The University of Sydney

Faculty of Architecture

Handbook

1996

Faculty of Architecture Handbook 1996
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Semester and vacation dates 1996

Semester	Day	1996
First Semester and lectures begin	Monday	26 February
*Easter recess Last day of lectures Lectures resume	Thursday Monday	4 April 22 April
Study vacation -1 week beginning	Monday	10 June
Examinations commence	Monday	17 June
Second Semester and lectures begin	Monday	22 July
*Mid-semester recess Last day of lectures Lectures resume	Friday Tuesday	20 September 8 October
Study vacation -1 week beginning	Monday	4 November
Examinations commence	Monday	11 November

* To be confirmed.

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Message from the Dean

I welcome you to the Faculty of Architecture and wish you well in the program you have chosen for your studies.

Your choice to study here indicates that you are interested in one of the most fascinating and complex fields of human endeavour — the investigation and design of the built environment. People have become much more aware of the quality of their living, working and community environments and, through a variety of organisations, are having a greater say in the development of cities, towns, their local community and the buildings that provide shelter and suitable environments for a wide range of activities. Those who plan and design our communities and their structures are providing physical solutions to the communities' needs.

The undergraduate program leads, through a two degree structure, to professional architecture. The Faculty's graduates are conspicuous in their leading roles in the professionin Australia. The undergraduate programs also lead to other employment opportunities in the design professions and elsewhere.

You will find that the Faculty has anticipated the future demands on architects, planners and designers and has provided educational programs which will prepare you for your future. As you read this handbook you will also see that there are many post-professional (postgraduate) programs to allow you to specialise or to keep you up-to-date.

This faculty offers postgraduate programs directed at graduates from most of the design professions, such as those in the Department of Architectural and Design Science and others directed towards graduates in geography, economics, social policy, etc., particularly those in the Department of Urban and Regional Planning.

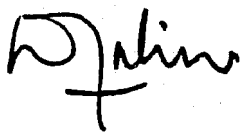
If you are interested in research work in matters related to the built environment, the Faculty offers a variety of research programs.

Whatever the program is that you have chosen you will find you have entered a stimulating and exciting environment. All courses of study allow you to explore areas of special interestin addition to the core subjects. Being part of the largest and most comprehensive university in Australia you may have the opportunity, through the elective studies, to include some subjects of interest from other faculties.

The Faculty is one of the smallest in the University and has a reputation for the care it shows its students. It is important that you consult your lecturers if you are experiencing difficulties in particular subjects. If youhave more general difficulties or questions relating to your studies or your needs you will find that the Faculty office staff will be able to assist with most matters. The University, in caring for its community, also provides a wide range of assistance, for example, the University Student Services can help with the problems of adapting to the various demands, academic and personal, of an unfamiKar institution which expects you to be largely independent. You will also find assistance withhousing, finding employment and financial matters.

The University offers much more than its courses of study — it is a large, diverse community with clubs and societies catering for most interests. It has fine sporting facilities, live theatre, music, galleries and museums. While you are here I suggest that you become involved in the life of the University.

I hope to meet you during your time in the Faculty and I wish you well with your chosen field of study.



Warren Julian
Dean

1 The Faculty and staff

A brief history of the Faculty

The Faculty of Architecture was established in 1919 to conduct an undergraduate professional Bachelor of Architecture program. In 1948 the Department of Town and Country Planning was founded within the Faculty and in 1989 was renamed the Department of Urban and Regional Planning. In 1954 a Chair of Architectural Science was created around which the Department of Architectural Science developed. In 1989 the department was renamed the Department of Architectural and Design Science. The Art Workshop became part of the Faculty in 1990 having previously been a central academic service unit which developed from resources provided by the Faculty in the 1960s.

The Faculty now consists of the three academic departments and the Art Workshop and there are 789 students enrolled in the following 16 degrees, diplomas and certificate that may be awarded in the Faculty:

BSc(Arch)	Bachelor of Science (Architecture)
BArch	Bachelor of Architecture
MSc(Arch)	Master of Science (Architecture)
MArch	Master of Architecture
MDesSc	Master of Design Science
MURP	Master of Urban and Regional Planning
MUrbStud	Master of Urban Studies
MUrbDes	Master of Urban Design
MHeritCons	Master of Heritage Conservation
PhD	Doctor of Philosophy
DArch	Doctor of Architecture
GradDipDesSc	Graduate Diploma in Design Science
GradDipURP	Graduate Diploma in Urban and Regional Planning
GradDipUrbDes	Graduate Diploma in Urban Design
GradDipHeritCons	Graduate Diploma in Heritage Conservation
GradCertDesSc	Graduate Certificate in Design Science

The Faculty, since 1984, has been housed under one roof in the purpose-designed Wilkinson Building which also contains the most comprehensive architecture and planning library in Australia, the Denis Winston Architecture Library. The Faculty contains three research centres and a continuing education unit.

The structure of the Faculty

The academic prograrasof the Faculty are established by the University Senate on the advice of the Academic Board and the Faculty. The Undergraduate programs are conducted by the Faculty with teaching and other support being provided by the departments and the Art Workshop. Some postgraduate programs are faculty-based and others are departmentally-based while the PhD is a degree of the University and governed by the Academic Board. Academic governance of Faculty is by all the academic staff of the Faculty together with student and professional representatives. The departments have departmental boards which determine policy and contain general staff and student representatives in addition to the academic staff. Students are encouraged to participate in the governance of the Faculty through elected membership of Faculty, faculty committees, departmental boards, etc.

The Faculty office provides management and administrative support to the Faculty and the departments. The Faculty office staff are:

Dean
Professor Warren G. Julian, BSc BE MSc(Arch) DipBdgSc PhD, LFIESANZ

Secretary to the Faculty and Assistant to the Dean
Lyn Harrison, BA *A.N.U.* DipEd *Syd.Teach.Coll.*

Finance Officer
Kerry Song, BSc(ApplEcon) *N.E.Lond. Poly.*

Administrative Officer
Jane Clark

Administrative Assistant
Judith Maddison

Senior Research Assistant
Susan Clarke, BArch DipTCP DipBdgSc

Computer Systems Manager
Andrew Winter

Attendants
Robert Bowes
Shaun Christopher

Assistance in academic administration is provided by the Associate Deans:

Associate Dean (postgraduate)
John S. Gero, BE *U.N.S.W.* MBdgSc PhD, FRSA FIEAust MASCE

Associate Dean (undergraduate)

Associate Dean (research)
John P. Lea, MA *Camb.* PhD *Witw.* DipTP *Cent.Lond.Poly.,* MRTPI MIEnvSci

Associate Dean (teaching)
A. Terrence Purcell, PhD *Macq.* BA

Department of Architecture

The interests of the Department of Architecture relate to the widespread issues and challenges facing

designers of the urban environment. They range from areas of history and theory, architectural and landscape design, social and environmental factors, building construction, practice and management, to conservation and urban design.

The focus of the work of the department is on developing and understanding the process of design, and teaching design skills. That means absorbing values, learning skills, acquiring knowledge, making judgements, and especially gaining the ability to conceptualise three-dimensional forms which will answer complex sets of requirements. It also means seeking out and testing information, understanding human needs, harnessing the potential of structures and materials, developing the ability to communicate ideas in speech, in writing and, most importantly, by images drawn by hand or by machine.

The department teaches three-quarters of the courses in the two undergraduate programs, and offers postgraduate courses in heritage conservation and in urban design. The interrelationship of social, political, and environmental issues and their impact on the built environment in which we live and work is die subject of much of the teaching and research in the department.

The staff of the Department of Architecture are:

Professors of Architecture
Lawrence Nield, MLitt *Camb.* BArch, FRAIA ARIBA
Appointed 1993

Geoffrey Philip Webber, MSc(Arch) *Col.* BArch MTCP, FRAIA MRAPI ARIBA *(part-time)*
Appointed 1979

Professor of Conservation Planning
Serge Domicelj, LicArchit *Buenos Aires* DipCD *Edin.,* MRAPI *(part-time)*
Appointed 1975

Professor of Urban Design
Peter Droege, Diplng *Munich* MArch *M.I.T.*
Appointed 1993

Associate Professors
Jennifer E. Taylor, MArch *Wash.,* FRAIA
Ross H. Thorne, MArch, FRAIA MAAS *(part-time)*

Senior Lecturers
Keith Billings, DipArch *Oxf.* MSArch *Col.* PhD, MRAIC
James R. Conner *(head of department),* PhD *Edin.* MArch DipTCP
Graham E. Holland, BArch *U.N.S.W.* PhD, FRAIA
Trevor Howells, DipConsStud *York* BArch
ColinL.James,MArchHaro.AASTCS.r.C.DipTCP,MRAPI ARAIA
Swetik Korzeniewski, MArch *Venn.* BArch
Richard J, Lamb, BSc.PhD N.E., CBiol MIBiol MAIBiol
Anna Rubbo, BArch *Melb.* DArch *Mich.*
Adrian B. Snodgrass, MSc(Arch) PhD *(part-time)*

Lecturers
Kristine S. Sodersten, BArch, ARAIA
Tone Wheeler, BArch

Visiting Professor
Kevin Rice, BArch MBA *U.N.S.W.,* LFRAIA AIArbA *(part-time)*

Associate Lecturers (part-time)
(Please refer to the department.)

Technical Officer
John Neirotti

Audio Visual Officer
Anne Cleary, BAppSc (Info.) *U.T.S.*

Administrative Assistants
Diana Lang *(half-time)*
Nimrni Ramesh
Sally Yong

Department of Architectural and Design Science

The Department of Architectural and Design Science is concerned with the many aspects of architecture and design that have a scientific or technical basis. It provides part of the undergraduate teaching including studio tutoring. It offers postgraduate degrees both by coursework and by research.

Undergraduate teaching areas include structural systems, building materials, the thermal environment, energy efficient building design, sustainable design, the thermal performance of buildings, wind effects, illumination, architectural psychology, acoustics, buildings services systems, design computing, computer graphics, design methods and applications of mathematics.

Postgraduate degrees and diplomas are offered in the general areas of building science, as well as in the specialised areas of design computing, illumination design, building services, facilities management, energy conservation and audio engineering.

The department has a worldwide reputationf or the breadth of its coverage of architectural and design science subjects, as well as for its standing in several of its specific areas of interest.

