer Protection
BLDG7105	Agency & Trust Accounting

### Session 2

BLDG7201	Valuation 2 (Valuation Theory)
BLDG7202	Strata Management
BLDG7203	Property Management
BLDG7204	Land & Environment Law
BLDG7205	Planning & Land Policy

### Session 3

BLDG7301	Valuation 3 (Valuation Theory & Practice)
BLDG7302	Valuation 5 (Specialist Valuations)
BLDG7303	Property Development 1
BLDG7304	Arbitration & Litigation
BLDG7305	Urban Economics

### Session 4

BLDG7401	Valuation 6 (Rural Utilisation & Valuation)
BLDG7402	Property Development 2
BLDG7403	Property Investment Analysis
BLDG7404	Valuation 4 (Advanced Theory & Practice)
BLDG7405	Organisation, Finance & Tax

## 5195

## Graduate Diploma in Real Estate

### Graduate Diploma in Real Estate

#### GradDipRE

#### Course Co-ordinator

Dr John M. Hutcheson MC

This four session part-time and two session full-time course has been designed to provide opportunities for advanced study in Real Estate. It allows for study in three interrelated areas:

1. Law with special attention to contracts, consumer protection, land, environment and arbitration.
2. Agency studies, including trust accounting, marketing, property management, finance and tax.
3. Property studies and development including forecasting, investment analysis and development of complex projects.

The course aims at attracting the qualified practitioner who wishes to widen his/her knowledge and understanding of real estate.

## Admission Requirements

The general conditions governing registration as a candidate for the degree of Graduate Diploma in Real Estate are given later in this handbook but the attention of intending applicants is directed to the following specific requirements:

1. Applicants will have been admitted to the degree of Bachelor of Building, BSc Arch (Hons), Town Planning, Landscape Architecture, Quantity Surveying or Engineering in the University of New South Wales or an equivalent degree in another approved university and have appropriate industrial experience.

2. University graduates from non-construction disciplines who have appropriate experience in property may be admitted to the course depending on the individual case.

3. Eligible applicants may be required to complete a program of preparatory or concurrent study laid down by the Head of the School of building whose decision will be influenced by the education and experience of each applicant.

Graduate experience and involvement in the property industry is considered an advantage in the selection of candidates.

## Fees

This is a full fee paying course. Contact School for details.

## Course Structure

The Graduate Diploma in Real Estate is a formal four session part-time or two session full-time degree course comprising 10 subjects. The subject program comprises studies in law, agency studies, property studies and development.

## Course Program

Subjects are offered on a four-session cycle. Subjects are normally timetabled on two evenings per week. Except in exceptional circumstances, a student is required to be concurrently enrolled in all subjects in a given session to allow for syllabus integration between subjects.

### Session 1

BLDG7102	Real Estate Marketing
BLDG7103	Market Forecasting
BLDG7104	Contracts, Agency & Consumer Protection
BLDG7105	Agency & Trust Accounting

### Session 2

BLDG7202	Strata Management
BLDG7203	Property Management

### Session 3

BLDG7303	Property Development 1
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### Session 4

BLDG7402	Property Development 2
BLDG7403	Property Investment Analysis
BLDG7405	Organisation, Finance & Tax

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**5196**

## Graduate Diploma in Valuation

### Graduate Diploma in Valuation GradDipVal

#### Course Co-ordinator

Dr John M. Hutcheson MC

This four session part-time and two session full-time course has been designed to provide opportunities for advanced study in valuation. It allows for study in three interrelated areas:

1. Valuation of property to an advanced level including rural to specialist valuations.
2. Law with special attention to contracts, consumer protection, land, environment and arbitration.
3. Property economics involving urban economics, planning and land policy.

The course aims at attracting the qualified practitioner who wishes to widen his/her knowledge and understanding of valuation.

#### Admission Requirements

The general conditions governing registration as a candidate for the degree of Graduate Diploma in Valuation are given later in this handbook but the attention of

intending applicants is directed to the following specific requirements:

1. Applicants will have been admitted to the degree of Bachelor of Building, BSc Arch (Hons), Town Planning, Landscape Architecture, Quantity Surveying or Engineering in the University of New South Wales or an equivalent degree in another approved university and have appropriate industrial experience.

2. University graduates from non-construction disciplines who have appropriate experience in property may be admitted to the course depending on the individual case.

3. Eligible applicants may be required to complete a program of preparatory or concurrent study laid down by the Head of the School of Building whose decision will be influenced by the education and experience of each applicant.

Graduate experience and involvement in the property industry is considered an advantage in the selection of candidates.

#### Fees

This is a full fee paying course. Contact School for details.

#### Course Structure

The Graduate Diploma in Valuation is a formal four session part-time or two session full-time degree course comprising 10 subjects. The subject program comprises studies in valuation, law, and property economics.

#### Course Program

Subjects are offered on a four-session cycle. Subjects are normally timetabled on two evenings per week. Except in exceptional circumstances, a student is required to be concurrently enrolled in all subjects in a given session to allow for syllabus integration between subjects.

##### Session 1

BLDG7101	Valuation 1 (Introduction)
BILDG7104	Contracts, Agency & Consumer Protection

##### Session 2

BLDG7201	Valuation 2 (Valuation Theory)
BLDG7204	Land & Environment Law

##### Session 3

BLDG7301	Valuation 3 (Valuation Theory & Practice)
BLDG7302	Valuation 5 (Specialist Valuations)
BLDG7304	Arbitration & Litigation
BLDG7305	Urban Economics

##### Session 4

BLDG7401	Valuation 6 (Rural Utilisation & Valuation)
BLDG7404	Valuation 4 (Advanced Theory & Practice)

## School of Landscape Architecture

The School of Landscape Architecture has an active program of research and advanced study and encourages enquiries from students who wish to pursue graduate education. The degrees Doctor of Philosophy (PhD) and Master of Landscape Architecture are available for those wishing to engage in research. The degrees Master of Landscape Planning (MLP) and Graduate Diploma in Landscape Planning (GradDipLP) are available as course programs. Prospective students should consult the Head of School to discuss their research interests and educational objectives prior to making a formal application.

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**1160**

### Doctor of Philosophy

#### Doctor of Philosophy PhD

This is a research degree requiring an original and significant contribution to knowledge in an approved subject.

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**2220**

### Master of Landscape Architecture

#### Master of Landscape Architecture MLArch

This degree is available to part-time and external candidates in addition to full-time candidates. It requires the submission of a thesis embodying the results of an original investigation or design.

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**8135**

### Master of Landscape Planning

#### Master of Landscape Planning MLP

The course offers advanced education and study opportunities for graduate landscape architects, town planners, surveyors, geographers, engineers, and architects in landscape planning.

The intent is to offer students the opportunity to develop an understanding of the complex relationships between natural environments and expanding human population and to acquire the skills needed for planning and management of emerging landscapes. Principles and concepts from the natural and social sciences along with techniques and methods of geographic information

systems, remote sensing and other technologies are emphasized.

### Admission Requirements

A four year degree of appropriate standing in landscape architecture, architecture, town planning, surveying, geography or other approved degree in a relevant area of land management or resource and environmental science or a Graduate Diploma in Landscape Planning is required. A qualifying or concurrent program may be required in some cases.

### Course Structure

The course will be offered as a full-time program that can be completed in three sessions. To accommodate the practising professionals in the Sydney metropolitan area, the course can also be taken part time and would normally be completed in six sessions or less.

The course is built upon a core of eight required subjects totalling 24 credit points. As far as possible, these core subjects are offered between the times of 2 pm and 9 pm on Monday through Friday to accommodate the working professional. Beyond these core requirements students may select from project alternatives. In all cases the course requires the completion of 36 credit points. This would require the completion of a Landscape Project, Landscape Planning Exercise and/or electives. Topics for Landscape Research Projects and Landscape Projects will be determined in consultation with academic staff of the school.

### Course Program

Core Subjects		C
LAND9010	Environmental Heritage Studies	3
GEOG9270	Legislative Aspects	3
LAND9111	Landscape Planning	3
LAND9212	Landscape Planning Methods	3
LAND9213	Land Systems and Management	3
LAND9214	Visual Landscape Assessment	3
LAND9215	GIS in Landscape Architecture	3
GSBE0503	Postgraduate Research Design and Methodology	3
Electives		
GEOG9150	Remote Sensing Applications	3
GEOG9210	Computer Mapping and Data Display	3
GEOG9300	Vegetation Management	3
GEOG9310	River Management	3
GEOG9320	Soil Degradation and Conservation	3
SURV9604	Land Information Systems Project	3
LAND9001	Landscape Project	9
LAND9002	Landscape Research Project	18
LAND9301	Landscape Planning Exercise	6

**Note:** Due to course revisions some subjects as listed are subject to approval by the University.

5215

## Graduate Diploma in Landscape Planning

### Graduate Diploma GradDipLP

This course is designed for people who wish to obtain formal qualifications in Landscape Planning through a program in which the emphasis is on completion of subjects. There is no research or independent project requirement.

The intent is as described above for the Master of Landscape Planning course but the program is offered in a more structured setting.

### Admission Requirements

A three year degree from an approved university and/or qualifications deemed appropriate by the Higher Degree Committee of the Faculty of the Built Environment is required.

### Course Structure

The course is offered as a one year full time, or two year part time program. Students are required to complete a program totalling at least 24 credit points. The required core

subjects comprise 21 of these credit points and the remaining 3 credit points are from electives. After successful completion of the course the student may elect to transfer into the Master of Landscape Planning course. This would require the completion of one additional core subjects and a Landscape Research Project or a Landscape Project, a Landscape Planning Exercise and/or electives.

### Course Program

Core Subjects		C
GEOG9270	Legislative Aspects	3
LAND9111	Landscape Planning	3
LAND9212	Landscape Planning Methods	3
LAND9214	Visual Landscape Assessment	3
LAND9010	Environmental Heritage Studies	3
LAND9213	Land Systems and Management	3
LAND9215	GIS in Landscape Architecture	3

### Electives

GEOG9150	Remote Sensing Applications	3
GEOG9210	Computer Mapping and Data Display	3
GEOG9300	Vegetation Management	3
GEOG9310	River Management	3
GEOG9320	Soil Degradation and Conservation	3
SURV9604	Land Information Systems	3

**Note:** Due to course revisions some subjects as listed are subject to approval by the University.

## School of Town Planning

### Head of School

Professor A.R. Cuthbert

The School of Town Planning has a significant commitment to research and to the training and involvement of postgraduate students in a variety of research areas. The School welcomes enquiries from individuals who wish to pursue the Doctor of Philosophy (PhD), Master of Town Planning (MTP) and Master of Science (Town Planning). Prospective students should contact the Head of School to discuss their research interests prior to making a formal application. Although direct entry into the research degree programs is possible, candidates may be asked to complete qualifying work of one or two sessions duration. Formal conditions governing the award of these degrees are set out later in this Handbook.

1150

## Doctor of Philosophy

### Doctor of Philosophy PhD

The Doctor of Philosophy is a research degree on an approved topic which requires an original and significant contribution to knowledge. Students enrol in a Research Seminar program as part of their candidacy.

2230

## Master of Town Planning (by research)

### Master of Town Planning MTP

The Master of Town Planning is a research degree awarded on the basis of a thesis which embodies the results of an original investigation. The research program is normally undertaken over a minimum of four sessions, but the period may be reduced in certain circumstances. Students enrol in a Research Seminar program as part of their candidacy.

### Admission Requirements

A four year degree (or equivalent) of appropriate standing from an approved university in the field of Town Planning and/or qualifications deemed appropriate by the Higher Degree Committee of the Faculty of the Built Environment.

### Professional Recognition

The degree is recognized by the Royal Australian Planning Institute as an academic qualification for corporate membership. The Institute requires that for corporate membership graduates must also have at least one year of practical experience subsequent to graduation.

## Course Work

Candidates with a primary degree in a discipline other than Town Planning may be required to complete an additional program of study. The actual program is determined by the Higher Degree Committee of the Faculty of the Built Environment on the recommendation of the Head of the School of Town Planning. Candidates should contact the Head of the School about the guidelines used in formulating such a program.

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**2335**

### Master of Science (by Research)

#### MSc

The Master of Science (Town Planning) is a research degree awarded on the basis of a thesis embodying the results of an original investigation. This degree is designed for students with prior degrees not in planning, who want to undertake masters-level research in the planning field, but do not wish to pursue the MTP. Students enrol in a Research Seminar program as part of their candidacy.

#### Admission Requirements

A four year degree (or equivalent) of appropriate standing from an approved university and/or qualifications deemed appropriate by the Higher Degree Committee of the Faculty of the Built Environment.

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**5200**

### Housing and Neighbourhood Planning Graduate Diploma Course

#### Graduate Diploma GradDip

This course provides for graduate study in the field of housing including the physical structure and form of new and old residential neighbourhoods; and the elements of the neighbourhood including dwellings, open spaces, shopping and community centres. In addition to design considerations, specific study is made of housing policy and social and economic factors in the provision of public and private housing.

PLAN0511	Theory of Neighbourhood Planning 1
PLAN0512	Theory of Neighbourhood Planning 2
PLAN0171	Practice of Neighbourhood Planning 1
PLAN0172	Practice of Neighbourhood Planning 2
PLAN0173	Practice of Neighbourhood Planning 3
PLAN0174	Practice of Neighbourhood Planning 4
PLAN0211	Communications and Public Utilities
PLAN0212	Land and Housing Economics
PLAN0213	Urban Sociology
PLAN0142	Housing Law and Administration

This course is under review and intending applicants are advised to contact the School at the first opportunity to obtain further information.

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**5205**

### Town Planning Graduate Diploma Course

#### Graduate Diploma GradDip

The Graduate Diploma course in Town Planning is tailored to meet the objectives of individual students. It is normally taken as a one year full-time course (or two years part-time) and includes postgraduate coursework, and/or independent study programs to address the needs of particular students.

The course is designed to provide training for graduates who wish to pursue a higher research degree (PhD, MTP or MSc (Town Planning)) in the School, and performance in the GradDip will be considered when applications for entry into higher degree programs are reviewed.

#### Admission

An applicant for the Graduate Diploma shall have a degree of a minimum length of three years full-time from an approved institution or have such other qualifications as may be approved by the Higher Degree Committee of the Faculty of the Built Environment.

#### Course Structure

The course includes three required core subjects, with the remaining content, which may include additional coursework and/or programs of independent study, determined to provide a foundation for postgraduate research in the field.

##### Core subjects

GSBE0503	Postgraduate Research Design and Methodology
GSBE0504	Quantitative Methods for Built Environment Research
PLAN0851	Research Seminar 1

Individual Programs are defined in consultation with the academic staff of the School and are subject to approval by the Head of the School. Application for exemption from GSBE0504 may be considered by the Head of School for students with appropriate prior experience with statistical techniques and data analysis.

## Subject Descriptions

Descriptions of all subjects are presented in alphanumeric order within organizational units.

For academic advice regarding a particular subject consult with the the contact for the subject as listed. A guide to abbreviations and prefixes is included in the chapter 'Handbook Guide', appearing earlier in this book.

### Architecture

#### ARCH7001

##### Graduate Research Project

*Staff Contact: School Office*

C60

*Prerequisite:* Nil.

*Corequisites:* GSBE0503 (unless exempt by Head of School)

A research project relating to the theory or practice of architecture selected by the student and approved by the Head of the School of Architecture. The research should represent a synthesis of the knowledge and skills that have been acquired during the course of study and will be supervised by a member of the academic staff. Appropriate research methodologies and techniques will be used in all aspects of the work.