The department also houses the Key Centre of Design Computing which acts as a focus for the department's computer-related research, teaching and consulting. The mission of the Centre is to improve the effectiveness of designers, and therefore the competitiveness of design, through the application of advanced design computing technologies.

The staff of the Department of Architectural and Design Science are:

Professor of Design Science
John S. Gero, BE *U.N.S.W.* MBdgSc PhD, FRSA FIEAust MASCE
Appointed 1985

Associate Professors
Fergus R. Fricke, BE *Melb.* PhD *Monash* DipME *Swinburne Tech. Coll.,* MAAS
Warren G. Julian, BSc BE MSc(Arch) DipBdgSc PhD, LFIESANZ
Mary Lou Maher, BS *Col.* MS PhD *Carnegie-Mellon*
A. Terrence Purcell, PhD *Macq.* BA

Senior Lecturers
Bruce S.A. Forwood *(head of department),* BArch
David J. Gunaratnam, BSc(Eng) *Ceyl.* PhD *Camb.*
David M. Rowe, ASTC, MAIRAH *(half-time)*

Lecturers
Ann B. Godfrey, BArch *W.A.* GradDipUrbEstMan *U.T.S. (part-time)*

Simon N. Hayman, BSc(Arch) MArch DipIllumDes, FRSA MIESANZ
Craig M. Pearce, DipEE *Caulfield Tech. Coll.* MDesSc, MIEAust MAIEE
James Rutherford BArch L'*pool* PhD *Strath.*

Lecturer (part-time)
Hilaire Graham, BArch MSc *U.C.L.*

Associate Lecturer
Joseph R. Nappa, BE

Associate Lecturers (part-time)
Brian Marland, DipArch *Portsmouth Poly.* MSc PhD *Lend.*
Paul Murty, MArch

Senior Systems Analyst
Michael A. Rosenman, BArch MBdgSc PhD

Computer Systems Officer
Douglas Scouler, DipCompStud *Napier*

Senior Technical Officers
Philip Granger
Ken Stewart

Technical Officer
Rick Moss *(part-time)*

Administrative Assistants
Larina Frohich, BSc DipEd
Fay Sudweeks, BA MCogSc *U.N.S.W.,* ATCL
Lesley Vanderkwast

Administrative Assistants (part-time)
Megan Haig
Michaela James, BA *City Art Inst.*
Suzanne Roberts

Visiting Professor
Peter Hein, BMechEng *Melb.*

Professorial Fellows
Allan P. Disney, HonMDesSc, ASTC MIEAust
Alexander Wargon, BE *Technion* MSc *Harv.,* FIEAust FICE(UK) FASCE

Honorary Appointment
Emeritus Professor H.J. Cowan, AO, MSc *Mane.* DEng PhD *Sheff.* HonMArch HonDArch, FRSA FASCE FIStructE FIEAust HonFRAIA

Honorary Associates
John L. Goldberg, BSc ME PhD
Nancy Ruck, BArch *Auck.* PhD *U.N.S.W.* MBdgSc

Department of Urban and Regional Planning

The Department of Urban and Regional Planning attracts students from a wide range of disciplines from all Australian states and from overseas, particularly the Asian and Pacific regions. Graduates now occupy senior academic, government, community and private sector positions throughout Australia, the Pacific region and elsewhere.

The Urban and Regional Planning program is designed for students who seek to shape urban and regional development policies in relation to land use, environmental protection, infrastructure, transportation, industrial development and employment, retail and commercial centres, community development and welfare, housing, conservation, recreation and tourism.

Departmental research covers a wide range of policy and development issues, including urban development and local government finance, social/spatial restructuring of cities, remote settlements in northern Australia, tourism, global restructuring, provision of urban infrastructure, local economic development, rural settlement trends, housing and tenure, social planning and multiculturalism.

The staff of the Department of Urban and Regional Planning are:

Professor

Associate Professors
John P. Lea, MA *Camb.* PhD *Witw.* DipTP *Cent.Lond.Poly.,* MRTPI MIEnvSci
John G. Toon, DipArch *Leic,* FRAPIMTRPIARIBA ARAIA

Senior Lecturers
Gregory C. Mills *(head of department),* BA *N.E.* MSc(Econ) *Land.* DipTP *Edin.*
Peter Phibbs, BA MSc PhD U.N.S.W.

Lecturer
Martin J. Payne, MS *Colorado State*

Administrative Assistant
Robin Connell

The University of Sydney Art Workshop

The Art Workshop/Tin Sheds Gallery, besides being a general cultural facility of the University and wider community, provides students with the opportunity to work in various media under the direction of professional artists and to enjoy the experience of developing aspects of their creative potential as a meansof complementing theirworkin the architecture design studios where, of necessity, there are more constraints. To this end, the courses offered by the Art Workshop provide a foundation for technical competence and creative understanding.

A range of classes is offered in drawing, ceramics, etching, graphic design, painting, photography, set design, screenprinting, sculpture, and video.

The staff of the Art Workshop are:

Director
Therese Kenyon, BA(VisArts) *Alex. Mackie C.A.E.* MFA *U.N.S.* W, *(Drawing and Set Design)*

Lecturer
Bette Mifsud, BA *U.N.S.* W. BA (VisArts) *S.C.A. (Photography)*

Associate Lecturers
Jan Fieldsend, DipEd *Auck. (Screen Printing)*
Mark Jones, BA (VisArts) *S.C.A. (Ceramics)*
Frank Littler, DipPaint *Nat. Art Sell. (Painting)*
Seraphina Martin, DipArts *Ecole Nat. Beaux Arts (Etching)*
Ari Purhonen, BSc(Arch) *U.NS.W. (Sculpture)*

Administrative/Curatorial Assistant
Pauline Guthrie, BA, DipGallMan *U.N.S.W.*

The Denis Winston Architecture Library

The Denis Winston Architecture Library isabranchof the University Library and is acknowledged as one of the best architecture and planning libraries in Australia. Students also have access to the other 17 branch libraries as well as the main University (Fisher) Library.

The library staff are:

Librarian
Jennifer Hayes, BA *N.E.* ASTC, ALAA

Library Assistant
Alison Bell

General Library Assistants
Jean Bassetf
Rowie Daskalakis
Mary Wilson

Planning Research Centre

The Planning Research Centre is associated with the Department of Urban and Regional Planning. Its main purpose is to further fundamental research into physical planning and development. It also sponsors seminars in specialised fields, promotes the publication of research material and conducts short courses in conjunction with the Department of Urban and Regional Planning.

The staff of the Planning Research Centre are:

Director (part-time)
John G. Toon, DipArch *Leic,* FRAPIMTRPIARIBA ARAIA

Deputy Director (part-time)
Peter Phibbs, BA MSc PhD *U.N.S. W.*

Administrative Assistant
Joanne Greenwood

Ian Buchan Fell Housing Research Centre

Ian Buchan Fell, who died in 1961, left the income from his estate to the University for the promotion and encouragement of education and for the purpose of establishing scientific research on housing needs.

The Centre is located in the Faculty of Architecture and is concerned with the needs of people relative to their housing. These needs are related to the complex interactions between people, their housing and other aspects of the built environment.

The research possibilities in this field are vast and the Centre attempts to maintain a principal interest in low income housing, conducting and sponsoring research and by periodically providing research scholarships. It produces publications by its own and other researchers on various aspects of housing.

The staff of the Ian Buchan Fell Housing Research Centre are:

Director (part-time)

Research Assistant (part-time)
Brita Beeston, BAppSc(Info) *U.T.S.*

Administrative Assistant (part-time)
Diana Lang *(half-time)*

Key Centre of Design Computing

The Key Centre of Design Computing was established by the University with funding provided by the Department of Employment, Education and Training under its Key Centres program, and the University of Sydney. It subsumes and builds upon the recognised expertise and resources of the former Design Computing Unit (established 1968) with its international research and graduate teaching programs, and the former Key Centre of Design Quality with its multidisciplinary research projects. It is part of the Department of Architectural and Design Science. Its research is largely funded by the Australian Research Council, the University Research Grant and various scholarship funds.

Research carried out within the Key Centre falls into the area of design science and can be classified under the following headings:

- knowledge-based design systems—the application of knowledge engineering and artificial intelligence to represent design knowledge and reasoning in computer programs to explore future aids for designers;
- multimedia systems — the application of multimedia computing in design
- collaborative design — computer support for synchronous distance collaboration (virtual design studios)
- cognitive models of design — the application of cognitive science to the elicitation and development of cognitive models of design as a precursor to the development of computer aids.

The Key Centre has a teaching and research design computing laboratory of SUN SP ARCstations, Silicon Graphics workstations, IBM RS/6000 graphics workstations, and Apple Macintoshes with network connections to internet and the world wide web.

Co-Directors
John S. Gero, BE *U.N.S.W.* MBdgSc PhD, FRSA FIEAust FAAAIMASCE
Mary Lou Maher, BS *Col.* MS PhD *Carnegie-Mellon*
James Rutherford, BArch *Liv.* PhD *Strath.*

Resource centres within the Faculty

The Faculty contains, in addition to the facilities mentioned above, a number of specialised resource centres, mostly located within the departments of the Faculty. These have been developed to assist the Faculty's teaching and research.

Audio Visual Library

The audio visual library has an extensive film, video, slide/tape and slide collection and a wide range of equipment for use by staff or students in 8 carrels in the library or in the small viewing theatre attached.

Workshops

Both the Departments of Architecture and Architectural and Design Science maintain workshops which are available to students for experiencing the use of various materials, making items of equipment notreadily available, constructing models and making and instrumentingmodels and specimens to be tested in laboratories. The workshops have a comprehensive range of tools and equipment and a variety of portable power and hand tools. Students receive instruction on the safe and correct use of these tools.

Darkrooms and plan printing

Darkrooms, plan printing equipment and an artiscope are available for student use.

Urbanscope
A small television studio, located in the Architecture workshop, houses the urbanscope which uses a periscope and a video camera to present a realistic view of either walking or driving through an architectural or landscape model.

Laboratories
The Department of Architectural and Design Science has well-established laboratories and items of equipment for teaching, student project work and postgraduate and staff research. There are laboratories for materials, ventilation, services, a heliodon, mechanics, psychophysics, natural lighting, photometry, thermal environment, acoustics including anechoic and reverberant rooms, and artificial skies.