The research project is to be completed in two phases: the first phase encompasses one-third of the work and involves the presentation of a graduate seminar introducing the topic of the research, outlining current work in the area from the literature and indicating the proposed research strategy; the second phase, encompassing the remaining two-thirds of the work, leads to the preparation of a written research project and its presentation in a second graduate seminar.

#### ARCH7101

##### Architectural Design Project 1

*Staff Contact: School Office*

C40

Theory, research and studio practice, in the form of graduate research projects in design, applied to general architectural themes of high priority in the contemporary context. After thorough theoretical foundation and research analysis, the theme is adapted to a specific and concrete situation to achieve an architectural synthesis of all relevant influences arising from the physical and human context.

#### ARCH7102

##### Architectural Design Project 2

*Staff Contact: School Office*

C40

Theory, research and studio practice, in the form of graduate research projects in design, applied to general architectural themes of high priority in the contemporary context. After thorough theoretical foundation and research analysis, the theme is adapted to a specific and concrete situation to achieve an architectural synthesis of all relevant influences arising from the physical and human context.

#### ARCH7201

##### Computational Design

*Staff Contact: School Office*

C10

A examination of the theoretical basis of computational design, covering topics such as: design as problem-solving and decision-making; design analysis, simulation and optimisation; theory of form and shape grammars; conceptual modelling; expert systems and knowledge engineering. This subject also touches on the techniques of architectural computing, such as: procedural programming; object-oriented programming; logic programming; expert systems programming; and spreadsheets and databases. Assessment is based on project work and class seminars.

#### ARCH7202

##### Computer Graphics Programming

*Staff Contact: School Office*

C10

A study of the principles and techniques of interactive computer graphics programming using a high-level procedural language. Topics include: procedural language concepts; computer graphics techniques; interactive programming and graphics input; use of graphics libraries; menuing systems; three-dimensional modelling; and colour manipulation. The subject involves a staged series of programming exercises and the development of an interactive graphics-based application.

#### ARCH7203

##### Information Technology in Architecture

*Staff Contact: School Office*

C10

*Excluded:* ARCH5944 or equivalent

This subject reviews the current state of information technology and its application to the practice of architecture. It includes topics such as: database systems; interaction with CAD system graphics databases; transmission of data; networking and communication technologies; shared technical databases; establishment of product information standards; conceptual modelling techniques; and design information systems. Assessment is by means of projects and student seminars.

#### ARCH7220

##### Computer-aided Architectural Drafting

*Staff Contact: School Office*

C10

*Excluded:* ARCH6205, ARCH5223 or equivalents.

Introduction to the concepts and techniques of computer-aided drafting with particular reference to architectural communication. The subject deals with both two-dimensional drawing and three-dimensional modelling. The lectures provide a conceptual understanding of computer-aided drafting systems, including both hardware and software aspects. The laboratory segments provide hands-on instruction on how to use a specific example of a drafting system. A set project task reinforces the learning and is used as the vehicle of assessment.



**ARCH7221****Computer Modelling and Rendering***Staff Contact: School Office*

C10

*Excluded: ARCH5222 or equivalent.*

Introduction to the concepts and techniques of three-dimensional computer modelling and rendering and their application to the practice of architecture. Topics include: three-dimensional representation of objects and buildings; constructive solid geometry; visualisation techniques; ray tracing and radiosity techniques; use of multiple light sources; shading; reflections; transparency; texture mapping and colour manipulation. This subject involves extensive hands-on use of computers, computer laboratory exercises and project work.

**ARCH7222****Architectural CAD Management***Staff Contact: School Office*

C10

*Excluded: ARCH5945 or equivalent*

This subject is concerned with the practical implementation and management of CAD systems in the context of architectural practice. Topics will include: CAD system selection and installation; cost issues (purchase, maintenance, upgrades); political implications within practices; software customisation; resource management; office standards; and training. Assessment is by means of projects and student seminars.

**ARCH7301****Architecture and the City***Staff Contact: School Office*

C10

This subject investigates the historical formation of selected international cities, with attention focussed on past and present theories. Australian developments are studied along with the contributions of Sulman and Boyd. Classes also explore contemporary debates through the projects or writings of the Kriers, Rowe, Rossi et al.

**ARCH7302****Theories in History***Staff Contact: School Office*

C10

This subject investigates the writings of architectural theorists from Vitruvius to the present. Authors to be studied include Alberti, Quatremère de Quincy, Semper, Loos and Le Corbusier. Interpretations of the texts will be focussed around specific issues critical to modern practice. These will range from broad social concerns, such as the ethical role of the architect, to the qualities of architectural form, such as the relationship of structure to ornament. The aim of the subject is to provide a theoretical foundation capable of responding to the problems we now face.

**ARCH7303****Theory and Contemporary Architectural Practice***Staff Contact: School Office*

C10

Presents theoretical issues which have arisen in late 20th century practice and criticism, raises a number of ethical issues in relation to architectural practice and their impact on theory, examines the validity of certain architectural positions currently adopted within the architectural profession, and finally discusses prospects for a viable

architectural future by reviewing ideas informing both visions for and the projected context of the profession.

**ARCH7320****Architectural Theory***Staff Contact: School Office*

C10

A general and theoretical approach to synthesis in art and architecture considering sensible and intelligible influences in the context of history and the present age.

**ARCH7321****The New Functionalism in Architectural Theory***Staff Contact: School Office*

C10

'Form follows function' was the slogan of the Modern Movement in Architecture. This subject reviews the proposition that the movement's work (of architects in both its Empiricist and Rationalist branches) was not functional enough. Implicit in this statement is a revised definition of 'function' developed from the empirical and phenomenological research of the last twenty years and particularly on the development of ecological theory in psychology during that time. It argues that the concept of basic human needs and cognitive needs developed by Abraham Maslow is a sound basis for thinking about the purposes served by the architectural environment.

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## Building

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### Master of Project Management

**BLDG5100****Project Report***Staff Contact: Mr G.E. Levido*

Students with a grade average of Credit or better in their course work may choose to write a Project Report to qualify for the degree with honours. This will require a specialized individual study taken under staff supervision, with the objective of allowing the student to expand knowledge in some aspect of building management.

The Project Report may be taken full-time over one session or part-time over two sessions following the satisfactory completion of all course work subjects. As part of the examination of the Project Report, students will be required to make an oral presentation and defence of the subject matter covered in their report.

**BLDG5111****Economics and Project Environment***Staff Contact: Mr G. Runeson & Mr G. Levido*

S1 L2 T1

Economic modelling; a model of the Australian economy; economic targets and instruments; fiscal and monetary policies; the structure of the building industry; productivity and competition; land use theory; the structure of the financial market; sources and costs of finance; Political and environmental issues.

**BLDG5112****Project Management Framework**

*Staff Contact: Mr J. Senogles & Mr D. Dombkins*  
S1 L2 T1

Introduction to general management theories; development of management disciplines and schools of thought; traditional functions of management - organising, planning, monitoring and control; leadership; management communication. Project Management as a discipline in itself; the project life cycle; project organisational design by phase; distinctive attributes and tasks of Project Management; communication on project; communication dysfunctions; development and management of conflict; concepts of uncertainty and risk; project risk identification and analysis.

**BLDG5113****Project Management Information Systems**

*Staff Contact: Dr O. Greste & A/Prof R. Miller*  
S1 L2 T1

Nature and scope of information for building construction estimating, planning and management. Overview of computer hardware and operating systems; spreadsheet, data base and word processing programs and application areas; design of relational data base structures; data communication and networks; programs for cost estimating, project scheduling, cost monitoring and project information management; CAD overview; computer system specification, selection, installation and operation. The subject involves practical use of various PC packages.

**BLDG5211****Project Finance**

*Staff Contact: Mr B. Reece*  
S2 L3

Techniques of investment analysis, mainly using the discounted cash flow method. Quantitative methods applying statistical and regression analysis techniques for the purpose of forecasting time series and investigating other data series.

**BLDG5212****Human Resources Management**

*Staff Contact: Mr D. Dombkins*  
S2 L2 T1

Job design, specialisation and decentralisation, basis of grouping, span of control and liaison devices. Self-directing work groups and flexible manufacture. Reward policies, motivation and commitment. Personal development and group skills. Parties to industrial relations in Australia. History of industrial relations in the building industry. Statutory responsibilities of employers. Restructuring and reform in Australian industrial relations. Development and management of conflict.

**BLDG5213****Project Time Management**

*Staff Contact: A/Prof T. Uher*  
S2 L2 T1

Concept of operations analysis; operation research techniques; concept of a model; optimisation. Critical path method; arrow and precedence diagrams; project control time-cost trade-offs; basic overlapping networks; resource allocation and levelling; computer applications of CPM. Work study; line of balance; multiple-activity charting; PERT. Applications of planning techniques.

**BLDG5301****Project Feasibility**

*Staff Contact: Dr J. Hutcheson*  
S1 L2 T1

A total approach to feasibility studies including market research, establishing client's needs, site selection and analysis, financing methods, preliminary designs, preparation of development applications, life cycle costing. Project risk identification and analysis.

**BLDG5312****Contracts Management**

*Staff Contact: Mr P. Davenport*  
S1 L2 T1

Selection and preparation of contract documents for management, design and construction of building projects; options for project delivery; procedural and management aspects of alternative forms of contract; analysis of head contracts and subcontracts; contract claims and disputes; international contracting; risk allocation in construction contracts; effective management of tender process. Professional liability.

**BLDG5313****Quality & Cost Management**

*Staff Contact: A/Prof M. Marosszeky & Mr P. Marsden*  
S1 L2 T1

Cost Management: Pre-construction cost control, Construction tendering, Construction cost control, Forecasting and Construction indices.

Quality Management: T.Q.M. theories and application, alternative approaches to quality management, quality management plans, quantifying quality management and control.

**BLDG5401****Management of Buildings**

*Staff Contact: Dr J. Hutcheson*  
S2 L2 T1

Maintenance and obsolescence; economics of refurbishment; marketing; tenancy management; building control and security systems; management of commercial, retail, industrial and large scale residential complexes; legal aspects of tenancy management; energy conservation; taxation law and implications.

**BLDG5412****Project Integration**

*Staff Contact: Mr D. Dombkins*  
S2 L2 T1

The application of core project management skills to a case study. Students (in groups) will participate in an interactive situational case study. Team building. Feedback will be provided on student personal and group skills in simulated project environment, presentation and project management skills. Proposal planning, crisis management, feedback processes. International project management case studies.

**BLDG5413****Project Applications in Building**

*Staff Contact: Mr J. Kim & Mr D. Dombkins*  
S1 L2 T1

Project procurement options; initial strategy review; team member selection and briefing; team-building and

partnering; consultant selection and commissioning; other stakeholders and approvals; the design process; project management in the construction process; commissioning tenant fitout and project finalisation; value engineering; project feedback process; strategic and detail planning; scope management.

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## Master of Construction Management

### BLDG6150

#### Industry Training

*Staff Contact: A/Prof T. Uher*

Students will be placed on a project for a period and be required to attend inspections of other major construction projects, demonstrations of plant and equipment, and short courses on specific building materials and construction systems.

### BLDG6151

#### Construction Methods and Techniques

*Staff Contact: A/Prof M. Marosszeky*

S1 L2 T1

Appropriate selection and use of current techniques and systems in all construction phases.

### BLDG6153

#### Management of Construction

*Staff Contact: Mr J. Kim & Mr J. Senogles*

S2 L2 T1

Project delivery strategies; Organisation of projects from design to commissioning; Team building and motivation; Design and quality management; Time and value management; Construction site and resources management; Project control systems.

### BLDG6154

#### Economics in Construction

*Staff Contact: Mr B. Reece & Mr G. Runeson*

S1 L2 T1

Economics of the construction industry; its interrelationship with national and transnational economics.

### BLDG6155

#### Computers in Construction Management

*Staff Contact: Dr O Greste*

S1 L2 T1

Nature and scope of information for building construction estimating, planning and management; overview of computer hardware and software; MSDOS operating system; spreadsheet, data base and word processing programs and application areas; design of data base structures for relational data bases; data communication and networks; programs for cost estimating, network based project scheduling, cost monitoring, and project management; CAD systems; computer system specification, selection, installation and operation. The subject involves practical use of leading spreadsheet, data base and word processing packages.

### BLDG6157

#### Property Management

*Staff Contact: Mr J. Kim*

S2 L2 T1

Property development process: Evaluation, feasibility study; Preparation, life cycle cost in building; Disposal, marketing; Property investment analysis.

Building management: Tenancy management; Building maintenance; Obsolescence; Economics of refurbishment; Commercial property management; Strata title management; Taxation in property management.

### BLDG6158

#### Principles and Practice of Management

*Staff Contact: Mr J. Senogles*

S1 L2 T1

Introduces the general principles of management: Basic management functions; planning process, organizing; control of time, cost and quality. Organisation structure; functional/divisional matrix structures, concepts of management communication; motivation; delegation; team building. Decision theory and risk management.

### BLDG6250

#### Research Report

*Staff Contact: A/Prof T. Uher*

A specialised individual research study, under staff supervision, into an approved aspect of construction management or a related topic.

### BLDG6251

#### International Construction Practice

*Staff Contact: Mr D. Dombkins*

S2 L2 T1

A comparison of construction practices in various nations. The impact of local economic, labour and technical parameters on construction management.

### BLDG6253

#### Construction Planning and Control

*Staff Contact: A/Prof T. Uher*

S1 L2 T1

The concept of construction planning and control; planning and control techniques barchart, CPM, PERT, line of balance, multiple activity chart; computer based planning and control; applications of work study.

### BLDG6255

#### Contracts Management and Law

*Staff Contact: A/Prof T. Uher & Mr P. Davenport*

S2 L2 T1

Principles of administration of construction contracts; formation of construction contracts and subcontracts; contract administration of different phases of construction projects; options for project delivery; principles and practice of tendering; analysis of AS21241986, JCCA & B and FIDIC contracts; contract disputes arbitration, mediation, litigation; contract claims; risk allocation in construction contracts; international contracting.

### BLDG6256

#### Cost Planning and Analysis

*Staff Contact: Mr P. Marsden*

S2 L2 T1

An introduction to construction estimating, elemental cost planning, design variables, cost control procedures, feasibility studies and risk management.

**BLDG6257****Quantitative Methods in Management***Staff Contact: Mr B. Reece & Mr G. Runeson*

S1 L2 T1

Statistical analysis and modelling methods in construction management.

**BLDG6258****Construction Management Applications***Staff Contact: Mr N. Yates*

S2 L2 T1

The objective of the subject is to expose students to the realities of involvement with a large building or construction project. Detailed analysis of each stage of the project case study: Feasibility, Design and Documentation, PreConstruction, Construction and Commissioning.

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**Master of Real Estate****Graduate Diploma in Real Estate****Graduate Diploma in Valuation****BLDG7101****Valuation 1 (Introduction)***Staff Contact: Mr K. Gunther*

S1 L2

Qualities of the different main investments - classes compared.

Investment opportunities. Property investment and the underlying factors of the market.

Value; Reasons for valuation; Legal interests in properties.

Features of property and the property market. The role of the valuer. Rates of interest and yields (capitalisation rates) Methods of valuation. The role of the valuer, including social and ethical responsibilities to the public.