Computer studios
These have been established.to provide resources for teaching computer-aided design, computer-aided presentation and the technical skills of programming and systems organisation and management in design computing. They are also used extensively in higher degree and funded research projects. The laboratories contain networked multimedia computers representative of the cutting edge in computer-aided design, and have links to university and external computer networks for access to internet and the world wide web's resources.

Departmental and Faculty offices
Each department has an office where students can direct enquiries regarding coursework and assessment matters or contact academic staff. The Faculty office deals with general student enrolment issues.

Building attendants
The building attendants provide a range of services relating to the use of the building including operation of the lecture theatres, security, safety and deliveries.

Sydney University Architecture Society
The Sydney University Architecture Society is run by the students to promote student interactionboth within and outside the Faculty through a variety of activities, which includes participation in Faculty and departmental committees, inter-faculty sporting competitions, guest lectures, a faculty newspaper, the Architecture Ball and the Architecture Revue.

Every undergraduate student in the Faculty is automatically a member of the Society — part of the SRC subscription paid by each student is allocated to the Society, which uses the money to promote activities. Enquiries about the Society should be directed to the SUAS office, level 2, Wilkinson Building, University of Sydney. Messages may be left in the Department of Architecture.

2 Undergraduate professional architecture program — BSc(Arch) and BArch

Program structure

In order to satisfy the academic requirements for registration as an architect it is necessary to complete studies which include certain minimum knowledge requirements set by the Architects Registration Board and the Royal Australian Institute of Architects. That minimum knowledge is expanded and extended in the professional architecture program offered in the Faculty.

The program requires the completion of two degrees — the Bachelor of Science (Architecture) (BSc(Arch)) and the Bachelor of Architecture (BArch). Completion of the BSc(Arch) or equivalent studies is the prerequisite for entry to the BArch.

The BSc(Arch) is a full-time three year pass degree or four year honours degree program which is a design degree, with a very strong emphasis on architecture as the object of design. It is possible to proceed from the BSc(Arch) into other areas of study apart from architecture, for example, urban and regional planning or other specialist degrees and diplomas in the Faculty.

The BArch is a three year pass/honours degree in architecture. The first year is a 'practical experience' year followed by two years of full-time study at the University.

Both degrees require a student to complete, on a full-time basis, mandatory and elective courses, and to gain sufficient units for those courses.

Each course is allotted a certain number of units, based on the number of hours of contact time between staff and students in lectures, tutorials, seminars, studio sessions or other meetings. One unit is roughly equivalent to one hour of contact time per week for one semester. When a student satisfactorily completes a course its unit value is credited towards the degree. No units are given for partial completion of, or failure in courses. All courses for which a student is enrolled are shown on the student's record, whether units are gained or not.

Details of the courses and the minimum number of units required for each degree are given later in this chapter and in the Senate Resolutions governing the degrees (pages 56 to 64).

Entry to the program

Admission

Students must apply for entry to the BSc(Arch) on the application form available from the Universities Admissions Centre. Applications close each year at the end of September prior to enrolment but on payment of a late fee UAC may accept applications up to the end of October prior to enrolment. This procedure applies to all applicants including those who wish to transfer from another faculty or university, or are of mature age or who have been educationally disadvantaged. Mature ageand educationally disadvantaged applicants should also contact the Undergraduate Admissions Office at the University for details of the Special Admissions Scheme. Students who live overseas should contact the University's International Education Office before the end of November prior to enrolment.

Assumed knowledge

There are no prerequisites for students wishing to enrol in the BSc(Arch). The degree is, however, taught on the assumption that students will have successfully completed 2 unit Mathematics or have equivalent knowledge. Students who have not reached that standard will benefit from supplementary work in this subject prior to the commencement of the BSc(Arch) degree. It is recommended that students whose mathematical background is weak Should, after discussion with Mr Hayman, attend one of the bridging courses in mathematics offered by the Mathematics Learning Centre (see page 116 for more details).

Assistance is also offered, during the first few weeks of the course, to students who are not familiar with simple mechanics and statics.

A capacity for freehand drawing is important and, although tuition is given during the program, students will benefit from some elementary practice in sketching, for example, by trying to draw simple objects as they are seen, developing observation and coordination between mind and hand.

Students will also benefit from some background knowledge of architecture and design and are welcome to read in the Architecture Library before commencing the course.

Equipment

Students commencing the first year are required to obtain during the enrolment period the equipment necessary to carry out the course. Lists will be provided.

Transfer students

Students transferring from other disciplines may receive credit for elective units where these are deemed relevant to the aims and objectives of the degrees. Advanced standing for transferring students in architecture or related disciplines is subject to review by the Faculty.

Entry to the BArch

Although most students entering the BArch are proceeding from the BSc(Arch), depending on

resources, the Faculty reserves some places for applicants who have academic standing equivalent to the BSc(Arch).

Admission is competitive and is determined by the Faculty's BArch Admissions Committee on the basis of academic record, a portfolio of design work and work experience. Students must apply for entry direct to the Faculty (not to the Universities Admissions Centre) using the application form available from the Faculty office. Applications close at the end of October prior to enrolment. *It is essential that all applicants provide with their application form original transcripts of previous study and details of work experience.* Applicants will then be considered for entry and, if shortlisted, may be asked to attend an interview with a portfolio of their work.

The Bachelor of Science (Architecture)

Aims of the BSc(Arch) degree

The aim of the BSc(Arch) is to educate people in the design of the built environment as embodied in architecture, landscape architecture, urban design, interior design and component design. This education is:

- of value in its own right, apart from any vocational relevance;
- a preparation and qualification for entry into the Bachelor of Architecture and postgraduate courses at the University of Sydney;
- a basis for further learning through studies in design-related areas such as architecture, landscape architecture, interior design, urban design and planning, building science, audio engineering, illumination design, design computing and facilities management;
- a basis for further learning through practice, particularly through participation in a design office at a beginning level.

Objectives of the BSc(Arch) degree

To fulfil these aims the degree offers courses in the following areas and with the following objectives:

- to impart skills in and an understanding of the social context within which the built environment and design exist. This includes human and socio-cultural factors which affect and influence the perception, form and production of the built environment from the domestic place to the city.
- to impart skills in and an understanding of environmental sciences and technologies and the built environment, including the physical processes which interact with, and influence the design of the built environment.
- to impart skills in and an understanding of the materials, structures and construction of the built environment, including the characteristics and use of materials, structure and construction methods in the design of the built environment.
- to impart skills in and an understanding of the historical and theoretical context of design, in particular of architectural, landscape and urban history, and of major trends in design theory and method.
- to impart skills in and an understanding of the theory, techniques and practice of communications in design. This includes understanding the nature of design information, and to develop skills and confidence in the effective use of design and communications media and techniques.
- to impart an understanding of the activity of design and to develop skills and confidence in the process of designing.

Requirements for the BSc(Arch)

A minimum of 105 units is required to qualify for the BSc(Arch) degree including the completion of certain mandatory courses. If it is intended to proceed to the BArch, certain prerequisite courses for that degree should also be completed. The maximum number of units that can be taken in any one year is 40.

Mandatory requirements

The mandatory courses for the degree total 79 units and if the prerequisites for the BArch (17 units) are included this leaves 9 units of electives to be selected from those available within the Faculty and in a number of disciplines within other faculties. These electives allow students to further develop their knowledge and skills in areas of particular interest beyond the opportunities offered by the mandatory curriculum.

The timetable will indicate the availability of elective courses in each semester. Students are reminded that certain electives are only available in alternate years and some have a limit upon class sizes. In addition to formal elective courses, independent study electives are available by arrangement with the teaching staff. These allow students to pursue private study of a particular topic in any of the degree subject areas.

The recommended sequence of study is given below.

FIRST YEAR — MANDATORY COURSES

People and the Environment	3 units
Climate, Landscape and the Built Environment A	2 units
Climate, Landscape and the Built Environment B	2 units
Materials and Form in Building	2 units
Building Principles	3 units
History of the Built Environment A	3 units
History of the Built Environment B	3 units
Mathematics and Science in Design	2 units
Design Communications A	3 units
Design Communications B	3 units
Design A	4 units
Design B	4 units
	Total 34 units

ELECTIVE COURSES

Maximum 6 units

SECOND YEAR — MANDATORY COURSES

Habitat and Society A	2 units
Habitat and Society B	2 units
Landscape Design	2 units
Construction A	3 units
Structure and Form	2 units

Environmental Science and Technology A	3 units
Design Communications C	2 units
Design Communications D	2 units
Design C	6 units
Design D	6 units
Design Support D	1 unit
	Total 31 units

ELECTIVE COURSES
Maximum 9 units

THIRD YEAR — MANDATORY COURSES

History of the Australian Built Environment	3 units
The Design Professions	3 units
Design, Theory and Method	2 units
Design E	6 units
	Total 14 units

ADDITIONAL MANDATORY COURSES REQUIRED FOR ENTRY TO THE BARCH DEGREE

Environmental Science and Technology B	3 units
Construction B	4 units
Structural Systems Design	2 units
Design F	6 units
Design Support F	2 units
	Total 17 units

ELECTIVE COURSES
Maximum 9 units (excluding BArch prerequisites)

Honours degree

The Faculty's Honours Committee determines the minimum standard required of students admitted to the honours year (fourth year). The minimum standard is the weighted average mark (WAM) of the three years of the pass degree study below which no student will be allowed to undertake the honours research and thesis presentation.

$$\text{The WAM is } \frac{\sum M \times Ug}{\sum Ua}$$

where Ug is the number of units gained by passing a course; Ua is the number of units attempted including failures and courses discontinued; M is the mark awarded. (Note: If the result is for supplementary assessment, the mark (M) is 45.)

During the honours year, each student will work closely with a supervisor appointed by the Honours Committee on an approved thesis topic and undertake coursework on research methods. Third-year students contemplating honours should begin considering a thesis topic, in discussion with the appropriate staff member, as early as possible. At the end of the honours year the Honours Committee will appoint two examiners to assess the student's thesis. The Committee will consider the examiners' reports in consultation with the supervisor. The mark for the thesis represents 65 per cent of the total mark and the WAM (weighted average mark) for the student's courseworkin previous years represents 35 per cent. On the basis of the total mark the Committee determines whether honours are to be awarded and if so the class. Honours may be awarded in two classes, Class I and Class II (with Divisions 1 and 2).