**BLDG7102****Real Estate Marketing***Staff Contact: Dr John M. Hutcheson*

S1 L2

Auctioneers & Agents Act & Regulations, documentation, agency agreements, 'code of ethics', conjunction, source of listings, vendor/buyer qualification, listing procedures, pricing, promotion, presenting marketing plans, advertising, enquiries, finance and staffing, negotiating.

Rural property - map reading aerial photography, land titles 'restricted' title, leasing Agricultural Holdings Act.

Auctions - procedures & practice. Tender, sale of plant, franchising, electronic marketing.

Consumer rights and protection, impact of the consumer protection and Free Trade Acts.

**BLDG7103****Market Forecasting***Staff Contact: Dr John M. Hutcheson*

S1 L1

The marketing mix; The relationship between a marketing system and the environment; Marketing tactics and strategy; market segmentation and the buyer decision process; Listing, selling and the auction process;

International marketing; The underlying economic fundamentals of forecasting; Forecasting the economy; Forecasting the property market; Analysing demand and supply patterns of property; Social responsibilities.

**BLDG7104****Contracts, Agency & Consumer Protection***Staff Contact: Mr P. Davenport*

S1 L2

Contract law, agency and delegation, professional negligence, misrepresentation, damages, restitution, equitable remedies, Trade Practices Act, Fair Trading Act, consumer protection.

Current and social issues; the consumer's point of view.

**BLDG7105****Agency & Trust Accounting***Staff Contact: Mr F. Kelly*

S1 L2

Revision of the role of information systems, accounting systems as information systems, financial management accounting, statements of activity, position and flow, accounting principles, components of accounting systems, assets, liabilities, proprietorship, expenses, revenue, data accumulation, recording, classification, source documents, accounts of prime entry, ledger accounts, trial balances, generation of financial statements, statutory accounts.

The need for analysis, ratio analysis, debit/equity. Trust accounting and trustee obligations. Accounting procedures for the administration of an estate policy. Role of data processing in the administration of a real estate practice. Ethics, duty of care to public, social responsibility.

**BLDG7201****Valuation 2 (Valuation Theory)***Staff Contact: Mr K. Gunther*

S2 L2

*Pre-requisite: Valuation 1*

Investment - rates of interest, yields, risk. Yields and property investment. Methods of valuation - comparison, summation, hypothetical development, profits, capitalisation, mortgage/equity. Valuation mathematics and valuation tables; Application of the tables. Terminable income flows; Freehold interests and terminable incomes. Freehold interests and terminable incomes; Simple leasehold valuation. Analysis of simple leasehold valuations; Effect of tax on property income; Valuation of residential properties.

**BLDG7202****Strata Management***Staff Contact: Dr John M. Hutcheson*

Duties and responsibilities of the licensed strata managing agent to his principal, his customers and the public.

Strata schemes, the body corporate, the developer, managing agents.

Strata meetings - during initial period, the first annual general meeting, annual general meetings, extraordinary general meetings, council meetings.

The Council, the strata roll insurances, related matters. By-laws, disputes procedures. Responsibility to the public, ethical considerations, social relationships.

**BLDG7203****Property Management***Staff Contact: Dr John M. Hutcheson*

S2 L2

The duties and responsibilities of the licensed real estate agent to this principal, his customers and the public; relevant legislation.

The Landlord and Tenant (Amendment) Act; The Auctioneers & Agents Act and Regulations; Residential Tenancies Tribunal Act; Land & Tenant (Rental Bonds) Act; Management of residential, industrial, commercial, retail property and shopping centres; Lease agreements; Rent reviews; Maintenance, repairs, plant and equipment; Obsolescence, redevelopment; Computer programs; Office management.

Role and impact of resident action groups, customers and the public.

**BLDG7204****Land & Environment Law***Staff Contact: Mr P. Williams*

S2 L2

Planning, Planning legislation, Environmental planning instruments, Environment - common law - statute - role of public and pressure groups, environmental planning control, environment assessment, heritage legislation.

Land law - public and private, Estates and tenures, Co-ownership, Leases, Easements, Restrictive covenants, Licences, Residential tenancies tribunal.

Old system title, Possessory title, Torrens title, Land Titles Office practice, Sale of land, Other methods of transferring land, Crown land tenures, Strata title, Community title.

Alternative models including other countries, Critical perspective, Heritage Law.

**BLDG7205****Planning & Land Policy***Staff Contact: Prof A. Cuthbert*

S2 L2

The objectives of planning; The history of land use planning in Australia; The achievement of planning objectives; Planning authorities; Planning codes and development plans; Statutory powers of planning authorities; Planning procedures; Control of the development process; Retail development; Commercial development; Industrial and warehouse development; Special development; Environmental impact assessment.

Government intervention in land use matters; Public finance and planning; Political considerations and planning and development; Government control and speculation - laissez-faire or public control; Planning and housing policy; Urban decay and renewal; The problems of the urban fringe; Conservation, preservation, redevelopment.

**BLDG7301****Valuation 3 (Valuation Theory & Practice)***Staff Contact: Mr F. Kelly*

S3 L2

*Prerequisite: Valuation 2*

Ground rents; Adjustment of rents to net income. Premiums and the calculation of the same. Surrender and renewal of leases. Life interests. Shortcomings of sinking fund theory. Double sinking fund, sinking fund methods etc.

Discounted cash flow approach and valuation. The valuation of rural properties.

**BLDG7302****Valuation 5 (Specialist Valuation)***Staff Contact: Dr John M. Hutcheson*

S3 L1

*Prerequisites: Valuation 1 & 2**Corequisite: Valuation 3*

Petrol filling stations; Hotels and restaurants. Licensed premises; Business valuations. Leisure and recreation properties; Cinemas and theatres. Plant and machinery; Basements; Valuations for insurance. Valuations for mortgages etc; Extractive industries. Ethical, social and environmental aspects of all types of specialist valuations.

**BLDG7303****Property Development 1***Staff Contact: Dr John M. Hutcheson*

S3 L2

A total approach to the building process through the four stages of predesign, design, construction and post-construction. Market research, establishing client's needs, site selection and analysis, feasibility studies and financing methods.

Selection and monitoring the work of the design team, preliminary designs, preparation of development applications, cost value analysis, value management, life cycle costing and services integration. Preplanning and building process, utilisation of construction and management consultants.

Development control during construction and in completion, tenant fitouts and handing over to clients of the completed project. Social responsibilities of developers.

**BLDG7304****Arbitration & Litigation***Staff Contact: Mr P. Davenport*

S3 L2

Compensation on acquisition or resumption; Rating and taxing; Professional responsibility; Court procedure and evidence; Role of valuer as expert witness; Arbitration and expert determination; Specific performance. Liability, ethics, self-regulation.

**BLDG7305****Urban Economics***Staff Contact: Mr B. Reece*

S3 L2

Political economics; Economic advantages and disadvantages of urbanisation; Issues in applying economic theory to urban land; Methods for analysing the economic base in urban areas; Elementary rent models; Rent and transport costs; Business location - access/space model; Residential location - factors other than central access; Tuning of the models of the development process; Intra-urban industrial location; Office location; Density and land value gradients; Inter-urban location; Urban population growth and its effects on urban development; systems of settlements and the emergence of cities as central places.

**BLDG7401****Valuation 6 (Rural Utilisation & Valuation)***Staff Contact: Mr G. Kemp*

S4 L1

*Prerequisites:* Valuation 1 & 2

*Corequisite:* Valuation 3

Land settlement in Australia; Climatic regions; Soils, derivation, classification, improvement and management. Pastures; Crops and marketing systems; Livestock and management. Water and irrigation; Farm costs; Specialised rural enterprises. Rural land tenures; Mapping and aerial photography; Property specifications. Basic units of value; Rural land sales analysis; Improvements - depreciation. Methods of valuation. Landcare total catchment management environmental impacts. Ethics and social responsibilities.

#### **BLDG7402**

##### **Property Development 2**

*Staff Contact:* Dr John M. Hutcheson

S4 L2

*Prerequisite:* Property Development 1

Redevelopment, refurbishment, change in use; Special projects including leisure, hotels, restaurants, petrol stations, one-stop convenience stores, cinemas, theatres, canal developments, rural, mines. Land subdivision.

Revenue and costs; Risk and uncertainty; Supply and demand of subdividable land and development sites; Site assessment and assembly; Development and betterment; The impact of Acts, Regulations, By-laws and planning policies.

Analysing computer programs on the market; Statements of environmental effects; Rectification of contaminated sites.

Environmental sustainability, environmental impact statements.

#### **BLDG7403**

##### **Property Investment Analysis**

*Staff Contact:* Dr John M. Hutcheson

S4 L2

*Prerequisites:* Valuation 1 & 2

Capital investment analysis; Advanced investment evaluation; Financial management and analysis; Growth and development; The financial market; Analysing property investments and portfolios.

Public and private investment; Social issues and directions.

#### **BLDG7404**

##### **Valuation 4 (Advanced Theory & Practice)**

*Staff Contact:* Mr G. Beckett

S4 L2

Cash flow analysis and sensitivity analysis. Advanced quantitative methods; Investment analysis. Application of computer programs to the valuation process. Analysis of the property market utilising computer programs. Development appraisals. Valuation of commercial, retail and industrial properties including specific reference to ethical and social aspects.

#### **BLDG7405**

##### **Organisation, Finance & Tax**

*Staff Contact:* Dr John M. Hutcheson & Mr B. Reece

S4 L2

The property institutes and RESC, professionals (eg. planners, builders, lawyers, engineers, accountants, quantity surveyors, architects etc). The developer, the

project manager and the property investor. Capital gains; Land; Income; Fringe benefits tax.

Nature of real estate as an investment; Principles of money and capital markets; Comparison of characteristics of government bonds, shares and real estate, technical aspects of these markets such as yield curves and the concept of market efficiency, and the effect of business cycles.

Characteristics of real estate lenders and alternative fund sources; Analysis of leverage in real estate; Concepts of risk and portfolio analysis; Measuring returns from real estate - the BOMA index.

Code(s) of ethics, efficiency of capital markets, social injustice, negatives of the capitalist societies.

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## **Town Planning**

#### **PLAN0111**

##### **Introduction to Planning (G)**

*Staff Contact:* Mr S. Harris

SS

Structure of towns, cities and regions. Needs and activities of people. Land use, transport and service systems. Planning theories, aims and objectives. Planning at different scales and in different time frames. Planning as a process. Planning studies.

#### **PLAN0121**

##### **Local Planning 1 (G)**

*Staff Contact:* Dr T. Lukovich

SS

Theories at the local level: neighbourhood and precinct concepts, local community structure, survey and analysis. Subdivision and housing layout, basic transportation planning and management, street design, landscaping, utilities. Practice of planning new neighbourhoods and proposals for conservation and redevelopment.

#### **PLAN0131**

##### **Regional Planning 1 (G)**

*Staff Contact:* Dr P. Murphy

SS

Theories at the metropolitan level. Accessibility, equity, economics, politics. Structure and organization, land use and transportation relationships. Forecasting, alternative futures. Incremental decision making. Integrating local and metropolitan planning.

#### **PLAN0141**

##### **Planning Law and Administration**

*Staff Contact:* Mr P. Williams

SS

Theory and practice of statutory planning. The legal framework. The administrative framework. Environmental planning and related legislation. Techniques and procedures in transforming policies and proposals into statutory instruments. Development control. Planning appeals and the operation of the Land and Environmental Courts.

**PLAN0151****Local Planning 2 (G)**

*Staff Contact: Ms S. Thompson*  
SS

Focus on diversity and difference in the urban environment. Characteristics of community groups; analysis of planning policy and methodology in terms of abilities to respond to diversity and difference.

**PLAN0161****Regional Planning 2 (G)**

*Staff Contact: School Office*  
SS

Theories at the regional level. Location theory, strategies of regional policy. Trends in tourist, rural and extractive industries. Ecological land use planning, recreation and conservation. Environmental impact and assessment.

**PLAN0211****Communications and Public Utilities**

SS

Interaction of land use and transportation. Vehicular and pedestrian circulation patterns. Traffic function and capacity of district and neighbourhood roads. Principles and practice of local road construction, water supply, sewage treatment and disposal, and drainage. Local supply of electricity, gas, telephone, and other services.

**PLAN0212****Land and Housing Economics**

SS

Outline of principles and practice of land valuation with special emphasis on valuation of residential land and buildings. Rating and taxing systems. Effect of zoning and redevelopment on land values. National income and its distribution. Goals of a modern economy. Demand and supply analysis. Economics of road transport and public utilities in urban development. The costs of urban growth. Cost-benefit analysis.

**PLAN0213****Urban Sociology**

*Staff Contact: A/Prof R. Zehner*  
SS

A sociological approach to the study of urban phenomena. Lectures deal with both methodological and theoretical issues relating to the study of urban social structures. Seminars provide students with the opportunity to examine critically a number of community studies.

**PLAN0811****Planning (Special Subject)**

*Staff Contact: Head of School*  
C2 SS

**PLAN0812****Planning (Special Subject)**

*Staff Contact: Head of School*  
C4 SS

Students have the opportunity to pursue a subject of special interest related to planning, depending on staffing resources.

**PLAN0851****Research Seminar 1**

F or SS

**PLAN0852****Research Seminar 2**

F or SS

**PLAN08****Research Seminar**

F or SS

**Note/s:** Students enrolled in the PhD (Course 1150), MTP (Course 2230), MSc(Town Planning) (Course 2235) and GradDip (Course 5205) are expected to enrol in this subject each year, starting with Research Seminar 1 in their first year, Research Seminar 2 in their second year, and so forth. Those taking the subject as part of a qualifying program must obtain a grade of Credit or higher to be considered for progression to candidacy for a research degree. The seminar presentations of research degree candidates are graded only on a satisfactory/unsatisfactory basis, and contribute to the annual reviews of those students' progress.

A program of supervised independent study in an area of planning in which the student is undertaking, or expects to undertake, research. Students present a seminar on their current or proposed research, take part in discussions at other student seminars, and may be asked to attend comparable postgraduate seminars within the University and at other institutions.

**PLAN0911****The Organization of Town Planning**

*Staff Contact: School Office*  
SS

Aims, means and consequences of town planning in Australia. Aims of planning: organization of the environment in respect of space and time, interrelationship of functions, equity of resource distribution, human satisfaction, the nature of the planning approach. Means of planning: overview of the planning process, laws related to planning, planning assessment procedures, environmental management at different levels, decisionmaking processes — financiers', firms' and private decisions, changes in public values, public participation, political and economic constraints. Consequences of planning: illustrative case studies, evaluation of planning methodology and procedures.

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## Landscape Architecture

**LAND9001****Landscape Project**

*Staff Contact: A/Prof F. Thorvaldson*  
C6 F

A project relating to the practice of landscape architecture selected by the student and approved by the academic staff of the school. The project should represent a synthesis of the knowledge and skills that have been acquired during the course of study and will be supervised by a member of the academic staff. Appropriate methodologies and techniques will be used for assessment, analysis, and evaluation of project parameters.

**LAND9002****Landscape Research Project**

*Staff Contact: A/Prof F. Thorvaldson*  
C12 F

A research project directed at furthering the body of knowledge relating to the art and science of landscape architecture selected by the student and approved by the academic staff of the school. The research project should be a synthesis of the knowledge and skills acquired during the course of study, and should further the student's knowledge or expertise in a specialized field of study. Emphasis will be placed on continued development of research skills in the areas of data collection, analysis, interpretation and presentation. The research project will be supervised by members of the academic staff of the University.

**LAND9213****Land Systems and Management**

*Staff Contact: Ms A. Todd*  
C3 S2 L1 T2

An investigation of resources and their management in relation to a range of land use types with an emphasis on an ecological approach. Subject material includes consideration of management of cultural as well as natural landscapes. Studies of specific examples relating to the effects of human impacts are included. Methods of conservation and rehabilitation are considered. Field excursions are included.

**LAND9010****Environmental Heritage Studies**

*Staff Contact: Ms H. Armstrong*  
C3

An investigation of the concepts of environmental heritage concerning aspects of landscape architecture and conservation issues. The application of environmental heritage in the fields of planning and design. Investigation of case studies of the natural and cultural environment. Projects to investigate problems of planning and managing heritage environments. Methods of conservation analysis with an emphasis on Australian environments and their history.

**LAND9111****Landscape Planning**

*Staff Contact: Mr D. Crawford*  
C3 S1 L2 T1

Introduction to the discipline of landscape planning. Explores a range of basic methods and techniques for the collection, analysis, and valuation of landscape resource data. Application of this knowledge in the development of simple landscape planning models. Participation in a planning exercise applying these skills and knowledge using simple computing techniques.

**LAND9212****Landscape Planning Methods**

*Staff Contact: Mr D. Crawford*  
C3 S2 L2 T1

Examination and comparison of a range of landscape planning methods using examples from Australia and overseas. Students conduct research relating to the physical parameters of models for land use evaluation and environmental impact assessment. Participation in

planning exercises involving the application of these models using advanced computing techniques.

**LAND9212****GIS in Landscape Architecture**

*Staff Contact: Mr. D. Crawford*  
C3 S1 L2 T1

Principles of geographic information systems, techniques of data collection, storage analysis, modelling and display. Applications and procedures specific to Landscape Architecture and Landscape Planning. Laboratory exercises using the IDRISI GIS.

**LAND9301****Landscape Planning Exercise**

*Staff Contact: Mr. D. Crawford; A/Prof F. Thorvaldson*  
C6 S1 T6

Prerequisite: Core subjects of course.

Application of Landscape Planning to a major land resource allocation and management project undertaken as a group exercise.

**LAND9214****Visual Landscape Assessment**

*Staff Contact: A/Prof F. Thorvaldson*  
C3 S2 L2 T1

Examination of visual analysis, assessment and evaluation techniques and their incorporation into landscape planning models. Research and study of recent Australian and overseas examples of visual resource management programs. Students will undertake visual planning exercises using relevant computer software.

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## Graduate School of the Built Environment

Not all graduate course subjects are necessarily offered in any one year.

**GSBE0001****Conservation Policy and Practice**

*Staff Contact: Don Godden*  
CP 5

The contextual system of the heritage and conservation movement. The history of the conservation movement worldwide with special reference to Australia. The place of building conservation, urban conservation and conservation management in the existing cultural milieu. The importance of conserving physical aspects of the past.

**GSBE0002****Heritage Legislation**

*Staff Contact: Don Godden*  
CP 5

The role of the various professional and voluntary bodies in the conservation movement in Australia, the Heritage Council of NSW, the Heritage Commission of Australia and other bodies. The responsibilities of government authorities pursuant to the Heritage Act of 1977. An examination of legislation at local, state and Federal Government levels



aimed at protecting items of cultural heritage. Problems associated with enforcing legislation at all levels.

#### **GSBE0004**

##### **Cultural Significance**

*Staff Contact: Don Godden*

CP 5

The concept of cultural significance in Australia and other nations. The variation in the concept of cultural significance between nations and within the same nation. Established methodologies for assessing cultural significance. The Venice Charter and the Burra Charter. Principles and processes in the Burra Charter. The development and impact of the State Heritage Inventory Project.

#### **GSBE0005**

##### **Historical Processes I / The Built Environment**

*Staff Contact: Don Godden*

CP 10

The major architectural movements in Australia and the principal architects associated with them. The work of the Government Architects from colonisation to the present and their building legacy. The great Australian architects and their impact on the styles of Australian architecture. The underlying social, economic, historic and technological forces which shaped Australian architecture.

#### **GSBE0006**

##### **Historical Processes II / Technology**

*Staff Contact: Don Godden*

CP 10

The development of the early technologies for forming wood, stone, earth, brick and metal in Australia. An overview of the properties of the early building, materials, methods of working and their effect on architectural form and designs. Effect of the development of steam and electric power on materials-processing technology. The emergence of the age of gas and its impact on lighting, heating and ventilation, the effects of the introduction of hydraulic power, electricity and transport technology and the growth of the city.

#### **GSBE0007**

##### **Traditional Building Materials and Technologies**

*Staff Contact: Don Godden*

CP 10

A detailed study of the properties of building materials and their use from colonisation to the second world war. Methods of field and laboratory examination of a wide range of materials. The construction associated with rude timber work, carpentry, joinery and cabinet making. The properties and uses of the ferrous and non-ferrous metals including wrought iron, cast iron, galvanised sheet steel, copper, brass, bronze and aluminium. The techniques of masonry construction and the shaping of stone using manual and power tools. The development of paints and painting technology from the early oil and water based paints to the early plastic paints. Glazing, lead lighting and stained glass manufacture.

#### **GSBE0008**

##### **Conservation Technology**

*Staff Contact: Don Godden*

CP 10

The analysis of the causes of the deterioration of a wide range of building materials. Damage caused to masonry,

plaster and render by weathering, rising damp and falling damp, and techniques of control. The principal causes of deterioration in timber including insect and fungal attack, methods of inspection and techniques of control. Metal corrosion, its causes and methods of reduction. Techniques used in the repair of damaged metal elements.

#### **GSBE0009**

##### **Conservation Research**

*Staff Contact: Don Godden*

CP 10

The archaeology of buildings, structures and precincts. The analysis of extant fabric. The systematic field recording of extant fabric by notes, sketches and photography. The use of photogrammetry in recording buildings and structures, and in monitoring decay. Principles of architectural drafting. Presentation of drawings. The use of photographs, working drawings and sketches in Conservation Plans.

#### **GSBE0011**

##### **Conservation Processes**

*Staff Contact: Don Godden*

CP 5

Methodologies appropriate to the preparation of conservation policies and conservation plans. The principle of preservation, restoration, reconstruction and adaption. The concepts of retaining significance and regaining significance. The structure of conservation policies and conservation plans. The appreciation of conflict in the conservation process; conflict resolution and the place of compromise.

#### **GSBE0012**

##### **Adaption, Recycling and Conservation Management**

*Staff Contact: Don Godden*

CP 10

The economics of recycling buildings, structures, precincts and complexes. Building codes which effect recycling. The ethics and politics of the conservation process in recycling. The problems associated with services in traditional buildings and the replacement of significant fabric in meeting building codes and local council requirements. The implementation of conservation policies. Environmental psychology and the role of individuals and interest groups in the conservation process. Social, economic and environmental considerations in the conservation of precincts, buildings, structures and relics. Cultural tourism and its ramifications.

#### **GSBE0014**

##### **Graduate Project**

*Staff Contact: Don Godden*

CP 25

An appropriate conservation topic from an associated field including such areas as historical archaeology, documentation, legalisation, economics, technology or a specific building restoration project. The topic of the graduate project is to be chosen in conjunction with the course convenor. Conditions governing the submission of the Graduate Project appear in the calendar.

#### **GSBE0503**

##### **Postgraduate Research Design and Methodology**

*Staff Contact: Prof Jon Lang*

CP 10

An introduction to the nature and purpose of research and its role in problem solving and theory in the built environment disciplines. Discussions of various approaches to research. Reliability, validity and other principles of research. A review of the principle research methods and examples of their use. Topic definition, research design, research planning and time management, literature review, data collection and analysis, thesis structure, writing, presentation of research seminars and research papers.

#### **GSBE0504**

##### **Quantitative Methods in Built Environment Research**

*Staff Contact: Dr Murti Durvasula*

CP 10

Deals extensively with the methodology of survey research and applications of basic and multi-variate statistical techniques in the analysis of data. Instruction in the uses of the Statistical Package for Social Sciences (SPSS), which aids students in the analysis of data, is also included.

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## **Department of Industrial Design**

#### **IDES5071**

##### **Industrial Design Studies**

*Staff Contact:*

C2 F HPW2

The objectives and methods of graduate study in industrial design: contemporary industrial design trends, the relationship between academic and practice objectives, the relationship of industrial design methodology and research techniques to those of other disciplines at the University. A diverse range of current professional and theoretical interests, design and design related activities in Australia and overseas, current ideologies and historical assessments. Seminars are given by students, theorists, and practitioners in design and design related areas.

#### **IDES5091**

##### **Design Media Communication**

*Staff Contact:*

C2 S1 HPW2

The major two and three dimensional media and computer techniques are analysed and demonstrated within the context of industrial design problem solving: orthographic techniques, the Australian Engineering Drawing Standard, graphic art processes, photography, current rendering and illustration techniques, modelling in automotive clay, plastic sheet and rigid foams, timbers and metals. The current state of computer aided design as well as its potential in design and the restructuring of engineering decisionmaking and drafting. Particular emphasis given to each method's role in problem analysis and communication at the concept, detail and final design stages. The social and physiological aspects of communicating design in industry are also examined.

#### **IDES5193**

##### **Ergonomics for Industrial Designers**

*Staff Contact:*

C2 S2 HPW2

Objectives, methodology and research techniques of ergonomics. Man/machine, interaction, human perception and performance, anthropometrics, product evaluation, the establishment of ergonomic parameters in product design and the application of ergonomics in design, the interrelationship of ergonomics and industrial design in the product development process. Students carry out laboratory experiments related to project work and also contribute to the development of a data bank.

#### **IDES5111**

##### **Visual Thinking**

*Staff Contact:*

C2 S1 HPW2

**Note/s:** Graduates of visually oriented courses, eg architecture, are normally exempt.

Visual language, media, problems and problem solving methods. The relationship between visual thinking and creative processes. Studies are undertaken in two and three dimensions and are developed within the context of art and design.

#### **IDES5124**

##### **Business Studies for Industrial Designers**

*Staff Contact:*

C2 S1 HPW2

The theory and practice of business and industrial management, and marketing. Its application in the product development process and the relation of the process to other business and industrial objectives. Special reference to the Australian industrial context and potential developments resulting from technological and socioeconomic change. Professional practice and the management of design organizations in the general context of business and industrial management.

#### **IDES5131**

##### **Industrial Design**

*Staff Contact:*

C4 S1 HPW4

*Corequisites:* IDES5071 or equivalent.

Industrial design project work intended to integrate the student's previous experience and the course units in preparatory work for the Graduate Project. A part of the course may be undertaken on a group basis.

#### **IDES5141**

##### **Industrial Design A**

*Staff Contact:*

C6 S1 or S2 HPW6

*Corequisites:* IDES5071 or equivalent

Project work designed to introduce industrial design research and studio methodologies. Studies undertaken within a broad range of product areas and related to the concurrent course work.

#### **IDES5152**

##### **Manufacturing Technology**

*Staff Contact:*

C2 S1 HPW2

Industrial processes and materials, production costing and changing production economics. Objectives and structures of the engineering professions and their integration with industrial design in the product development process. Students assist in the development of a data bank.

**IDES6081****Graduate Project (MID)***Staff Contact:*

C14 F

*Corequisites:* IDES5131

A project within the practice areas of industrial design, selected by the student subject to the approval of the School; conducted within an approved methodology. Documentation of the methodology, research strategy and techniques, monitoring of the design process, resultant design, and evaluation of the methodology, research and final design. Students should give consideration to the School's specialist areas.

**IDES6101****Design Theory**

C4 F

*Prerequisite:* IDES5071 or equivalent

Research into a theory aspect of industrial design, selected by the student subject to the approval of the School, in the general area of design and design related studies. Students should give consideration to the School's specialist areas. The study may be taken in product design but should not be directly linked to studio project work being undertaken by the student.

**IDES6161****Industrial Design B***Staff Contact:*

C6 F

*Corequisites:* IDES5141

Advanced project work combining the research and practice methodologies of industrial design in product research, development and design, preparatory to undertaking the Graduate Project.

**IDES6171****Industrial Experience***Staff Contact:*

C2

*Prerequisite:* Enrolment in one of the degrees

A four week period of approved industrial experience undertaken by full-time students in the midyear recess and by part-time students in either the midyear or summer recess. The period is intended to give students first hand interaction with industrial and commercial operations. Normally students are expected to be involved in design activities, however involvement in production, engineering, management and marketing is also considered. Part-time students in approved employment are exempt.

**IDES6181****Graduate Project (MSc(IndDes))***Staff Contact:*

C8 S2 HPW8

A project within the practice areas of industrial design, proposed by the student in consultation with the School and conducted within an approved methodology; documentation of the methodology, research strategy and techniques, monitoring of the design process, resultant design, and evaluation of the methodology, research and design.

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# Conditions for the Award of Degrees

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## First Degrees

Rules, regulations and conditions for the award of first degrees are set out in the appropriate Faculty Handbooks.

For the list of undergraduate courses and degrees offered see Table of Courses by Faculty (Undergraduate Study) in the Calendar.

The following is the list of higher degrees, graduate diplomas and graduate certificates of the University, together with the publication in which the conditions for the award appear.

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## Higher Degrees

For details of graduate degrees by research and course work, arranged in faculty order, see *UNSW Courses (by faculty)* in the *Calendar*.