A successful honours student may be exempted from the practical experience requirements for the BArch degree. An unsuccessful honours student may, in certain circumstances, also be granted this exemption.

The Bachelor of Architecture

Aims of the BArch degree

The basic aims of the BArch course are to provide the knowledge, skills and experience which will equip the graduate to be an architect. The practice of architecture today is, however, extraordinarily diverse and complex and no course could provide training in depth for all areas of practice. It is therefore essential that students obtain from the course a firm grounding in fundamentals, an ability to think creatively and logically, and a capacity to explore for themselves those areas which they wish to pursue in detail.

Objectives of the BArch

Each architecture program has a particular bias or emphasis, within the guidelines for professional accreditation, based on the interests and strengths of the staff and departments. The Faculty has the major strength of its three departments and Australia's largest university.

The program will enable:

- the student to gain the necessary knowledge and skills to become an architect, noting the increasing complexity and diversity of the architect's role.
- the satisfaction, where possible, of the demands of the professional and statutory bodies for entry to the professional institute and to qualify for registration, with minimal additional examination. However, while this is an objective, the Faculty will maintain its academic independence in the judgements it makes on the education it provides.
- the student to experience a range of attitudes and philosophies relating to architecture.
- the student to be exposed to and acquire a range of knowledge which is expected to result in graduates who can provide the community with the highest quality of architecture. The student will be able to think clearly and be able to make reasoned judgements by having:
  - (i) an understanding of and experience in architectural design;
  - (ii) a knowledge of the history of architecture;
  - (iii) a knowledge of theories of architecture;
  - (iv) a knowledge of the materials, construction practices and production methods which are essential to architecture;
  - (v) the ability to absorb and interpret the needs of society in relation to the built environment;
  - (vi) a basic understanding of those technical fields which contribute to architecture;

(vii) an understanding of the legal and professional responsibilities of practice as an architect;
(viii) the ability to communicate clearly by oral, written and graphic means, and to organise and manage those aspects of the design and construction of a building which are the responsibilities of the architect.

Requirements for the BArch

A minimum of 60 units is required to satisfy the requirements for the BArch including the completion of certain mandatory courses.

The course *Report* is to be completed (in the first year) before any mandatory or elective courses may be attempted. The Report is the record of experience the student gains in a range of practical activities approved by the Faculty. No units are gained for the Report. Students with an honours degree in the BSc(Arch) are exempted from the Report.

The 60 units required for the degree are obtained over the next two years of full-time study when the 44 mandatory units will be completed and at least 16 units of electives. The maximum number of units that can be taken in any one year is 34.

FIRST YEAR — MANDATORY COURSE	
Report	0 units
SECOND YEAR — MANDATORY COURSES	
Architectural Design I	10 units
Theory of Architecture	2 units
Architecture in the Twentieth Century	3 units
Advanced Construction	3 units
Building Services Systems	2 units
Architectural Structures and Materials	3 units
Contract Documentation	3 units
	Total 26 units
ELECTIVE COURSES	
Maximum 8 units	
THIRD YEAR — MANDATORY COURSES	
Architectural Design II	10 units
Applications of Technology in Design	4 units
Professional Practice	4 units
	Total 18 units
ELECTIVE COURSES	
Maximum 16 units	

Honours degree

Honours are determined by the Honours Committee based on the student's performance in the 60 units of the degree. The weighted average mark is used as the basis for assessment. To be eligible for the award of honours a student must complete at least one of the courses from the area, Advanced Study, wherein the student demonstrates an ability to undertake individual research and its documentation. Honours are awarded in two classes, Class I and Class II (with Divisions 1 and 2).

Important information for BSc(Arch) and BArch students

For ease of reading, the preceding sections have given the general requirements for each of the.degrees. Students undertake the degrees in accordance with the Resolutions of the Senate and Faculty regarding the degrees, the Resolutions of the Senate and the Academic Board with regard to conduct, examinations, enrolments, etc., and the administrative requirements of the University. This section draws your attention to those requirements which may affect your progress.

Resolutions of the Senate and Faculty

These are the strict requirements for the degrees with which candidates must comply. Read them on pages 56 to 66.

Variation of Enrolment

A student may discontinue one or all courses and have these shown as a non-failure on his or her record as set out below. He or she may also enrol in new courses as replacements according to the following:

(i) *Withdrawal*

A candidate who discontinues enrolment in a full-year or first semester course on or before 30 March, or in a second semester course on or before 30 August, shall be recorded as having withdrawn from that course.

(ii) *Discontinuation*

A candidate who discontinues enrolment in a course before the end of the lectures for that course shall be recorded as 'Discontinued' unless the Dean, on grounds of serious ill health or misadventure, determines that the discontinuation should be recorded as 'Discontinued with Permission',

(iii) *Adding to enrolment*

A student may not add to the total number of units of his or her enrolment *after 30 March.*

(iv) *New enrolments*

After withdrawal from a course a student may enrol in a replacement course up until the end of the third week of semester one for a full-year or first semester course and the end of the third week of semester two for a second semester course, provided that the total number of units in which the student was enrolled at 30 March is not exceeded.

All variations to enrolment must be approved by the Faculty office staff.

Timetable

The timetables for the BSc(Arch) and BArch are available before enrolment. Students must consult the timetables closely in planning their enrolment. Courses must not be taken if lecture times clash with other courses being taken.

Courses of study

Courses and arrangements for courses, including staff allocated, as stated in this or any other publication, announcement or advice of the University are an

expression of intent only and are not to be taken as a firm offer or undertaking. The University reserves the right to discontinue or vary such courses, arrangements or staff allocations at any time without notice.

Courses available outside the Faculty of Architecture

It is possible, with permission, for students to take courses outside the Faculty of Architecture and on satisfactory completion of those courses to have them credited towards a degree course within the Faculty. Applications in writing should be lodged with the Faculty office staff.

Works visits as part of courses

Some courses include works or site visits to places of interest for first-hand observations. Details of these works visits will be given during lectures. Where works visits are a normal part of a course, this is indicated in the course description. Students are asked to prepare reports on each works visit, particularly in courses run by the Department of Architectural and Design Science. Other courses may involve field work or a community project outside the University grounds.

Student projects

Although a student's work which is earned out as an assignment during the course will normally be returned, it should be noted that the Faculty has the right to keep all work which may be used for exhibition or publication. It remains the responsibility of every student to safeguard his or her work to prevent damage or loss, particularly at the end of semester when studios are cleaned out.

Students are required to keep all the graphic material related to their design work in a portfolio for end-of-year inspections.

Further study options after the BSc(Arch) apart from the BArch

Upon completion of the BSc(Arch) degree there are several options available to students for further study within the Faculty of Architecture other than the BArch. Subject to having achieved the appropriate qualifications and having taken the specific prerequisite courses, a student may apply for admission to any of the following courses:

Master of Science (Architecture)
Master of Design Science
Master of Urban and Regional Planning
Master of Urban Studies
Master of Urban Design
Master of Heritage Conservation
Graduate Diploma in Design Science
Graduate Diploma in Urban and Regional Planning
Graduate Diploma in Urban Design
Graduate Diploma in Heritage Conservation
Graduate Certificate in Design Science
Doctor of Philosophy

Students should seek the advice of Faculty staff on the career opportunities offered by the various postgraduate programs.

Courses of study — BSc(Arch)

AREA: DESIGN

Designinvolves the interaction of analytic and creative processes and includes the collection of data and the establishment of criteria in response to: human needs (physical and aesthetic); environment (context and site); physical sciences and technology.

Design courses emphasise the development of an awareness and understanding of people's needs and behaviour as they relate to the design of the built environment. The programs are structured around the design of appropriate environments for diverse individuals and groups. Design courses provide an understanding of the activity of design and skills and confidence in the process of design.

Structure of courses

Design courses occur in a studio setting and the primary medium of instruction is the design project. The design studio promotes 'learning by doing' and offers experience in group and individual work in a wide range of creative design activities. Coursework in other subject areas provides the intellectual framework for design activity and / or knowledge that can be directly applied to design. Students are expected to integrate relevant coursework in their design projects. Design Support D and F provide for specific inputs to a design project which will enable students to better apply other course material to design.

Assessment is continuous with grades being given for each project and averaged at the end of the semester. In the case of failure, students must repeat the failed semester. They may proceed with the design course sequence providing adequate performance is demonstrated in other subject areas. It should be noted that the time allocated on the timetable for Design includes an allowance for 'non-credit' studio time in addition to the normal one hour of contact time per unit per week.

Mandatory *Courses*

Design A — 4 units
17021
Ms Sodersten
Classes studio and lectures
Assessment design exercises and portfolio

Objectives

- To develop an attitude of creative and reflective inquiry into the nature of design and designing;
- to introduce students to the disciplines of architecture, landscape architecture, urban design and interior design;
- to introduce and explore concepts central to designing, including 'purpose', 'place', 'expression' in the built form, and the use of precedent;
- to introduce the integration of the knowledge and skills gained in the course into the activity of designing in the built environment; and

- to develop skills that allow exploration of the basic concepts and activity of designing, emphasising the design process.

Outcomes
At the successful completion of the course the student will have:
- explored the basic concepts central to designing, including 'purpose', 'place', 'expression' in the built form, and the use of precedent, through examples of the design disciplines dealing with the built environment;
- addressed the implications of integrating the knowledge and skills gained in the course into the activity of designing in the built environment;
- examined, through reflection and creative inquiry, their own understanding of what they have learned about the basic concepts central to designing, and about the ways they went about designing; and
- demonstrated skills sufficient to allow the activity of designing, to explore concepts in design exercises, and to communicate these appropriately.

The course outcomes are achieved through the completion of weekly reviewed exercises exploring the central concepts of designing through the various design disciplines, and a reflective exercise reviewing these 'explorations' at the end of the course. Assessment is through a portfolio of these weekly exercises and the final review exercise, submitted at an interview at the completion of the course, which is examined using the course outcomes as the basis of the assessment criteria.