Title	Abbreviation	Calendar/Handbook
<b>Higher Degrees</b>		
Doctor of Science	DSc	Calendar
Doctor of Letters	DLitt	Calendar
Doctor of Laws	LLD	Calendar
Doctor of Education	EdD	Professional Studies
Doctor of Medicine	MD	Medicine
Doctor of Philosophy	PhD	Calendar
		and all handbooks
Master of Applied Science	MAppSc	Applied Science
Master of Architecture	MArch	Built Environment
Master of Archives Administration	MArchivAdmin	Professional Studies
Master of Art	MArt	College of Fine Arts
Master of Arts Administration	MArtAdmin	College of Fine Arts
Master of Art Education	MArtEd	College of Fine Arts
Master of Arts	MA	Arts and Social Sciences
		University College
Master of Arts (Honours)	MA(Hons)	Arts and Social Sciences
Master of Art Theory	MArtTh	College of Fine Arts
Master of Biomedical Engineering	MBiomedE	Engineering
Master of Building	MBuild	Built Environment
Master of the Built Environment	MBEnv	Built Environment

Title	Abbreviation	Calendar/Handbook
Master of the Built Environment (Building Conservation)	MBEnv	Built Environment
Master of Business Administration	MBA	AGSM
Master of Business Administration (Executive)	MBA(Exec)	AGSM
Master of Business and Technology	MBT	Engineering
Master of Chemistry	MChem	Science*
Master of Clinical Education	MClinEd	Medicine
Master of Cognitive Science	MCogSc	Engineering
Master of Commerce (Honours)	MCom(Hons)	Commerce and Economics
Master of Commerce	MCom	Commerce and Economics
Master of Community Health	MCH	Medicine
Master of Computer Science	MCompSc	Engineering
Master of Construction Management	MConstMgt	Built Environment
Master of Couple and Family Therapy	MCFT	—
Master of Defence Studies	MDefStud	University College
Master of Education	MED	Professional Studies
Master of Education in Creative Arts	MEdCA	Professional Studies
Master of Education in Teaching	MEdTeach	Professional Studies
Master of Educational Administration	MEdAdmin	Professional Studies
Master of Engineering	ME	Applied Science Engineering University College
Master of Engineering <i>without supervision</i>	ME	Applied Science Engineering
Master of Engineering Science	MEngSc	Engineering Applied Science University College
Master of Environmental Engineering Science	MEnvEngSc	Engineering
Master of Environmental Studies	MEnvStudies	Applied Science
Master of Equity and Social Administration	MEqSocAdmin	—
Master of Fine Arts	MFA	College of Fine Arts
Master of Health Administration	MHA	Professional Studies
Master of Health Personnel Education	MHPED	Medicine
Master of Health Planning	MHP	Professional Studies
Master of Higher Education	MHEd	Professional Studies
Master of Industrial Design	MID	Built Environment
Master of Information Science	MInfSc	Engineering
Master of International Social Development	MIntSocDev	—
Master of Medicine	MMed	Medicine
Master of Landscape Architecture	MLArch	Built Environment
Master of Landscape Planning	MLP	Built Environment
Master of Laws	LLM	Law
Master of Librarianship	MLib	Professional Studies
Master of Management Economics	MMgtEc	University College
Master of Mathematics	MMath	Science*
Master of Medicine	MMed	Medicine
Master of Mining Management	MMinMgmt	Applied Science
Master of Music	MMus	Arts and Social Sciences
Master of Music (Honours)	MMus(Hons)	Arts and Social Sciences
Master of Optometry	MOptom	Science*
Master of Paediatrics	MPaed	Medicine
Master of Policy Studies	MPS	Arts and Social Sciences
Master of Project Management	MProjMgt	Built Environment
Master of Public Health	MPH	Medicine Professional Studies
Master of Psychological Medicine	MPM	Medicine
Master of Psychology (Applied)	MPsychol	Science†

Title	Abbreviation	Calendar/Handbook
Master of Psychology (Clinical)	MPsychol	Science†
Master of Psychotherapy	MPsychotherapy	Medicine
Master of Real Estate	MRE	Built Environment
Master of Safety Science	MSafetySc	Applied Science
Master of Science	MSc	Applied Science Built Environment Engineering Medicine Science*† University College
Master of Science <i>without supervision</i>	MSc	Applied Science Built Environment Engineering
Master of Science (Industrial Design)	MSc(IndDes)	Built Environment
Master of Science and Society	MScSoc	Arts and Social Sciences
Master of Social Work	MSW	Professional Studies
Master of Sports Science	MSPSc	Professional Studies
Master of Sports Medicine	MSPMed	Medicine
Master of Statistics	MStats	Science*
Master of Surgery	MS	Medicine
Master of Surveying	MSurv	Engineering
Master of Surveying <i>without supervision</i>	MSurv	Engineering
Master of Surveying Science	MSurvSc	Engineering
Master of Taxation	MtAX	ATAX
Master of Town Planning	MTP	Built Environment
<b>Graduate Diplomas</b>		
Graduate Diploma	GradDip	AGSM Applied Science Architecture Arts and Social Sciences Commerce and Economics Engineering Medicine Professional Studies Science*†
	GradDipC/F Therapy	Professional Studies
	GradDipClinEd	Medicine
	GradDipHPed	Medicine
	GradDipHEd	Professional Studies
	GradDipIndMgt	Engineering
	GradDipPaed	Medicine
	GradDipSpMed	Medicine
	DipEd	Professional Studies
	DipIM-ArchivAdmin	Professional Studies
	DipIM-Lib	Professional Studies
	DipFDA	Science*
<b>Graduate Certificates</b>		
	GradCertPhilT	Arts and Social Sciences
	GradCertHEd	Professional Studies

\*Faculty of Science.

†Faculty of Biological and Behavioural Sciences.

## Doctor of Philosophy (PhD)

1. The degree of Doctor of Philosophy may be awarded by the Council on the recommendation of the Higher Degree Committee of the appropriate faculty or board (hereinafter referred to as the Committee) to a candidate who has made an original and significant contribution to knowledge.

### Qualifications

2. (1) A candidate for the degree shall have been awarded an appropriate degree of Bachelor with Honours from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Committee.

(2) In exceptional cases an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.

(3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as the Committee may prescribe, before permitting enrolment as a candidate for the degree.

### Enrolment

3. (1) An application to enrol as a candidate for the degree shall be lodged with the Registrar at least one month prior to the date at which enrolment is to begin.

(2) In every case before making the offer of a place the Committee shall be satisfied that initial agreement has been reached between the School\* and the applicant on the topic area, supervision arrangements, provision of adequate facilities and any coursework to be prescribed and that these are in accordance with the provisions of the guidelines for promoting postgraduate study within the University.

(3) The candidate shall be enrolled either as a full-time or a part-time student.

(4) A full-time candidate will present the thesis for examination no earlier than three years and no later than five years from the date of enrolment and a part-time candidate will present the thesis for examination no earlier than four years and no later than six years from the date of enrolment, except with the approval of the Committee.

(5) The candidate may undertake the research as an internal student i.e. at a campus, teaching hospital, or other research facility with which the University is associated, or as an external student not in attendance at the University except for periods as may be prescribed by the Committee.

(6) An internal candidate will normally carry out the research on a campus or at a teaching or research facility of the University except that the Committee may permit a candidate to spend a period in the field, within another institution or elsewhere away from the University provided that the work can be supervised in a manner satisfactory to the Committee. In such instances the Committee shall be satisfied that the location and period of time away from the University are necessary to the research program.

(7) The research shall be supervised by a supervisor and where possible a cosupervisor who are members of the academic staff of the School or under other appropriate supervision arrangements approved by the Committee. Normally an external candidate within another organisation or institution will have a cosupervisor at that institution.

### Progression

4. The progress of the candidate shall be considered by the Committee following report from the School in accordance with the procedures established within the School and previously noted by the Committee.

(i) The research proposal will be reviewed as soon as feasible after enrolment. For a full-time student this will normally be during the first year of study, or immediately following a period of prescribed coursework. This review will focus on the viability of the research proposal.

*\*'School' is used here and elsewhere in these conditions to mean any teaching unit authorised to enrol research students and includes a department where that department is not within a school, a centre given approval by the Academic Board to enrol students, and an interdisciplinary unit within a faculty and under the control of the Dean of the Faculty. Enrolment is permitted in more than one such teaching unit.*

(ii) Progress in the course will be reviewed within twelve months of the first review. As a result of either review the Committee may cancel enrolment or take such other action as it considers appropriate. Thereafter, the progress of the candidate will be reviewed annually.

### **Thesis**

5. (1) On completing the program of study a candidate shall submit a thesis embodying the results of the investigation.
- (2) The candidate shall give in writing to the Registrar two months notice of intention to submit the thesis.
- (3) The thesis shall comply with the following requirements:
  - (a) it must be an original and significant contribution to knowledge of the subject;
  - (b) the greater proportion of the work described must have been completed subsequent to enrolment for the degree;
  - (c) it must be written in English except that a candidate in the Faculty of Arts and Social Sciences may be required by the Committee to write a thesis in an appropriate foreign language;
  - (d) it must reach a satisfactory standard of expression and presentation;
  - (e) it must consist of an account of the candidate's own research but in special cases work done conjointly with other persons may be accepted provided the Committee is satisfied about the extent of the candidate's part in the joint research.
- (4) The candidate may not submit as the main content of the thesis any work or material which has previously been submitted for a university degree or other similar award but may submit any work previously published whether or not such work is related to the thesis.
- (5) Four copies of the thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of theses for higher degrees.
- (6) It shall be understood that the University retains the four copies of the thesis submitted for examination and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

### **Examination**

6. (1) There shall be not fewer than three examiners of the thesis, appointed by the Committee, at least two of whom shall be external to the University.
- (2) At the conclusion of the examination each examiner shall submit to the Committee a concise report on the thesis and shall recommend to the Committee that one of the following:
  - (a) The thesis merits the award of the degree.
  - (b) The thesis merits the award of the degree subject to minor corrections as listed being made to the satisfaction of the head of school.
  - (c) The thesis requires further work on matters detailed in my report. Should performance in this further work be to the satisfaction of the higher degree Committee, the thesis would merit the award of the degree.
  - (d) The thesis does not merit the award of the degree in its present form and further work as described in my report is required. The revised thesis should be subject to reexamination.
  - (e) The thesis does not merit the award of the degree and does not demonstrate that resubmission would be likely to achieve that merit.
- (3) If the performance at the further work recommended under (2)(c) above is not to the satisfaction of the Committee, the Committee may permit the candidate to represent the same thesis and submit to further examination as determined by the Committee within a period specified by it but not exceeding eighteen months.
- (4) The Committee shall, after consideration of the examiners' reports and the results of any further work, recommend whether or not the candidate may be awarded the degree. If it is decided that the candidate be not awarded the degree the Committee shall determine whether or not the candidate be permitted to resubmit the thesis after a further period of study and/or research.

### **Fees**

7. A candidate shall pay such fees as may be determined from time to time by the Council.



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## Master of Architectural Design (MArchDes)

(No new candidates will be enrolled in this course from Session Two, 1992)

1. The degree of Master of Architectural Design by formal course work may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study.

### Qualifications

2. (1) A candidate for the degree shall:

(a) have been awarded the degree of Bachelor of Architecture with Honours from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee), and

(b) have had at least one year's professional practice subsequent to graduation of a kind acceptable to the Committee.

(2) In exceptional cases an applicant who submits evidence of such academic and/or professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.

(3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as the Committee may prescribe, before permitting enrolment.

### Enrolment and Progression

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.

(2) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.

(3) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the Committee may cancel enrolment or take such other action as it considers appropriate.

(4) No candidate shall be awarded the degree until the lapse of two academic sessions from the date of enrolment in the case of full-time candidate or three sessions in the case of a part-time candidate. The maximum period of candidature shall be four academic sessions from the date of enrolment for a full-time candidate and six sessions for a part-time candidate. In special cases an extension of these times may be granted by the Committee.

### Fees

4. A candidate shall pay such fees as may be determined from time to time by the Council.

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## Master of Architecture by Research (MArch), Master of Building (MBuilding), Master of the Built Environment (MBEnv), Master of Landscape Architecture (MLArch) and Master of Town Planning (MTP)

1. The degree of Master of Architecture or Master of Building or Master of the Built Environment or Master of Landscape Architecture or Master of Town Planning by research may be awarded by the Council on the recommendation of the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation or design.

### Qualifications

2. (1) A candidate for the degree shall have been awarded an appropriate degree of Bachelor of four full-time years duration (or the part-time equivalent) from the University of New South

Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Committee.

(2) In exceptional cases an applicant who submits evidence of such academic and/or professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.

(3) When the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant, before being permitted to enrol, to undergo such examination or carry out such work as the Committee may prescribe.

### **Enrolment and Progression**

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least one calendar month before the commencement of the session in which enrolment is to begin.

(2) In every case, before permitting a candidate to enrol, the head of the school\* in which the candidate intends to enrol shall be satisfied that adequate supervision and facilities are available.

(3) An approved candidate shall be enrolled in one of the following categories:

(a) full-time attendance at the University;

(b) part-time attendance at the University;

(c) external – not in regular attendance at the University and using research facilities external to the University.

(4) A candidate shall be required to undertake an original investigation or design on an approved topic. The candidate may also be required to undergo such examination and perform such other work as may be prescribed by the Committee.

(5) The work shall be carried out under the direction of a supervisor appointed from the full-time members of the University staff.

(6) The progress of a candidate shall be reviewed annually by the Committee following a report by the candidate, the supervisor and the head of the school in which the candidate is enrolled and as a result of such review the Committee may cancel enrolment or take such other action as it considers appropriate.

(7) No candidate shall be granted the degree until the lapse of three academic sessions in the case of a full-time candidate or four academic sessions in the case of a part-time or external candidate from the date of enrolment. In the case of a candidate who has been awarded the degree of Bachelor with Honours or who has had previous research experience the Committee may approve remission of up to one session for a full-time candidate and two sessions for a part-time or external candidate.

(8) A full-time candidate for the degree shall present for examination not later than six academic sessions from the date of enrolment. A part-time or external candidate for the degree shall present for examination not later than ten academic sessions from the date of enrolment. In special cases an extension of these times may be granted by the Committee.

### **Thesis**

4. (1) On completing the program of study a candidate shall submit a thesis embodying the results of the original investigation or design.

(2) The candidate shall give in writing two months notice of intention to submit the thesis.

(3) The thesis shall present an account of the candidate's own research. In special cases work done conjointly with other persons may be accepted, provided the committee is satisfied about the extent of the candidate's part in the joint research.

(4) The candidate may also submit any work previously published whether or not such work is related to the thesis.

(5) Three copies of the thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree thesis.

(6) It shall be understood that the University retains the three copies of the thesis submitted for examination is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

*\*Or department where a department is not within a school or schools or departments where the research is being undertaken in more than one school or department.*

### Examination

5. (1) There shall be not fewer than two examiners of the thesis, appointed by the Committee, at least one of whom shall be external to the University unless the Committee is satisfied that this is not practicable.

(2) At the conclusion of the examination each examiner shall submit to the Committee a concise report on the merits of the thesis and shall recommend to the Committee that:

- (a) the candidate be awarded the degree without further examination; or
- (b) the candidate be awarded the degree without further examination subject to minor corrections as listed being made to the satisfaction of the head of the school; or
- (c) the candidate be awarded the degree subject to a further examination on questions posed in the report, performance in this further examination being to the satisfaction of the Committee; or
- (d) the candidate be not awarded the degree but be permitted to resubmit the thesis in a revised form after a further period of study and/or research; or
- (e) the candidate be not awarded the degree and be not permitted to resubmit the thesis.

(3) If the performance at the further examination recommended under (2)(c) above is not to the satisfaction of the Committee, the Committee may permit the candidate to represent the same thesis and submit to a further oral, practical or written examination within a period specified by it but not exceeding eighteen months.

(4) The Committee shall, after consideration of the examiners' reports and the reports of any oral or written or practical examination, recommend whether or not the candidate may be awarded the degree. If it is decided that the candidate be not awarded the degree the Committee shall determine whether or not the candidate may resubmit the thesis after a further period of study and/or research.

### Fees

6. A candidate shall pay such fees as may be determined from time to time by the Council.

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## Master of Architecture (MArch)

1. The degree of Master of Architecture may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced research and study in a selected area of specialisation.

### Qualifications

2. (1) A candidate for the degree shall have been awarded an appropriate degree of Bachelor of minimum 4 years from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee).

(2) Further to (1), candidates wishing to pursue a specialisation in architectural design are required to hold such Bachelors degree in Architecture at Honours level and have had at least one year's professional practice of a kind acceptable to the Committee subsequent to graduation. In addition, in order to gain admission to the program, all such candidates are required to submit and have approved a portfolio which demonstrates the nature and quality of their past architectural design work.

(3) In exceptional cases, an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee, may be permitted to enrol for the degree.

(4) If the Committee is not wholly satisfied with the qualifications held by an applicant, taking due notice of the intended area of specialisation, the Committee may require the applicant to undergo such assessment or carry out such work as it may prescribe, before permitting enrolment.