Design A consists of weekly studio-based exercises of increasing complexity, and supportive lectures, through which the basic concepts central to designing and the various design disciplines relating to the built environment are introduced, in a range of settings, scales and user numbers. Site visits are included in more complex exercises. The studio exercises integrate aspects of the knowledge and skills of all the first year subject areas at an introductory level, particularly communication skills.

Design B — 4 units

17037
Ms Sodersten
Classes studio and lectures
Assessment design projects and portfolio

Objectives
- To further the development of creative and reflective inquiry into the nature of design and designing;
- to introduce and develop the notions of the 'design concept', 'design idea' and 'design intention' in the activity of designing;
- to develop and extend the understanding and use of the concepts central to design and designing, particularly 'purpose', 'place', 'expression', and the use of precedent, introduced in Design A; and
- to develop the ability to apply the knowledge and skills gained in the subject areas of the first year program in the activity of designing in the built environment.

Outcomes
At the successful completion of the course the student will have:
- explored the generation and use of the 'design concept', 'design idea' and 'design intention' in the activity of designing;
- extended the concepts central to designing including 'purpose', 'place' and 'expression' to include social, environmental and constructional aspects developed as knowledge and skills in the subject areas of the first year program, and to use these as factors in making judgements about building design;
- developed and explored the design process sufficient to design a small building; and
- demonstrated appropriate communication skills to develop and convey the design process and proposal for a small project.

The course outcomes are achieved through the completion of small design projects for which a clear design concept, idea or intention is developed, and which follows the stages of a design process based on the concepts central to designing, and incorporates in increasing complexity the aspects developed as knowledge and skills in the subject areas of the first year program. A final reflective and evaluative exercise reviews the student's understanding of their knowledge and skills as demonstrated in the projects. Assessment is through the weekly development of the projects and their final presentation, and through reviewing a portfolio of the course work, which is examined using the course outcomes as the basis for assessment criteria.

The course develops and extends the central concepts 'place', 'purpose', 'expression' and the use of precedent in designing, through lectures and weekly studio exercises on particular design projects, and on site visits. Emphasis is given to the way a design concept is generated and expressed in a proposal, and to the way knowledge and skills from the subject areas of the first year program are incorporated. The course is closely related to Design Communications B.

Design C — 6 units

27045
Mr James
Prerequisite Design A and B

Part 1: Landscape and Building Design

Classes studio group and/or individual tutorials and site visits, lectures, formal and informal reviews
Assessment project (50 per cent of the Design C grade) —part A (40 per cent) and part B (60 per cent)

Objectives
Part 1 aims to introduce issues and principles involved in siting buildings in a landscape setting, including environmental and socially responsible strategies; to design landscape and a building in response to these issues and principles; and to relate design work to knowledge provided in other courses noted below.

Outcomes
It is expected that students will have a sound knowledge of:
- topography of the site through physical and cultural analysis;
- ecologically and culturally sustainable strategies withrespect to landscape design, including surface water treatment and building orientation;
- factors affecting the siting of buildings;
- the interpretation of client needs in building and landscape design;
- building fabric and construction in timber and masonry;

and can demonstrate a capacity to prepare a master plan, identify a suitable project site, and design a building in a landscape whichreflects this knowledge.

Assessment is based upon the degree to which the outcomes are achieved relative to a standard of comprehension and display of knowledge equivalent to a sub-professional capacity to gain useful employment in an architect's office. There are both qualitative and quantitative measures made by visiting practitioners and inherited standards imposed by experienced staff.

Part 1 is organised in two parts: (a) investigation of site and preparation of a brief and master plan; and (b) the design of a building and associated landscape on the site studied. The building type is a modest public building. Where practical a real project is chosen, so that students can have contact with a client group and develop a proposal that responds to the special needs of the client. Material from the courses Climate, Landscape and the Built Environment, Landscape Design and elementary structural design and construction inform the design. The project is integrated with Design Communications C.

Part 2: Elective Design

Mr James, Dr Rubbo

Classes studio group and/or individual tutorials and site visits, lectures, formal and informal reviews. Alternatively, projects may be conducted off-campus in country or overseas locations.

Assessment project (50 per cent of Design C grade) — submissionrequirements: a minimum of two Al drawings and a model

Objectives
Through projects offered by Faculty staff and visiting design practitioners part 2 of Design C introduces students to diverse design approaches and ideas, with the aims of:
- providing students with the opportunity to work on a project of their choice with an emphasis onone or more of the following design disciplines: architecture, conservation, urban design, landscape design, interior or component design;
- exploring design methodology through association with a range of experienced designers over two years;
- enriching students' educational experience through integrating second and third year design studios, and by encouraging exploration and experimentation; and
- providing students with the opportunity to workin various ways and in diverse settings: for example, traditional studios, intensive design programs at the University, or on location.

Outcomes
It is expected that through these practitioner-initiated projects students will gain knowledge of varying approaches to design and practice, further their knowledge of design principles, develop their own philosophies and techniques, and benefit from the experience of working with students from another year, and from a range of practitioners.

In this course study programs will vary markedly, each exhibiting the particular objectives of the project. The studio may have a primary emphasis on one or, more of the following:
- a particular client and the involvement of that client;
- a particular site and responses to siting characteristics;
- theoretical considerations in exploration of architectural form and composition;
- the relationship of architecture to art, landscape architecture, urban design or planning;
- questions of social justice, ethics and architecture;
- heritage and conservation;
- ecologically sustainable design; and
- appropriate technologies.

Design D — 6 units

27052

Prerequisite Design A and B

Part 1: Medium Density Housing

Mr James

Classes studio group and/or individual tutorials, and site visits, lectures, formal and informal reviews

Assessment project (70 per cent of the Design D grade)

Objectives
Part 1 aims to give students experience of designing medium housing for a client group with specific needs, in a location where the site and surroundings have identifiable cultural value, and to:
- respond creatively to client needs and aspirations;
- develop an appropriate expressive architectural language for the project; and
- integrate construction and environmental knowledge in relation to buildings of low-rise construction in masonry and/or timber.

Outcomes
Students will gain knowledge and skills in cultural mapping techniques, post-occupancy evaluation techniques, client interview procedures, brief writing, architectural language appropriate to purpose, environmental strategies appropriate to purpose, the explicit linking of design intent to constructional and detailing expression, and interior and service design. Students will demonstrate a capacity to design housing which utilises and responds to these factors.

Assessment is based upon the degree to which the outcomes are achieved relative to a standard of comprehension and display of knowledge equivalent to a sub-professional capacity to gain useful employment in an architect's office. There are both qualitative and quantitative measures made by studio visiting practitioners and inherited standards imposed by experienced staff.

An understanding of the environmental, cultural and social context of (housing) design is central to this project. This understanding is achieved through contact with clients, post-occupancy evaluation of housing precedents, site appreciation studies, and cultural mapping of the locality. Emphasis is given to: understanding and interpreting clients' needs and aspirations; design brief and feasibility studies; planning and ergonomic considerations; interior design; compliance with regulatory requirements; environmentally sustainable strategies suited to residential buildings; the development of a residential architectural language.

Part 2: Design Dynamics

Dr Snodgrass
Classes The 'reflection in action' mode of learning is used.
Assessment is based on the quality of building design resulting from group work. This project accounts for 30 per cent of the Design D grade.

Objectives
To explore the nature of students' own involvement in the design process, in contrast to previous projects which have focused primarily on understanding and interpreting the needs of clients. This project makes use of the design pedagogy for developing professional skills, and of current thinking concerning the interdependence of understanding, interpretation and practice. Key elements of the project are the development of design ideas in the context of design dialogue, and active involvement in the development of fellow students' ideas.

Outcomes
Through this project students will develop skills in dialogue as both a designer and adviser/or critic, skills in responding to design dialogue with appropriate design decisions, and a critical vocabulary for discussing design problems and ways of designing.

Students will develop self-reflective awareness of design and will achieve a satisfactory design for a building.

Assessment is based upon the degree to which the outcomes"are achieved relative to a standard of comprehension and display of knowledge equivalent to a sub-professional capacity to gain useful employment in an architect's office.

Through the design of a small public building students will engage in a 'reflection in action' mode of learning. The work is carried out over a four-week period in small groups. The design process is a group effort, requiring collaboration, and a central aspect of the project is recording the dynamics of the group effort, including the experience of giving and taking criticism. Students are encouraged to develop their own critical vocabulary for discussing design problems and ways of designing.

Many of the issues discussed are revisited in greater depth in the course Design Theory and Method in third year.

Design Support D — 1 unit

27060
Dr Snodgrass, Mr James
Corequisite Design D
Classes lectures and discussion groups
Assessment is based on the report in Design D part 2. Marks will be allocated as follows: content (75 per cent); graphic presentation (25 per cent).

Objectives
This course will provide material relevant to Design D through lectures and discussion, instruction in the preparation of a report documenting the design process in Design D part 2, and will promote discussion on teamwork as part of the design process.

Outcomes
It is expected that the quality of projects in Design D part 1 will reflect instruction in Design Support D with respect to: understanding and interpreting the brief, awareness of medium density housing precedents, awareness of research in medium density housing.

Written reports for Design D part 2 will provide a commentary on the design process and demonstrate an analytical awareness of the process' of design, a critical and reflective assessment of collaborative work, ability in report writing and organisation, and graphic skills in the presentation of the report.

Assessment is based upon the degree to which the outcomes are achieved relative to a standard of comprehension and display of knowledge equivalent to a sub-professional capacity to gain useful employment in an architect's office.

Design Support D is divided in two parts. Half the course is allocated to lectures, discussion, and site visits that support the medium density housing project in Design D part 1, and half is for instruction and discussion on the process of designing in teams. The latter part of the course relates to Design D part 2 and recognises the importance of developing skills and expertise in collaborative work.

Design E — 6 units

37071
Prerequisite Design C and D

Parti: Mixed Use Three Storey Building

Dr Rubbo
Classes studio-based instruction, supporting lectures and site visits
Assessment project (50 per cent of Design E grade, and must be passed)

Objectives
To treat design, construction and the technical systems

equally in order to:
- design a building which satisfies social and environmental needs;
- develop knowledge about the design principles and technologies appropriate to a three-storey mixed-use building and their integration in a comprehensive design;
- develop knowledge about designing in context and being a 'good neighbour'; and
- develop knowledge of design composition for low-rise framed buildings with special reference to space, form and elevation.