### **Enrolment and Progression**

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.
- (2) Along with that formal application, candidates are required to submit a proposed Program of Study, identifying the selected area of specialisation and the proposed sequence of subjects to be taken.
- (3) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.
- (4) The progress of a candidate shall be reviewed at least once annually by the Committee and, as a result of its review, the Committee may cancel enrolment or take such other action as it considers appropriate.
- (5) No candidate shall be awarded the degree until the lapse of two academic sessions from the date of enrolment.

### **Graduate Research Thesis**

4. (1) In general, the Graduate Research Thesis would not be commenced until an adequate grounding in the candidate's area of specialisation has been established through the study of appropriate core and elective subjects.
- (2) The work shall be carried out under the direction of a supervisor appointed from the fulltime academic members of the University staff.
- (3) The candidate shall give in writing to the Registrar two months notice of intention to submit a Research Thesis.
- (4) Three copies of the Research Thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of Research Theses for higher degrees.
- (5) It shall be understood that the University reserves the right to retain the three copies of the Research Thesis submitted for examination and is free to allow it to be consulted or borrowed. Subject to the provisions of the Copyright Act 1968, the University may issue the Research Thesis in whole or in part, in microfilm or other copying medium.

### **Examination**

5. (1) There shall be not fewer than two examiners of the Research Thesis, appointed by the Committee.
- (2) Arrangements may be made by the School for oral presentation and defence of the Research Thesis as part of the examination.
- (3) At the conclusion of the examination, each examiner shall submit to the Committee a concise report on the Research Thesis and shall make one of the following recommendations:
  - (a) the Research Thesis be noted as satisfactory; or
  - (b) the Research Thesis be noted as satisfactory subject to minor corrections being made to the satisfaction of the Head of School; or
  - (c) the Research Thesis be noted as unsatisfactory and the candidate permitted to resubmit it in a revised form after a further period of study and/or research; or
  - (d) the Research Thesis be noted as unsatisfactory and the candidate be not permitted to resubmit it.
- (4) The Committee shall, after considering the examiners' reports, the candidate's results of assessment in the prescribed formal subjects, and their performance in Graduate Seminars, recommend (or otherwise) that the candidate be awarded the degree. If it is decided that the Research Thesis is unsatisfactory, the committee shall determine whether or not the candidate may resubmit it after a further period of study and/or research.

### **Fees**

6. A candidate shall pay such fees as may be determined from time to time by the Council.

## Master of Project Management (MPM)

1. The degree of Master of Project Management by formal course work may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study. The degree shall be awarded at Pass or Honours level.

### Qualifications

2. (1) A candidate for the degrees shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee).

(2) In exceptional cases of an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.

(3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as it may prescribe, before permitting enrolment.

### Enrolment and Progression

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.

(2) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.

(3) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the committee may cancel enrolment or take such other action as it considers appropriate.

(4) No candidate shall be awarded the degree at Pass level until the lapse of four academic sessions from the date of enrolment for a candidate undertaking the program at Pass level and eight sessions for a candidate undertaking the program at Honours level. In special cases an extension of these times may be granted by the Committee.

### Project Report

4. (1) A candidate who obtains a grade average of Credit or better in the formal subjects in 3. (2) may undertake a project on an approved topic.

(2) The work shall be carried out under the direction of a supervisor appointed from the full-time academic members of the University staff.

(3) The candidate shall give in writing to the Registrar two months notice of intention to submit a report on the project.

(4) Three copies of the project report shall be presented in a form which complies with the requirements of the University for the preparation and submission of project reports for higher degrees.

(5) It shall be understood that the University retains the three copies of the project report submitted for examination and is free to allow the project report to be consulted or borrowed. Subject to

the provisions of the Copyright Act, 1968, the University may issue the project report in whole or in part, in microfilm or other copying medium.

### Examination

5. (1) There shall be not fewer than two examiners of the project report, appointed by the Committee.

(2) Arrangements shall be made for oral presentation and defence of the project report as part of the examination.

(3) At the conclusion of the examination each examiner shall submit to the Committee a concise report on the project report and shall recommend to the Committee that:

(a) the project report be noted as satisfactory; or

- (b) the project report be noted as satisfactory subject to minor corrections being made to the satisfaction of the head of the school; or
  - (c) the project report be noted as unsatisfactory but that the candidate be permitted to resubmit it in a revised form after a further period of study and/or research; or
  - (d) the project report be noted as unsatisfactory and that the candidate be not permitted to resubmit it.
- (4) The Committee shall, after considering the examiners' reports and the candidate's results of assessment in the prescribed formal subjects, recommend that the candidate be awarded the degree at Pass or Honours level. If it is decided that the project report is unsatisfactory the Committee shall determine whether or not the candidate may resubmit it after a further period of study and/or research,

### **Fees**

6. A candidate shall pay such fees as may be determined from time to time by the Council.

## **Master of Construction Management (MConstMgt)**

1. The degree of Master of Construction Management by formal course work may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study.

### **Qualifications**

2. (1) A candidate for the degrees shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee).
- (2) In exceptional cases of an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.
- (3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as it may prescribe, before permitting enrolment.

### **Enrolment and Progression**

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.
- (2) An approved candidate shall be enrolled in full-time attendance at the University.
- (3) A candidate for the degree shall be required to undertake formal subjects, industry training, prepare a report to be assessed by two internal examiners and pass such assessment as prescribed.
- (4) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the committee may cancel enrolment or take such other action as it considers appropriate.
- (5) No candidate shall be awarded the degree at Pass level until the lapse of two academic sessions from the date of enrolment.

### **Fees**

4. A candidate shall pay such fees as may be determined from time to time by the Council.

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**Master of the Built Environment (Building Conservation)(MBenv),  
Master of Industrial Design (MID), Master of Science (Acoustics) (MSc(Acoustics), and  
Master of Science (Industrial Design) (MSc(IndDes)**

1. The degree of Master of the Built Environment (Building Conservation) or Master of Industrial Design or Master of Science (Acoustics) or Master of Science (Building) or Master of Science (Industrial Design) may be awarded by the Council to a candidate who has completed a program of advanced study.

**Qualifications**

2. (1) A candidate for the degree shall have been awarded an appropriate degree of Bachelor of four full time years duration (or the part time equivalent) from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee).

(2) In exceptional cases an applicant who submits evidence of such academic and/or professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.

(3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as the Committee may prescribe, before permitting enrolment.

**Enrolment and Progression**

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.

(2) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.

(3) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the Committee may cancel enrolment or take such other action as it considers appropriate.

(4) No candidate shall be awarded the degree until the lapse of two academic sessions from the date of enrolment in the case of a full-time candidate or four sessions in the case of a part-time candidate. The maximum period of candidature shall be four academic sessions from the date of enrolment for a full-time candidate and eight sessions for a part-time candidate. In special cases an extension of these times may be granted by the Committee.

**Project Report**

4. (1) A candidate shall also be required to undertake a project on an approved topic.

(2) The work shall be carried out under the direction of a supervisor appointed from the full-time academic members of the University staff.

(3) The candidate shall give in writing to the Registrar two months notice of intention to submit a report on the project.

(4) Three copies of the project report shall be presented in a form which complies with the requirements of the University for the preparation and submission of project reports for higher degrees.

(5) It shall be understood that the University retains the three copies of the project report submitted for examination and is free to allow the project report to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the project report in whole or in part, in microfilm or other copying medium.

**Examination**

5. (1) There shall be not fewer than two examiners of the project report, appointed by the Committee.

(2) At the conclusion of the examination each examiner shall submit to the Committee a concise report on the project report and shall recommend to the Committee that:

(a) the project report be noted as satisfactory; or

- (b) the project report be noted as satisfactory subject to minor corrections being made to the satisfaction of the head of the school; or
  - (c) the project report be noted as unsatisfactory but that the candidate be permitted to resubmit it in a revised form after a further period of study and/or research; or
  - (d) the project report be noted as unsatisfactory and that the candidate be not permitted to resubmit it.
- (3) The Committee shall, after considering the examiners' reports and the candidate's results of assessment in the prescribed formal subjects, recommend whether or not the candidate may be awarded the degree. If it is decided that the project report is unsatisfactory the Committee shall determine whether or not the candidate may resubmit it after a further period of study and/or research.

### **Fees**

6. A candidate shall pay such fees as may be determined from time to time by the Council.

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## **Master of Engineering (ME) and Master of Science (MSc)**

1. The degree of Master of Engineering or Master of Science by research may be awarded by the Council on the recommendation of the Higher degree Committee of the appropriate faculty (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation.

### **Qualifications**

2. (1) A candidate for the degree shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Committee.
- (2) An applicant who submits evidence of such other academic or professional attainments as may be approved by the Committee may be permitted to enrol for the degree.
- (3) When the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant, before being permitted to enrol, to undergo such examination or carry out such work as the Committee may prescribe.

### **Enrolment and Progression**

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least one calendar month before the commencement of the session in which enrolment is to begin.
- (2) In every case, before permitting a candidate to enrol, the head of the school\* in which the candidate intends to enrol shall be satisfied that adequate supervision and facilities are available.
- (3) An approved candidate shall be enrolled in one of the following categories:
- (a) full-time attendance at the University;
  - (b) part-time attendance at the University;
  - (c) external – not in regular attendance at the University and using research facilities external to the University.
- (4) A candidate shall be required to undertake an original investigation on an approved topic. The candidate may also be required to undergo such examination and perform such other work as may be prescribed by the Committee.
- (5) The work shall be carried out under the direction of a supervisor appointed from the full-time members of the University staff.
- (6) The progress of a candidate shall be reviewed annually by the Committee following a report by the candidate, the supervisor and the head of the school in which the candidate is enrolled and as a result of such review the Committee may cancel enrolment or take such other action as it considers appropriate.



(7) No candidate shall be granted the degree until the lapse of three academic sessions in the case of a full-time candidate or four academic sessions in the case of a part-time of external candidate from the date of enrolment. In the case of a candidate who has been awarded the degree of Bachelor with Honours or who has had previous research experience the Committee may approve remission of up to one session for a full-time candidate and two sessions for a part-time or external candidate.

(8) A full-time candidate for the degree shall present for examination not later than six academic sessions from the date of enrolment. A part-time or external candidate for the degree shall present for examination not later than ten academic sessions from the date of enrolment. In special cases an extension of these times may be granted by the Committee.

### **Thesis**

4. (1) On completing the program of study a candidate shall submit a thesis embodying the results of the original investigation.

(2) The candidate shall give in writing two months notice of intention to submit the thesis.

(3) The thesis shall present an account of the candidate's own research. In special cases work done conjointly with other persons may be accepted, provided the Committee is satisfied about the extent of the candidate's part in the joint research.

(4) The candidate may also submit any work previously published whether or not such work is related to the thesis.

(5) Three copies of the thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of higher degree theses.

(6) It shall be understood that the University retains the three copies of the thesis submitted for examination and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

### **Examination**

5. (1) There shall be not fewer than two examiners of the thesis, appointed by the Committee, at least one of whom shall be external to the University unless the Committee is satisfied that this is not practicable.

(2) At the conclusion of the examination each examiner shall submit to the Committee a concise report on the merits of the thesis and shall recommend to the Committee that:

(a) the candidate be awarded the degree without further examination; or

(b) the candidate be awarded the degree without further examination subject to minor corrections as listed being made to the satisfaction of the head of the school\*; or

(c) the candidate be awarded the degree subject to a further examination on questions posed in the report, performance in this further examination being to the satisfaction of the Committee; or

(d) the candidate be not awarded the degree but be permitted to resubmit the thesis in a revised form after a further period of study and/or research; or

(e) the candidate be not awarded the degree and be not permitted to resubmit the thesis.

(3) If the performance at the further examination recommended under (2)(c) above is not to the satisfaction of the Committee, the Committee may permit the candidate to represent the same thesis and submit to a further oral, practical or written examination within a period specified by it but not exceeding eighteen months.

(4) The Committee shall, after consideration of the examiners' reports and the reports of any oral or written or practical examination, recommend whether or not the candidate may be awarded the degree. If it is decided that the candidate be not awarded the degree the Committee shall determine whether or not the candidate may resubmit the thesis after a further period of study and/or research.

### **Fees**

6. A candidate shall pay such fees as may be determined from time to time by the Council.

*\* Or a department where a department is not within a school or schools or departments where the research is being undertaken in more than one school or department.*

## **Master of Engineering (ME), Master of Science (MSc) and Master of Surveying (MSurv) *without supervision***

1. The degree of Master of Engineering or Master of Science or Master of Surveying without supervision may be awarded by the Council on the recommendation of the Higher Degree Committee of the appropriate faculty (hereinafter referred to as the Committee) to a candidate who has demonstrated ability to undertake research by the submission of a thesis embodying the results of an original investigation.

### **Qualifications**

2. A candidate for the degree shall have been awarded an appropriate degree of Bachelor from the University of New South Wales with at least three years relevant standing in the case of Honours graduates and four years relevant standing in the case of Pass graduates, and at a level acceptable to the Committee.

### **Enrolment and Progression**

3. An application to enrol as a candidate for the degree without supervision shall be made on the prescribed form which shall be lodged with the Registrar not less than six months before the intended date of submission of the thesis. A graduate who intends to apply in this way should, in his or her own interest, seek at an early stage the advice of the appropriate head of school (or department) with regard to the adequacy of the subject matter and its presentation for the degree. A synopsis of the work should be available.

### **Thesis**

4. (1) A candidate shall submit a thesis embodying the results of the investigation.
- (2) The candidate shall give in writing to the Registrar two months notice of intention to submit the thesis.
- (3) The thesis shall present an account of the candidate's own research. In special cases work done conjointly with other persons may be accepted, provided the Committee is satisfied about the extent of the candidate's part in the joint research.
- (4) The candidate may also submit any work previously published whether or not such work is related to the thesis.
- (5) Three copies of the thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of theses for higher degrees.
- (6) It shall be understood that the University retains the three copies of the thesis submitted for examination and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act 1968, the University may issue the thesis in whole or in part, in photostat or microfilm or other copying medium.

### **Examination**

5. (1) There shall be not fewer than two examiners of the thesis, appointed by the Committee, at least one of whom shall be external to the University unless the Committee is satisfied that this is not practicable.
- (2) Before the thesis is submitted to the examiners the head of the school\* in which the candidate is enrolled shall certify that it is *prima facie* worthy of examination.
- (3) At the conclusion of the examination each examiners shall submit to the Committee a concise report on the thesis and shall recommend to the Committee that:
  - (a) the candidate be awarded the degree without further examination; or
  - (b) the candidate be awarded the degree without further examination subject to minor corrections as listed being made to the satisfaction of the head of the school\*; or
  - (c) the candidate be awarded the degree subject to a further examination on questions posed in the report, performance in this further examination being to the satisfaction of the Committee; or
  - (d) the candidate be not awarded the degree but be permitted to resubmit the thesis in a revised form after a further period of study and/or research; or

\* Or a department where a department is not within a school or schools or departments where the research is being undertaken in more than one school or department.

- (e) the candidate be not awarded the degree and be not permitted to resubmit the thesis.
- (4) If the performance at the further examination recommended under (3)(c) above is not to the satisfaction of the Committee, the Committee may permit the candidate to represent the same thesis and submit to further examination as determined by the Committee within a period specified by it but not exceeding eighteen months.
- (5) The Committee shall, after consideration of the examiners' reports and the results of any further examination, recommend whether or not the candidate may be awarded the degree. If it is decided that the candidate be not awarded the degree the Committee shall determine whether or not the candidate may resubmit the thesis after a further period of study and/or research.

### **Fees**

- 6. A candidates shall pay such fees as may be determined from time to time by the Council.