Outcomes
It is expected that students will have a sound knowledge of:
- spatial planning principles;
- how to develop an appropriate architectural language;
- the processes of designing a building to fit a specific physical context;
- how to choose materials considering ecological, economic and aesthetic factors;
- regulatory requirements;
- appropriate structural systems and services, including awareness of ecological and life-cycle considerations;

and can demonstrate a capacity to design such a building to meet a client's needs, and reflect the above knowledge.

Designs will be assessed as to ho w well the solutions of the project use each of the knowledge outcomes to achieve each of the objectives.

Part 1 integrates material from the courses Construction B, Structural Systems Design, and Environmental Science and Technology B, and promotes a holistic approach to the design of a smaller urban commercial building.

Part 2: Elective Design (see also Design C)

Dr Rubbo, Mr James, visiting design practitioners
Classes studio-based instruction, supporting lectures and site visits. Alternatively, projects may be conducted off-campus in country or overseas locations.
Assessment project (50 per cent of Design E grade) requiring submission of a minimum of two Al drawings and a model

Objectives
Through projects offered by Faculty staff and visiting design practitioners part 2 (and Design C/part 2) introduces students to diverse design approaches and ideas, with the aims of:
- providing students with the opportunity to work on a project of their choice with an emphasis on one or more of the following design disciplines: architecture, conservation, urban design, landscape design, interior or component design;
- exploring design methodology through association with a range of experienced designers over two years;
- enriching students' educational experience through integrating second and third year design studios, and encouraging exploration and experimentation; and
- providing students with the opportunity to workin different ways and in diverse settings, for example, in traditional studios, intensive design programs at the University, or on location.

Outcomes
It is expected that through these practitioner-initiated projects students will:
- gain knowledge of varying approaches to design and practice;
- further their knowledge of design principles;
- develop their own philosophies and techniques; and
- benefit from the experience of working with students from another year and from a range of practitioners.

In this course study programs will vary markedly, each exhibiting the particular objectives of the project. The studio may emphasise one or more of the following:
- a particular client and the involvement of that client;
- theoretical considerations in exploration of architectural form and composition;
- a particular site and responses to siting characteristics;
- the relationship of architecture to art, landscape architecture, urban design or planning;
- questions of social justice, ethics and architecture;
- heritage and conservation;
- ecologically sustainable design;
- appropriate technologies.

Prerequisite Courses for the BArch

Design F 6 units

37133
Prerequisite Design C and D
Dr Rubbo
Classes studio, lectures and site visits
Assessment Part 1 project, including research and design components (40 per cent); Part 2 project, including schematic design and design development component (60 per cent)

Objectives
- To develop knowledge about, and basic skills in, the field of urban design;
- to integrate and apply previously acquired knowledge and skills in architectural design;
- to satisfy social, cultural and environmental aspects of the brief, and to demonstrate an ability to confidently propose, develop and communicate a design concept for a building of moderate size and complexity; and
- to integrate requirements of structure, construction and servicing.

Outcomes
Assessment requirements for part 1 will ensure a capacity to undertake and communicate relevanturban

design research, to apply key urban design concepts and place specific understanding to a project site, and adequately communicate urban design ideas.

Requirements for the design project assessment in part 2 will ensure an appropriate level of architectural communication skills, architectural judgement, and knowledge of basic design, structural, service and environmental principles.

This course has two interconnected parts. Part 1 is an urban design project with emphasis on designing for people in an urban setting. Through group and individual work, three activities are carried out: social and physical analysis; identification of design opportunities and constraints; and designpropositions grounded in analysis.

Part 2 is a project in two stages (schematic design and design development) for a moderately sized public building in the area of the urban design study.

Design Support F 2 units

37145
Dr Rubbo, Assoc. Prof. Maher, Mr Murty
Corequisite Design F
Classes lectures, computer laboratory tutorials and site visits
Assessment graduation portfolio based on overall graphic quality, range of work, resume and design statement (70 per cent) and CAD submissions (30 per cent)

Objectives
- To enhance outcomes in Design F through project-specific inputs;
- to improve employment opportunities through instruction in preparation of a graduation portfolio;
- to encourage imaginative, effective and confident self-representation; and
- to provide instruction in the use of 2D and 3D CAD for presentation and modelling a design project.

Outcomes
Assessment requirements will ensure that portfolios show a level of achievement and development adequate for seeking employment at a beginning level in an office. Emphasis is given to an integrated graphic approach in the portfolio, demonstrable 2D and 3D CAD skills, and the resume.

Design Support F is divided in two parts. Half of the course is allocated to lectures, demonstrations and visits that support Design F, and the knowledge and skills required for the preparation of a graduation portfolio. Half of the course is for instruction in CAD and the development of knowledge and skills that can be represented in the portfolio and, as appropriate, in DesignF.

Independent Study Electives

Design Elective A 2 units

37158-F (first semester)
37158-S (second semester)

Design Elective B 1 unit

37169-F (first semester)
37169-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: HISTORY AND THEORY OF DESIGN

History

The history courses indicate some of the past and contemporary theories of history and introduce some of the main current philosophies of history. The language of design discourse is introduced, continuities and changesindesignformsarediscussed, and the present relevance of earlier design processes and products shown.

Theory

The theory courses provide a general theoretical background for the design process. They are intended to show the range and variety of design ideas and their richness of meaning. They seek to develop a questioning attitude through informed and critical appraisal and investigate concepts' of relevance, meaning and value, and of evaluation, as they pertain to design.

Method

The courses in method introduce some of the main methodological approaches to design together with their theoretical bases and philosophical implications. They introduce basic concepts of typology and taxonomy.

Mandatory Courses

History of the Built Environment A 3 units

14003
Mr Howells
Classes lectures
Assessment log book (50 per cent) and essay (50 per cent)

Objectives
This course will introduce students to the historical context of the built environment comprising architecture, urban design and landscape design and to the theoretical background of the history of the built environment using a thematic rather than chronological structure. It will also examine Western and non-Western histories of the built environment.

Outcomes
At the end of the course the student will:
- demonstrate an understanding of the development of the built environment of Western and non-Western traditions;
- develop an awareness of the interrelationship between architecture, urban design and landscape design;

- develop an appreciation of the relevance of history in contemporary design of the built environment;
- demonstrate graphic and written skills in analytical writing; and
- demonstrate an acceptable level of achievement in writing academic essays.

The intended outcomes, achieved through inquiry, individual study and research, are demonstrated by each student by the successful completion of set assignments. As the course covers an extremely wide range of historical and theoretical knowledge in the related realms of architectural, landscape and urban design, the log book assignments have been designed so that a student can successfully demonstrate an understanding of Western and non-Western traditions of the built environment, including the inter-relationships between its components, by means of critical interpretations of setreadings, lecture material and accessible elements of the immediate built environment by means of the application of appropriate graphic and written communication skills. The essay assignment is intended to allow the student to successfully demonstrate an understanding of some aspects of the development of Western and non-Western traditions of the built environment and their relevance to the history of contemporary design by means of critical and analytical writing within the accepted standards of academic essay writing. Assessment criteria based on the course outcomes are used for the examination of the work.

The course introduces students to the broad development of Western and non-Western traditions of the built environment and their theoretical backgrounds with the principal focus being on architecture, urban design and landscape architecture. Rather than being a traditional, chronologically-based course, it is thematically structured. Areas covered include: twentieth-century landscapes, conservation, development of structure, language of non-Western architecture, language of Western architecture, historicism, decoration, adapted traditions, architecture and contemporary thought, and housing and society, which are used as the basis to explore particular aspects of the built environment.

The course is taught by illustrated lectures with class discussion, films, video, models and music, and, additionally for Arts and Fine Arts students only, by weekly seminars.

History of the Built Environment B 3 units

14019
Mr Howells
Classes lectures
Assessment log book (50 per cent) and thematic model (50 per cent)

Objectives
The course will introduce students to the historical context of the built environment comprising architecture, urban design and landscape design, and to the theoretical background of the history of the built environment using a thematic rather than chronological structure. Western and non-Western histories of the built environment will be examined.

Outcomes
At the end of the course the student will:
- demonstrate an understanding of the development of the built environment of Western and non-Western traditions;
- develop an awareness of the interrelationship between architecture, urban design and landscape design;
- develop an appreciation of the relevance of history in contemporary design of the built environment;
- demonstrate graphic and written skills in analytical writing; and
- demonstrate communication skills through the medium of an interpretive model.

The intended outcomes, achieved through inquiry, individual study and research, are demonstrated by each student by the successful completion of set assignments. As the course covers an extremely wide range of historical and theoretical knowledge in the related realms of architectural, landscape and urban design, the log book assignments have been designed so that a student can successfully demonstrate an understanding of Western and non-Western traditions of the built environment, including the inter-relationships between its components, by means of critical interpretations of set readings, lecture material and accessible elements of the immediate built environment by means of the application of appropriate graphicand written communicationskills. The model assignmentis intended to allow the student to successfully demonstrate an understanding of some chosen aspects of the development of Western and non-Western traditions of the built environment, based on the thematic structure of the course lecture program, and their relevance to the history of contemporary designby means of critical and analytical interpretation by means of an abstract model. Assessment criteria based on the course outcomes are used for the examination of the work.

The course introduces students to the broad development of Western and non-Western traditions of the built environment and their theoretical backgrounds with the principal focus being on architecture, urban design and landscape architecture. Rather thanbeinga traditional, chronologically-based the course, itis thematically structured. Course themes include: role of decoration, expression of geometry, manipulation of light, role of the plan, use of illusion, colonialism, development of technology, ideological movements, which are used as the basis to explore particular aspects of the built environment.

The course is taught by illustrated lectures with class discussion, films, video, models and music, and, additionally for Arts and Fine Arts students only, by weekly seminars.

Mathematics and Science in Design 2 units

14029
MrHayman
Assumed knowledge HSC 2 unit Mathematics
Classes lectures and tutorials
Assessment five assignments (10 per cent, 15 per cent, 20 per cent, 25 per cent, 30 per cent)

Objectives
The course aims to demonstrate relationships between

the rational tradition of mathematics and science in Western thought and design theory and practice, examine prerequisite knowledge and skills for later mandatory and elective courses and design practice, and encourage the use of mathematics as a modelling tool.