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## **Master of Landscape Planning (MLP)**

- 1. The degree of Master of Landscape Planning by formal course work may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study.

### **Qualifications**

- 2. (1) A candidate for the degrees shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee).
- (2) In exceptional cases of an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.
- (3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as it may prescribe, before permitting enrolment.

### **Enrolment and Progression**

- 3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.
- (2) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.
- (3) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the committee may cancel enrolment or take such other action as it considers appropriate.
- (4) No candidate shall be awarded the degree until the lapse of three academic sessions from the date of enrolment.

### **Project Report**

- 4. (1) All candidates must complete 36 credit points, including either an 18 credit landscape research project or a 9 credit landscape project.
- (2) The work shall be carried out under the direction of a supervisor appointed from the full-time academic members of the University staff.
- (3) The candidate shall give in writing to the Registrar two months notice of intention to submit a landscape research project report.
- (4) Three copies of the project report shall be presented in a form which complies with the requirements of the University for the preparation and submission of project reports for higher degrees.
- (5) It shall be understood that the University retains the three copies of the project report submitted for examination and is free to allow the project report to be consulted or borrowed.

Subject to the provisions of the Copyright Act, 1968, the University may issue the project report in whole or in part, in microfilm or other copying medium. A Graduate Diploma may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study.

### **Examination**

5. (1) There shall be not fewer than two examiners of the landscape project report, appointed by the Committee, at least one of whom shall be external to the University.
- (2) Arrangements shall be made for oral presentation and defence of the project report as part of the examination.
- (3) At the conclusion of the examination each examiner shall submit to the Committee a concise report on the project report and shall recommend to the Committee that:
  - (a) the project report be noted as satisfactory; or
  - (b) the project report be noted as satisfactory subject to minor corrections being made to the satisfaction of the head of the school; or
  - (c) the project report be noted as unsatisfactory but that the candidate be permitted to resubmit it in a revised form after a further period of study and/or research; or
  - (d) the project report be noted as unsatisfactory and that the candidate be not permitted to resubmit it.
- (4) The Committee shall, after considering the examiners' reports and the candidate's results of assessment in the prescribed formal subjects, recommend that the candidate be awarded the degree at Pass or Honours level. If it is decided that the project report is unsatisfactory the Committee shall determine whether or not the candidate may resubmit it after a further period of study and/or research.

### **Fees**

6. A candidate shall pay such fees as may be determined from time to time by the Council.

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## **Master of Real Estate (MRE)**

1. The degree of Master of Real Estate by formal course work may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study. The degree shall be awarded at Pass or Honours level.

### **Qualifications**

2. (1) A candidate for the degree shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of The Built Environment (hereinafter referred to as the Committee). Candidates will be required to show that they have had adequate training in building construction and computers to cope with the course.
- (2) In exceptional cases of an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee may be permitted to enrol for the degree.
- (3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as it may prescribe, before permitting enrolment.

### **Enrolment and Progression**

3. (1) An application to enrol as a candidate for the degree shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.
- (2) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.

(3) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the committee may cancel enrolment or take such other action as it considers appropriate.

(4) No candidate who undertakes the course parttime shall be awarded the degree at Pass level until the lapse of four academic sessions from the date of enrolment for a candidate undertaking the program at Pass level and six sessions for a candidate undertaking the program at Honours level. Those students who undertake the course full-time may complete at the Pass level in two sessions and at the Honours level in three sessions.

### **MRE (Hons)**

4. (1) A candidate who obtains a grade average of Credit or better in the formal subjects in 3(2) may undertake a thesis on a approved topic, to be considered for the award of the MRE with Honours.

(2) The work shall be carried out under the direction of a supervisor appointed from the fulltime academic members of the University staff. The supervision will be vigorous. Candidates will be required to conduct at least one seminar on their work and have at least one paper published prior to the submission of their thesis. Candidates will be expected to participate in the academic life of the Faculty of The Built Environment.

(3) The candidate shall give in writing to the Registrar two months notice of intention to submit the thesis.

(4) Three copies of the thesis shall be presented in a form which complies with the requirements of the University for the preparation and submission of project reports for higher degrees.

(5) It shall be understood that the University retains the three copies of the thesis submitted for examination and is free to allow the thesis to be consulted or borrowed. Subject to the provisions of the Copyright Act, 1968, the University may issue the project report in whole or in part, in microfilm or other copying medium.

### **Examination**

5. (1) There shall be not fewer than two examiners of the thesis, appointed by the Committee.

(2) Arrangements shall be made for oral presentation and defence of the thesis as part of the examination.

(3) At the conclusion of the examination each examiner shall submit to the Committee a concise report on the project report and shall recommend to the Committee that:

(a) the thesis be noted as satisfactory, or

(b) the thesis be noted as satisfactory subject to minor corrections being made to the satisfaction of the head of the school, or

(c) the thesis be noted as unsatisfactory but that the candidate be permitted to resubmit it in a revised form after a further period of study and/or research, or

(d) the thesis be noted as unsatisfactory and that the candidate be not permitted to resubmit it.

(4) The Committee shall, after considering the examiners' reports and the candidate's results of assessment in the prescribed formal subjects, recommend that the candidate be awarded the degree at Pass or Honours level. If it is decided that the thesis is unsatisfactory the Committee shall determine whether or not the candidate may resubmit it after a further period of study and/or research.

### **Fees**

6. A candidate shall pay such fees as may be determined from time to time by the Council.

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## **Graduate Diploma (Grad Dip)**

1. A Graduate Diploma may be awarded by the council to a candidate who has satisfactorily completed a program of advanced study.

### Qualifications

2. (1) A candidate for the diploma shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the appropriate faculty (hereinafter referred to as the Committee).
- (2) An applicant who submits evidence of such other academic or professional attainments as may be approved by the Committee may be permitted to enrol for the diploma.
- (3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as the Committee may prescribe, before permitting enrolment.

### Enrolment and Progression

3. (1) An application to enrol as a candidate for the diploma shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.
- (2) A candidate for the diploma shall be required to undertake such formal subjects and pass such assessment as prescribed.
- (3) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the Committee may cancel enrolment or take such other action as it considers appropriate.
- (4) No candidate shall be awarded the diploma until the lapse of two academic sessions from the date of enrolment in the case of a full-time candidate or four sessions in the case of a part-time candidate. The maximum period of candidature shall be four academic sessions from the date of enrolment for a full-time candidate and six sessions for a part-time candidate. In special cases an extension of these times may be granted by the Committee.

### Fees

4. A candidate shall pay such fees as may be determined from time to time by the Council.

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## Graduate Diploma of Real Estate (GradDipRE)

1. The Graduate Diploma of Real Estate by formal course work may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study.

### Qualifications

2. (1) A candidate for the diploma shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee). Candidates will be required to show that they have had adequate training in building construction and computers to cope with the course.
- (2) In exceptional cases of an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee may be permitted to enrol for the diploma.
- (3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as it may prescribe, before permitting enrolment.

### Enrolment and Progression

3. (1) An application to enrol as a candidate for the diploma shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.
- (2) An approved candidate shall be enrolled in part or fulltime attendance at the University.
- (3) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.

(4) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the committee may cancel enrolment or take such other action as it considers appropriate.

(5) No candidate shall be awarded the diploma until the lapse of two academic sessions, from the date of enrolment, for full-time students and four sessions for part-time students

#### **Fees**

4. A candidate shall pay such fees as may be determined from time to time by the Council.

### **Graduate Diploma of Valuation (GradDipVal)**

1. The Graduate Diploma of Valuation by formal course work may be awarded by the Council to a candidate who has satisfactorily completed a program of advanced study.

#### **Qualifications**

2. (1) A candidate for the diploma shall have been awarded an appropriate degree of Bachelor from the University of New South Wales or a qualification considered equivalent from another university or tertiary institution at a level acceptable to the Higher Degree Committee of the Faculty of the Built Environment (hereinafter referred to as the Committee). Candidates will be required to show that they have had adequate training in building construction and computers to cope with the course.

(2) In exceptional cases of an applicant who submits evidence of such other academic and professional qualifications as may be approved by the Committee may be permitted to enrol for the diploma.

(3) If the Committee is not satisfied with the qualifications submitted by an applicant the Committee may require the applicant to undergo such assessment or carry out such work as it may prescribe, before permitting enrolment.

#### **Enrolment and Progression**

3. (1) An application to enrol as a candidate for the diploma shall be made on the prescribed form which shall be lodged with the Registrar at least two calendar months before the commencement of the session in which enrolment is to begin.

(2) An approved candidate shall be enrolled in part or fulltime attendance at the University.

(3) A candidate for the degree shall be required to undertake such formal subjects and pass such assessment as prescribed.

(4) The progress of a candidate shall be reviewed at least once annually by the Committee and as a result of its review the committee may cancel enrolment or take such other action as it considers appropriate.

(5) No candidate shall be awarded the diploma until the lapse of two academic sessions from the date of enrolment, for full-time students and four sessions for part-time students.

#### **Fees**

4. A candidate shall pay such fees as may be determined from time to time by the Council.

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# Scholarships and Prizes

The scholarships and prizes listed below are available to students whose courses are listed in this book. Each faculty handbook contains in its **Scholarships and Prizes** section the scholarships and prizes available with that faculty. The **General Information** section of the Calendar contains a comprehensive list of scholarships and prizes offered throughout the University. Applicants should note that the awards and conditions are subject to review.

**Key:**    **V** Value    **T** Year/s of Tenure    **C** Conditions

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## Scholarships

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### Undergraduate Scholarships

Listed below is an outline in summary form of undergraduate scholarships available to students. Full information may be obtained from the Student Centre located on the Lower Ground Floor of the Chancellery.

Unless otherwise indicated in footnotes, applications for the following scholarships should be made to the Registrar and Deputy Principal by 14 January each year. Please note that not all of these awards are available every year.

- C** Prior completion of at least 2 years of a degree or diploma course and enrolment in a full-time course during the year of application; academic merit; participation in sport both directly and administratively; and financial need.

#### Girls Realm Guild

- V** Up to \$1500 pa  
**T** 1 year with the prospect of renewal subject to satisfactory progress and continued demonstration of need  
**C** Available only to female students under 35 years of age who are permanent residents of Australia enrolling in any year of a full-time undergraduate course on the basis of academic merit and financial need.

#### W.S. and L.B. Robinson

- V** Up to \$6500 pa  
**T** 1 year renewable for the duration of the course subject to satisfactory progress  
**C** Available only to students who have completed their schooling in Broken Hill or whose parents reside in Broken Hill; for a course related to the mining industry. Includes courses in mining engineering, geology, electrical and mechanical engineering, metallurgical process engineering, chemical engineering and

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### General

#### Australian Development Corporation

- V** Tuition fees. Some students may be eligible for airfares and a stipend.  
**T** Determined by normal course duration  
**C** Information should be obtained from Australian Diplomatic Posts. Conditions and entitlements vary depending on the home country. The closing date is normally early in the year before the year of study.

#### Sam Cracknell Memorial

- V** Up to \$1500 pa payable in fortnightly instalments  
**T** 1 year



science. Applications close 30 September each year. Apply directly to PO Box 460 Broken Hill NSW 2880

### Alumni Association

- V Up to \$1500 pa
- T 1 year with the possibility of renewal
- C Available to students enrolled in any year of a full-time course. Candidates must be the children of Alumni of the University of NSW and may be either permanent residents of Australia or international students.

### Sporting Scholarships

- V \$2000 pa
- T 1 year with possibility of renewal
- C Available to students who are accepted into a course of at least two years duration. Prospective applicants should have an outstanding ability in a particular sport and are expected to be an active member of a UNSW Sports Club. Apply directly to Sport and Recreation Section, The University of New South Wales, Kensington NSW 2052.

## Graduate Scholarships

Listed below is an outline in summary form of Graduate Scholarships available to students. Application forms and further information are available from the Scholarships Unit and Student Centre, located on the Ground Floor of the Chancellery, unless an alternative contact address is provided. **Normally applications become available four to six weeks before the closing date.**

The following publications may also be of assistance: 1. *Awards for Postgraduate Study in Australia and Awards for Postgraduate Study Overseas*, published by the Graduate Careers Council of Australia. PO Box 28, Parkville, Victoria 3052;\* 2. *Study Abroad*, published by UNESCO;\*

Details of overseas awards and exchanges administered by the Department of Employment, Education and Training can be obtained from: Awards and Exchanges Section, Department of Employment, Education and Training, PO Box 826, Woden, ACT 2606.

Where possible, the scholarships are listed in order of faculty. Applicants should note that the awards and conditions are subject to review.

\*Available for reference in the University Library.

### General Accident Australian Bicentennial St Andrews Scholarship

- V £Stg4840
- T approximately 12 months
- C Applicants should be Australian citizens who are proceeding to Honours in Economics, History, Philosophy, Economic and Social History or Social Anthropology. The awards are for study at St Andrews, United Kingdom.

## The UNSW Co-op Program

The University of New South Wales has industry-linked education scholarships to the value of \$9600 per annum in the following areas: Accounting (and Economics, Finance, Information Systems or Japanese Studies); Business Information Technology, Aerospace, Bioprocess, Ceramic, Chemical, Civil, Electrical, Environmental, Materials, Mechanical, Metallurgical, Mineral, Mining and Petroleum Engineering; Food Science and Technology, Industrial Chemistry, Manufacturing Management, Textile Management, Textile Technology, and Wool and Pastoral Science.

## General

### Australian Awards for Research in Asia (AARA)

- T 3 to 12 months
- C The awards are for postgraduate study or fieldwork in Cambodia, China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Sri Lanka, Taiwan, Thailand and Vietnam. Applicants must be Australian citizens, or have Permanent Resident status, and have lived in Australia for the 12 months prior to the close of applications on 30 June.

### Caltex National Scholarship for Women

- V \$50,000 over two years
- T Up to 2 years
- C Applicants must be Australian citizens or have resided continuously in Australia for 5 years and have completed, or will complete, in 1994 an award from an Australian institution. Applicants may be proposing to undertake study in any discipline overseas. Application to the Honorary Secretary, Caltex National Scholarship, University by 17 September.

### **Kobe Steel Scholarship for Postgraduate Study at St Catherine's College, Oxford University**

- V £14,520
- T Up to 2 years
- C Applicants must be Australian nationals. Applications close on 31 October with Kobe Steel Australia P/L (Level 32 Gateway, 1 Macquarie Place, 2000).

### **University Postgraduate Research Scholarships**

- T 1-2 years for a Masters and 3-4 years for a PhD degree
- V Living allowance of \$14,474 pa. Other allowances may also be paid. Tax free.
- C Applicants must be honours graduates or equivalent in the Medicine or Commerce faculties, or the University College, Australian Defence Force Academy. A limited number of scholarships are offered subject to the availability of funds. Information should be obtained from the Faculty office.

### **Australian Postgraduate Awards**

- T 1-2 years for a Masters and 3-4 years for a PhD degree
- V \$11,687 to \$18,679 (1993 rates). Other allowances may also be paid. Tax free.
- C Applicants must be honours graduates or equivalent or scholars who will graduate in current academic year, and who are domiciled in Australia. Applications to Registrar by 31 October.

### **John Crawford Scholarship Scheme**

- V Tuition fees. Some students may be eligible for air fares and a stipend.
- T Determined by normal course duration
- C Information should be obtained from Australian Diplomatic Posts. Conditions and entitlements vary depending on the home country.