Outcomes
Each student should have facility with the following:
- familiarity with mathematical aspects of design theory;
- analysing and documenting problems systematically;
- justifying arguments rationally;
» utilising mathematical models in problem solving; and
- demonstrating these skills in a range of areas related to further study.

Each assignment uses a different context area, e.g. construction, and modelling technique, e.g. statistics, to explore particular knowledge and skills. Assessment of assignments will stress the generic skills of problem analysis, justification and documentation.

The design of the built environment has been strongly connected to developments in ideas and technology. Architecture, as a result, is a quantitative as well as qualitative discipline and requires an understanding of mathematics. This is, therefore, an introductory course inmathematics as it relates to design theory and practice. The major topics covered are mathematical model making, plane and three-dimensional geometry, proportional systems, analytical and transformational geometry and statistics.

History of the Australian Built Environment 3 units

37803
Mr Howells
Classes lectures and site visits
Assessment essay (50 per cent) and measured drawing assignment (50 per cent)

Objectives
- To examine the development of the Australian built environment, comprising architecture, urban design and landscape design from the era of European settlement to the present time, notably as the outcome of broad cultural, socio-economic and political climates through history;
- to develop knowledge of design relevant contemporary theory and practice in Australia;
- to create an awareness of the circumstances and conditions for living and therefore designing in Australia; and
- to develop an understanding of the significance and implications of Aboriginal and European heritage, and the influences of geographical factors on environmental design.

Outcomes
At the end of the course students will:
- be familiar with literature, buildings and places necessary for a basic understanding of the development of the Australian built environment;
- develop an understanding of the cultural concepts and beliefs, and geographical and climatic circumstances that led to the development of the existing Australian built environment;
- develop graphic skills in the preparation of measured drawings, and written skills in analytical writing; and
- develop an appreciation of the relevance of history in the contemporary design of the Australian built environment.

The intended outcomes, achieved through inquiry, individual study and research, are demonstrated by each student by the successful completion of set assignments. The essay assignment assesses the understanding of the development of the Australian built environment with particular emphasis on the issues of geographical, climatic and cultural factors, and an ability to apply this knowledge in critically understanding contemporary design of the Australian built environment, using written skills. The measured drawing assignment assesses the student's skill in understanding the conventions of and demonstrating graphicskills in the preparation of measured drawings. Assessment criteria based on the course outcomes are used for the examination of the work.

The course introduces students of the development of architecture, urban design and landscape design in Australia from the time of the establishment of European settlement until the present. The course has been structured thematically to explore such issues as the influence of British and Aboriginal building methods, the regional use of materials, the adaptation of fashionable ideas from abroad, response to geographic and climatic conditions, relationship of plan, form, texture and colour, vernacular forms of design, evolution of the Australian house, structural innovation, design in the public realm, urban development and Australian decorative arts. The course is taught by illustrated lectures and site visits.

Design Theory and Method 2 units

34036
Dr Snodgrass
Prerequisite Design A, B, C and D
Classes lectures and tutorials
Assessment class tests (20 per cent), tutorial involvement (20 per cent) and essay (60 per cent)

Objectives
The aims of the course are to:
- give students an understanding of what they are doing when they design, and how design activity proceeds;
- survey critically some of the more important theories concerning the nature of the design process, and relate these to design programs running concurrently with the course;
- clarify notions of design aims, procedures and outcomes, relating them to specific design programs;
- introduce students to contemporary thought in a range of disciplines as it relates to design activity; and

- locate design activity within a network of societal and historical interactions.

Outcomes
It is expected that at the completion of the course students will have achieved the following competencies: (1) a clearer understanding of what happens in the design process, (2) a knowledge of the various theories that have been advanced to explain and formalise the design process, and (3) an ability to view design activities in the context of contemporary thinking in a range of disciplines.

Weekly tests assess the overall understanding of readings concerning the nature of the design process, the theories explaining the design process, and the relation of contemporary thinking to design. The mark given for involvement in tutorials refines this assessment. The assessment of the student's understanding of more detailed aspects of the expected outcomes of the course is based on the essay.

The course provides an introduction to the broad issues of contemporary thought, and especially theories of knowledge and understanding, as they relate to design activity. It examines the theoretical bases of knowledge, historiography, science, art and design methods; introduces concepts of meaning, aesthetics and value; looks at design theory, analyses the concept of design, models of design and the teaching of design; and examines design methods and process, with emphasis on design aims, design media and languages of design.

History Elective Courses

History of the Built Environment A and B are prerequisites for all elective courses in this subject area.

History of Building Science 3 units

34182
Emeritus Prof. Cowan
Classes lectures
Assessment two assignments (25 per cent each) and a choice of examination or essay (50 per cent)

Objectives
To explore the history of architecture from the constructional and scientific point of view, and to study the development of scientific methods and their effect on architectural design.

Outcomes
At the conclusion of the course eachstudent is expected to know about the development of science and technology and understand its influence on the architecture of different ages. They will have studied one particular aspect of this development in depth.

The course examines the history of architectural science and its relation to history in general and to the history of architecture and of science in particular. The core problems of architectural science are studied from the earliest structural forms up to the beginning of the era of scientific structural design. The first part of the course concentrates on the period prior to the 19th century.

The second part is an examination of the history of architectural science in relation to general history and the histories of architecture and science during the 19th and 20th centuries. Topics covered include: the invention of steel and reinforced concrete construction, the development of rigid frame theory, the mechanisation of structural design, the revival of three-dimensional structures, new building materials, and the industrialisation of architecture.

History of Eastern Architecture 2 units

37806
Dr Snodgrass
Classes lectures
Assessment design, with explanatory text

Objectives
To introduce students to concepts of cultural interpretation and understanding by juxtaposing the principles underlying and determining the architectural forms of a number of Asian cultures with those which operate in the production of present-day Western architecture. This is done not only to introduce the student to unfamiliar forms of architecture, but also to use the unfamiliar as a means of bringing into focus and reassessing contemporary preconceptions concerning the nature and function of architecture. In this way the course aims to analyse the relevance of unfamiliar architectural concepts to contemporary practice.

Outcomes
It is expected that at the end of the course students will have an introductory knowledge of the principles operating in the architectures of a number of Eastern cultures; that they will be familiar with the manner in which these architectures relate to other aspects of culture; and that they will have an introductory familiarity with some aspects of the dynamics of cultural interpretation and understanding.

The assessment will be based on a model and/or drawings of a design for a building in an Australian setting. The building will translate the principles underlying one Asian architecture into forms having an Australian relevance. The design will be accompanied by a short text explaining the principles involved and the manner in which they have been translated. Assessment will be based on the degree to which the design successfully translates principles from one cultural setting to the other.

Lectures will examine the traditional architectures of India, Cambodia, Indonesia, China, Japan and Islam, showing how the architectural forms relate to and embody mythical, religious and cultural concepts, and indicating the principles determining the distinguishing characteristics of the architecture.

History of Landscape Design pre 1700 2 units

37804
Lecturer to be announced

Classes lectures
Assessment essay (3000 words)

Objectives
The course introduces students to some of the major landscape movements which have developed in both Eastern and Western cultures up to the end of the 17th century.

Outcomes
At the end of the course students will be more informed and equipped with an understanding of the major landscape movements of the past.

Beginning with the impact on the land of the prehistoric civilisations the course examines chronologically each of the major landscape design styles. The ways in which geographical, biophysical, social, political and economic factors have influenced landscape design are addressed in relation to their specific regional context.

History of Landscape Design post 1700 2 units

37805
Lecturer to be announced
Classes lectures
Assessment essay (3000 words for undergraduate students, 5000 for postgraduate students)

Objectives
The course will introduce students to some of the major landscape movements which have developed in various countries throughout the world during the last three centuries and will examine the design theories, personal philosophies and important works of some of the most influential designers who have been involved with the development of modern landscapes.

Outcomes
At the end of the course students will be more informed and equipped with an understanding of the major landscape movements of bur time.

Beginning with an overview of design styles fashionable in Europe and North America during the eighteenth century the lectures examine the changing social patterns and the expanding frontiers of development on a world-wide scale.

History of Urban Design pre 1800 2 units

37801
Prof. Webber
Classes lectures
Assessment 3 short assignments (10 per cent each), 1 group assignment (30 per cent) and 1 main assignment (40 per cent)

Objectives
The course aims to provide an introduction to the most significant urban forms throughout history as reference sources for future work of students, to encourage familiarity with the basic reference material related to each historical period, and to discuss the relevance of historical precedents for our own time and our own work.

Outcomes
At the conclusion of the course students will be familiar with a typical range of important historic places and cities, understand their genesis, and be able to use this material creatively in their future work.

Students will be required to demonstrate this familiarity and understanding through their course assignments.

The course is concerned with the evolution of ideas and principles of urban design and with the relationship between society and the formal organisation of the urban environment. It explores these ideas and principles through analysing the development of urban places and spaces from early civilisations to the end of the 18th century. The main emphasis is upon Western civilisations, with some references to other cultures.

With usually relatively large groups a lecture/ slide/discussion format is followed together with introduction of video material and study of maps of historic cities.

History of Urban Design post 1800 2 units

37802
Dr Armstrong
Classes lectures
Assessment 4 assignments (25 per cent each)

Objectives
The course aims to provide an introduction to the most significant urban forms throughout the 19th and 20th centuries as reference sources for future work of students, to encourage familiarity with the basic reference material related to each historical period, and to discuss the relevance of historical precedents for our own time and our own work.

Outcomes
At the conclusion of the course students will be familiar with a typical range of important historic places and cities, understand their genesis, and be able to use this material creatively in their future work.

Students will be required to demonstrate this familiarity and understanding through their course assignments.

The course is concerned with the evolution of ideas and principles of urban design and with the relationship between society and the formal organisation of the urban environment. It explores these ideas and principles through analysing the development of urban places and spaces during the 19th and 20th centuries. The main emphasis is upon Western civilisations, with some references to other cultures. With usually relatively large groups a lecture/ slide/discussion format is followed.