### **Overseas Postgraduate Research Scholarships**

- V Tuition fees only
- T 2 years for a Masters and 3 years for a PhD degree
- C Eligibility is confined to postgraduate research students who are citizens of countries other than Australia or New Zealand. Applications to the Registrar by 30 September.

### **Australian American Educational Foundation Fulbright Award**

- V \$11,500 pa and travel expenses
- T 1 year, renewable
- C Applicants must be graduates who are domiciled in Australia and wish to undertake research or study for a higher degree in America. Applications close 30 September with The Secretary, DEET, AAEF Travel Grants, PO Box 826, Woden, ACT 2606. Application forms are available from the Associate Registrar,

University of Sydney, NSW 2006, telephone (02) 692 2222.

### **Australian Federation of University Women**

- V Amount varies, depending on award
- T Up to 1 year
- C Applicants must be female graduates who are members of the Australian Federation of University Women. Further enquiries may be directed to the Secretary of the Federation, (telephone (02) 232 5629).

### **Commonwealth Scholarship and Fellowship Plan**

- V Varies for each country. Generally covers travel, living, tuition fees, books and equipment, approved medical expenses. Marriage allowance may be payable.
- T Usually 2 years, sometimes 3
- C Applicants must be graduates who are Australian citizens and who are not older than 35 years of age. Tenable in Commonwealth countries other than Australia. Applications close with the Registrar in early October.

### **The English-Speaking Union (NSW Branch)**

- V \$8000
- T 1 year
- C Applicants must be residents of NSW or ACT. Awarded to young graduates to further their studies outside Australia. Applications close mid-April with The Secretary, Ground Floor, School of Arts, 275c Pitt Street, Sydney, NSW 2000.

### **Frank Knox Memorial Stipend of Fellowships**

- V \$US11,500 pa plus tuition fees
- T up to 2 years tenable at Harvard University
- C Applicants must be British subjects and Australian citizens, who are graduates or near graduates of an Australian university. Applications close with the Academic Registrar mid-October.

### **Robert Gordon Menzies Scholarship to Harvard**

- V Up to \$US 25,000
- T 1 year
- C Tenable at Harvard University. Applicants must be Australian citizens and graduates of an Australian tertiary institution. Applications close 31 December with the Registrar, A.N.U., GPO Box 4, Canberra, ACT 2601

### **Gowrie Scholarship Trust Fund**

- V \$6000 pa. Under special circumstances this may be increased.
- T 2 years
- C Applicants must be members of the Forces or children of members of the Forces who were on active service during the 1939- 45 War. Applications close with the Academic Registrar by 31 October.

### **Harkness Fellowships of the Commonwealth Fund of New York**

- V Living and travel allowances, tuition and research expenses, health insurance, book and equipment and other allowances for travel and study in the USA
- T 12 to 21 months
- C Candidates must be Australian citizens and 1. Either members of the Commonwealth or a State Public Service or semi-government Authority. 2. Either staff or graduate students at an Australian university. 3. Individuals recommended for nomination by the Local Correspondents. The candidate will usually have an honours degree or equivalent, or an outstanding record of achievement, and be not more than 35 years of age. Applications close 30 September with the Academic Registrar. Forms available from Mr J. Larkin, Bureau of Agriculture and Resource Economics, GPO Box 1563, Canberra, ACT 2601.

### **The Packer, Shell and Barclays Scholarships to Cambridge University**

- V Living and travel allowances, tuition expenses
- T 1-3 years
- C Applicants must be Australian citizens who are honours graduates or equivalent, and under 26 years of age. Applications are available from The Secretary, Cambridge Commonwealth Trust, PO Box 252, Cambridge CB2 1TZ, England. The scholarship closes on 15 October.

### **The Rhodes Scholarship to Oxford University**

- V Approximately \$15,000 pa and fees
- T 2 years, may be extended for a third year.
- C Unmarried Australian citizens aged between 19 and 25 who have an honours degree or equivalent. Applications close in September each year with The Secretary, University of Sydney, NSW 2006.

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## **Prizes**

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### **Undergraduate University Prizes**

The following information summarizes undergraduate prizes awarded by the University. Prizes which are not specific to any School are listed under General. All other prizes are listed under the Faculty or Schools in which they are awarded.

Information regarding the establishment of new prizes may be obtained from the Examinations Section located on the Ground Floor of the Chancellery.

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### **General**

#### **The Sydney Technical College Union Award**

- V \$400.00 and Bronze Medal
- C Leadership in student affairs combined with marked academic proficiency by a graduand

#### **The University of New South Wales Alumni**

- V Statuette Association Prize
- C Achievement for community benefit by a student in the final or graduating year

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### **School of Architecture**

#### **The Board of Architects of NSW Prize**

- V \$350.00
- C Outstanding graduand in the School of Architecture

#### **The Connell Wagner Award for Excellence in Architectural Structures**

- V \$600.00 and silver medal
- C The best study on a structural topic in Architectural Research 1,2 or 3 by a student who is enrolled in, has completed, or has been given exemption from, at least one of
  - ARCH5620 Conceptual Structural Design
  - ARCH5621 Advanced Structural Design
  - ARCH5622 Lightweight Structural Design

#### **The Eric Daniels Prize in Residential Design**

- V \$500.00
- C The best performance in design for Residential Accommodation by a student in the Bachelor of Architecture degree course

#### **The Frank Fox Memorial Prize**

- V \$150.00

- C The best performance in Historical Research C by a student in the Bachelor of Architecture degree course

### **The Frank W. Peplow Prize**

- V \$100.00
- C The best performance in Church Architecture or Design by a student in the Bachelor of Architecture degree course

### **The James Hardie & Co Pty Ltd Prize**

- V \$150.00
- C Outstanding performance in Year 1 of the Bachelor of Science (Design Studies)/ Bachelor of Architecture degree course

### **The Morton Herman Memorial Prize**

- V \$100.00
- C The best performance in Studies of Historic Structures in the Bachelor of Architecture degree course

### **The Royal Australian Institute of Architects Prize**

- V \$250.00
- C Outstanding performance in Architectural Design and related studies in the final two years of the Bachelor of Architecture degree course

## **School of Building**

### **The Institute of Wood Science (Australian Branch) Timber in Building Prize**

- V Membership of the Institute, Journal and Digest, Certificate
- C The best performance in BLDG4114 Building Science 4 (Timber) by a student in the Bachelor of Building degree course

### **The James Hardie & Co Pty Ltd Prize**

- V \$100.00
- C The best performance in Year 1 of the Bachelor of Building degree course

### **The Master Builders' Association of NSW Prize in Construction Management**

- V \$350.00
- C Outstanding performance in the Bachelor of Building degree course

### **The Multiplex Constructions Prize**

- V \$1500.00
- C The best performance in the major Building Construction subjects Construction 1 to 5 in the Bachelor of Building degree course

### **The Reed Constructions Prize**

- V \$1000.00
- C The most outstanding performance by a student in the Bachelor of Building degree course

## **School of Landscape Architecture**

### **The Lindsay Robertson Memorial Prize**

- V \$300.00
- C The best performance in LAND2270 Landscape Design 2 in the Bachelor of Landscape Architecture degree course

## **School of Town Planning**

### **The John Shaw Memorial Prize**

- V \$400.00
- C The best thesis in the Bachelor of Town Planning degree course

### **The New South Wales Department of Planning Prize**

- V \$500.00
- C The best performance in Year 5 of the Bachelor of Town Planning degree course

### **The Royal Australian Planning Institute (NSW Division) Prize**

- V \$250.00
- C The best performance by a student in Year 3 of the Bachelor of Town Planning degree course

### **The Royal Australian Planning Institute (NSW Division) Prize for Excellence in Local Planning**

- V \$250.00
- C The best performance by a student in the major subjects focussing on local planning in the Bachelor of Town Planning degree course.

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## Graduate University Prizes

The following information summarizes graduate prizes awarded by the University.

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### School of Building

#### The Alex Rigby Prize

- V \$250.00
- C The best overall performance in the Master of Project Management degree course

#### The Master Builders Association of New South Wales Prize

- V \$1,000.00
- C The best performance in the Master of Construction Management degree course

#### The T.W. Crow Associates Prize

- V \$300.00
- C The best performance by a student in Year 2 of the Master of Project Management degree course

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## Notes

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## Notes

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# The University of New South Wales, Kensington Campus

## Theatres

Biomedical Theatres **E27**  
Central Lecture Block **E19**  
Chemistry Theatres (*Dwyer, Mellor, Murphy, Nyholm, Smith*) **E12**  
Classroom Block (*Western Grounds*) **H3**  
Fig Tree Theatre **B14**  
Io Myers Studio **D9**  
Keith Burrows Theatre **J14**  
Mathews Theatres **D23**  
Parade Theatre **E3**  
Quadrangle Theatre **E15**  
Macauley Theatre (*Main Building*) **K14**  
Rex Vowels Theatre **F17**  
Science Theatre **F13**  
Sir John Clancy Auditorium **C24**  
Webster Theatre **G15**

## Buildings

Applied Science **F10**  
Barker Street Gatehouse **N11**  
Basser College (*Kensington*) **C18**  
Central Store **B13**  
Chancellery **C22**  
Dalton (*Chemistry*) **F12**  
Goldstein College (*Kensington*) **D16**  
Golf House **A27**  
Gymnasium **B5**  
International House **C6**  
John Goodsell (*Commerce and Economics*) **F20**  
Kensington Colleges (*Office*) **C17**  
Library (*University*) **E21**  
Link **B6**  
Maintenance Workshop **B13**  
Mathews **F23**  
Menzies Library **E21**  
Morven Brown (*Arts*) **C20**  
New College **L6**  
Newton **J12**  
NIDA **D2**  
Parking Station **H25**  
Parking Station **N18**  
Philip Baxter College (*Kensington*) **D14**  
Quadrangle **E15**  
Robert Heffron (*Chemistry*) **E12**  
Sam Cracknell Pavilion **H8**  
Samuels Building **F26**  
Shalom College **N9**

Sir Robert Webster **G14**  
Unisearch House **L5**  
University Regiment **J2**  
University Union (*Roundhouse*) **E6**  
University Union (*Blockhouse*) **G6**  
University Union (*Squarehouse*) **E4**  
Wallace Wurth School of Medicine **C27**  
Warrane College **M7**

## General

Aboriginal Student Centre:  
47 Botany St, Randwick  
Accommodation (*off-campus*) **E15**  
Accounting **E15**  
Admissions **C22**  
Adviser for Prospective Students **C22**  
Alumni Relations: *Pindari*,  
76 Wentworth St, Randwick  
Anatomy **C27**  
Applied Bioscience **D26**  
Applied Economic Research Centre **F20**  
Applied Geology **F10**  
Applied Science (*Faculty Office*) **F10**  
Archives, University **E21**  
Arts and Social Sciences  
(*Faculty Office*) **C20**  
Asia-Australia Institute:  
34 Botany St, Randwick  
Audio Visual Unit **F20**  
Australian Graduate School  
of Management **G27**  
Banking and Finance **E15**  
Biochemistry and Molecular Genetics **D26**  
Biological and Behavioural Sciences  
(*Faculty Office*) **D26**  
Biomedical Engineering **F25**  
Biomedical Library **F23**  
Biotechnology **F25**  
Built Environment (*Faculty Office*) **H14**  
Campus Services **C22**  
Cashier's Office **C22**  
Chaplains **E4**  
Chemical Engineering and  
Industrial Chemistry **F10**  
Chemistry **E12**  
Civil Engineering **H20**  
Co-op Bookshop **E15**  
Commerce and Economics  
(*Faculty Office*) **E15**  
Communications Law Centre **C15**  
Community Medicine **D26**  
Computer Science and Engineering **G17**  
Computing Services Department **F25**  
Cornea and Contact Lens Research Unit:  
22-32 King St, Randwick  
Economics **F20**  
Education Studies **G2**  
Educational Testing Centre **E4**  
Electrical Engineering **G17**  
Energy Research, Development &  
Information Centre **F10**  
Engineering (*Faculty Office*) **K17**  
English **C20**  
Examinations **C22**  
Fees Office **C22**  
Fibre Science and Technology **G14**  
Food Science and Technology **B8**  
French **C20**  
Geography **K17**  
German and Russian Studies **C20**  
Graduate School of the Built  
Environment **H14**  
Groundwater Management and  
Hydrogeology **F10**  
Health Service, University **E15**  
Health Services Management **C22**  
History **C20**  
House at Pooh Corner (*Child Care*) **N8**  
Human Resources **C22**  
Industrial Design **G14**  
Industrial Relations and  
Organizational Behaviour **F20**  
Information, Library & Archives Studies **F23**  
Information Systems **E15**  
Institute of Languages:  
4 Francis St, Randwick  
International Student Centre **F9**  
IPACE Institute **F23**  
Japanese Economic and  
Management Studies **E15**  
Kanga's House (*Child Care*) **O14**  
Landscape Architecture **K15**  
Law (*Faculty Office*) **F21**  
Law Library **F21**  
Legal Studies & Taxation **F20**  
Liberal and General Studies **C20**  
Lost Property **C22**  
Marine Science **D26**  
Marketing **F20**  
Materials Science and Engineering **E8**

Mathematics **F23**  
Mechanical and Manufacturing  
Engineering **J17**  
Medical Education **C27**  
Medicine (*Faculty Office*) **B27**  
Membrane and Separation Technology **F10**  
Microbiology and Immunology **D26**  
Mines **K15**  
Music and Music Education **B11**  
News Service **C22**  
Optometry **J12**  
Pathology **C27**  
Performing Arts **B10**  
Petroleum Engineering **D12**  
Philosophy **C20**  
Physics **K15**  
Physiology and Pharmacology **C27**  
Political Science **C20**  
Printing Section **C22**  
Professional Development Centre **E15**  
Professional Studies (*Faculty Office*) **G2**  
Property **C22**  
Psychology **F23**  
Publications Section **C22**  
Remote Sensing **K17**  
Safety Science **B9**  
Science (*Faculty Office*) **E12**  
Science and Technology Studies **C20**  
Social Science and Policy **C20**  
Social Policy Research Centre **F25**  
Social Work **G2**  
Sociology **C20**  
Spanish and Latin American Studies **C20**  
Sport and Recreation Centre **B6**  
Squash Courts **B7**  
Student Centre (*off Library Lawn*) **C22**  
Student Services:  
Careers, Loans, Accommodation etc **E15**  
Counselling **E15**  
Students' Guild **E15**  
Students' Union **E15**  
Surveying **K17**  
Swimming Pool **B4**  
Textile Technology **G14**  
Theatre and Film Studies **B10**  
Town Planning **K15**  
UNSW Press: 22-32 King St, Randwick  
WHO Regional Training Centre **C27**  
Wool and Animal Sciences **G14**  
Works and Maintenance **B14A**



# The University of New South Wales, Kensington Campus



This Handbook has been specifically designed as a source of detailed reference information for first year and re-enrolling undergraduate and postgraduate students. Separate handbooks are published for Applied Science, Arts and Social Sciences, Built Environment, Commerce and Economics, Engineering, Law, Medicine, Professional Studies, Science, the Australian Graduate School of Management, College of Fine Arts, University College (ADFA) and the Centre for Liberal and General Studies. For fuller details about the University – its organisation, staff members, description of disciplines, scholarships and prizes and so on, consult the University Calendar (Summary Volume). For further information on student matters consult the University Student Guide.