Renaissance to Baroque Architecture in Italy 2 units

34193
Mr Korzeniewski
Classes lectures and tutorials
Assessment a study of a well-documented work from this period by means of sketches, drawings and models

Objectives
The course will introduce students to the works and ideas of this important traditioninarchitectural history and provide an opportunity to study one of them in detail.

Outcomes
Following from above, an increased ability to understand architectural ideas and their resolution in the made work, and increased skill in sketching, " drawing and model-making.

This is achieved through the assessment on the basis of the quality of thought and work done as well as notebooks with sketches done during lectures.

This course is concerned with architectural approaches to the making of buildings, civic spaces and gardens in this important period of architectural achievement. The works of some of the great architects of the 14th to 18th centuries: Brunelleschi, Alberti, Michelangelo, Palladio, Borromini, Bernini and Guarini, are examined in some detail. Reference is made to Greek, Roman and medieval precedents and the urban Italian tradition, which was the setting in which the Renaissance flourished.

Theatre Design and History 2 units

37861
Assoc. Prof. Thorne
Classes lectures, seminars and site visits
Assessment seminar paper (25 per cent), end of semester essay (50 per cent) and a descriptive analysis of attending a required performance (25 per cent)

Objectives
The course will teach the student about the place of theatre (including cinema) in society, how this developed and changed and how the design of the buildings or venues have reflected the changes over time in Western society, in particular; and what the total experience of attending a theatre involves.

Outcomes
Students will know the general attributes of the viewer/viewed system inherent in passively viewed performances (live and cinematic), how they have been treated historically, and how they apply today. They will also know how the experience of attending a performance goes beyond simply sitting in an auditorium and watching it — what comprises a 'sense of occasion' in the theatre.

The seminar paper requires each student to research a different topic and present it verbally and in written form, based on the first outcome, with each student learning from each other's efforts. The descriptive analysis will be of a required attendance at a theatre performance at the time and should produce the second outcome. The end of semester essay will be an overview to cover both outcome statements.

The course will cover theatre forms from Greek and Roman to the eclectic use of viewer-viewed formats of today. The rise of cinema out of a vaudeville-variety tradition will be traced together with evidence to show that cinema buildings from the 1920s to 1950s are possibly the most socially significant buildings of their time. Theatre design shall be partly explained through site visits to existing venues. (These may require visits out of class times to fit with the theatre managements.) Attendance at least at one theatre performance will be required. (This will be according to a list providing some choice relevant to when the course is conducted.)

Special Topics in Architectural History and Theory A 2 units

37858-F (first semester)
37858-S (second semester)

Special Topics in Architectural History and Theory B 1 unit

37859-F (first semester)
37859-S (second semester)

For current offerings, refer to the department.

Theory Elective Courses

Mathematical Modelling for Designers 2 units

34278
MrHayman
Prerequisite Mathematics and Science in Design
Classes lectures and tutorials
Assessment assignment (100 per cent)

Objectives
To demonstrate a range of mathematical models that can be applied to the analysis of problems in architecture and architectural science, to explore the appropriateness of data collection and analysis techniques and to provide support for research programs.

Outcomes
Students should be familiar with a range of mathematical modelling techniques, be able to demonstrate the application of at least one of these techniques to a problem in design or practice and be able to utilise appropriate data collection and analysis techniques.

The assignment draws upon a research case study in either design or practice for primary data. Data description, exploration and analysis will be carried out to find appropriate techniques for the research questions posed.

This course expands the repertoire of mathematical models fromintroductory courses such as Mathematics and Science in Design in providing mathematical research tools. Models drawn from will include calculus, matrix algebra, optimisation and statistics. Additionally, emphasis will be placed on models for managerial decision making, e.g. critical path analysis. The use of computer-based tools is encouraged.

Science and Society 2 units

32275
Mr Hayman
Classes lectures and seminars
Assessment assignment (100 per cent)

Objectives
The course aims to develop an appreciation of the history of Western science and its impact on Western thought, explore the impact of science on the practice of building and architecture, and encourage self-directed research and communication of ideas.

Outcomes
Students should be familiar with the history and philosophy of the Western scientific tradition and its impact on the practice of building and architecture. They should also be able to carry out and communicate a small-scale, self-directed, research report.

The scope covered by the lectures allows students to explore the research potential of a particular area of interest, within the domain of the course. The seminars provide students with a more public environment to communicate their ideas.

This course provides a contextual alternative to the specificity of most courses within the technical postgraduate program. It is an introduction to the study of science and covers the major philosophical developments in Western scientific thought from its Greek foundations. Topics covered include medieval science, the Enlightenment, the Darwinian revolution and 20th century critiques of science. Part of the course looks at the impact of science on the practice of building and architecture.

Statistics in Environmental Design 2 units

31274
Mr Hayman
Prerequisite Mathematics and Science in Design
Classes lectures
Assessment assignment (100 per cent)

Objectives
The course aims to demonstrate the range of statistical tools that can be applied to the analysis of problems in environmental design and person-environment studies, to explore the appropriateness of data collection and analysis techniques, and to provide statistical support for research programs.

Outcomes
Students should be familiar with a range of statistical tools, be able to demonstrate the application of these tools to a problem in environmental design and/or person-environment studies and be able to utilise appropriate data collection and analysis techniques.

The assignment draws upon a research case study in either environmental design or person-environment studies for primary data. Data description, exploration and analysis will be carried out to find appropriate techniques for the research questions posed.

Many problems in environmental design and person-environment studies require data collection and analysis. Many such data, especially those concerned with human response, can only be effectively analysed with statistics. This course covers data gathering, descriptive, inferential and predictive statistics as well as an introduction to multi-variate techniques. The use of computer-based tools is encouraged.

Independent Study Electives

History and Theory Elective A 2 units

34301-F (first semester)
34301-S (second semester)

History and Theory Elective B 1 unit

34312-F (first semester)
34312-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: MATERIALS, STRUCTURE AND CONSTRUCTION

This area covers structural and construction principles employed in the built environment. It provides knowledge and skills sufficient to detail the design of a small-scale building, and to understand construction and structural systems for larger buildings.

Mandatory Courses

Materials and Form in Building 2 units

13003
MsSodersten
Classes lectures and studio tutorials
Assessment assignments

Objectives
The course aims to introduce the primary construction systems of the elements of small-scale buildings, and the construction of a building as an aspect of 'expression' in architectural language. It will develop skills in applying the knowledge of basic construction systems to simple building designs.

Outcomes
At the successful completion of the course, the student will have demonstrated:

- the ability to identify the construction systems of typical simple small-scale buildings;
- a broad knowledge of the components of those systems;
- a basic knowledge of the common materials of those systems;
- an ability to apply the knowledge of the primary construction systems to the design of a small-scale building as an aspect of the architectural language of 'expression';
- abasicunderstandingof the principles and elements of the construction system of a small framed building; and
- appropriate communication skills.

The outcomes of the course are achieved through inquiry and by means of assignment tasks. As the course surveys the knowledge in the field and then requires its application in particular cases, the assignment tasks fall into two sections, reflecting this structure, assessing firstly the comprehensiveness of such a survey and the indication of an understanding of the basic types of system. The second sectionassesses understanding of the systems and an ability to apply this knowledge in designing, and requires the evaluation, development and testing of the design and proposed construction of a small building. Assessment criteria based on the course outcomes are used for examination of the work.

The course uses a combination of weekly lectures and studio tutorials, together with site visits, to introduce the primary construction systems of small-scale building, and to develop an ability to apply this knowledge to the design of small-scale buildings. The emphasis of the first lecture-based part of the course is on broad knowledge of the systems, while the second studio-based part emphasises the understanding and use of these systems in particular designs.

Building Principles 3 units

14667
Assoc. Prof. Smith
Classes lectures, tutorials and laboratory classes
Assessment examination (40 per cent), tutorial assignments (30 per cent), site visit report (10 per cent), laboratories (20 per cent)

Objectives
The course aims to introduce students to the concepts of structural sufficiency and the principlesof structural materials and building structural systems, to a level sufficient to cope with simple design problems at the beginning of second year.

Outcomes
At the complerionof this course the studentis expected to:
- know how to perform simple experiments for determining material properties;
- know about the physical properties of materials, and know how to use those properties relevant to structural performance;
- understand loads and the principles of load paths and the need for feasible load paths in the design of buildings;
- understand axial loads and stresses, trusses, beams and bending;
- be able to analyse simple trusses and simply supported beams, to determine bending and shear stresses, and to determine deflections for simple cases; and
- be able to use a simple computer package for analysing plane structures.

The course first introduces the ideas of structural sufficiency for the building as a whole and each of its parts, followed by a brief study of the properties of materials and materials testing.

The course then introduces loads and forces, and studies the equilibrium of elements and free bodies, including moments and the resolution of forces, and the,graphical representations of internal actions in shear force and bending moment diagrams.

The requirementof structural performance in linear structural systems is introduced through theproperties of cross-sections of members, and the selection of sections in relation to the properties of the material.

The course provides the knowledge to select structural assemblies of linear elements, and to select sizes for these elements, for simple configurations and loading conditions.

Construction A 3 units

23027
Dr Holland
Prerequisite Building Principles and Materials and Form in Building
Classes lectures, seminars and studio tutorials
Assessment first semester: assignment (40 per cent), seminar
- (10 per cent), second semester: assignment (50 per cent)

Objectives
- To examine the construction of the primary elements of the fabric of small-scale buildings, using principally timber and masonry materials;
- to introduce the principles of the performance of structure, materials and construction in relation to stability, soundness, waterproofing, maintenance and basic insulation of the fabric of small-scale buildings;
- to introduce the application of the requirements of the relevant statutory Australian Standards to the construction of small-scale buildings in timber and masonry, and to drawing practice;
- to introduce the notion that specific appropriate design intentions can be expressed in the details, the elements, the structure, construction and materials of the building fabric; and
- to develop skills in freehand and accurately drafted drawing, principally annotated details drawn to scale, to design and to communicate the materials and construction of components and junctions.

Outcomes
At the end of the course, the student will:
(i) be familiar with the process of researching construction systems and details of junctions and components, including the relevant SAA codes;
(ii) have demonstrated skills in research, in investigation, observation, deduction and analysis, sufficient to have compiled accurate information on current accepted and required construction practice in relation to materials, structural systems and typical standard detailing of the typical primary components and junctions of the major elements of small-scale buildings, primarily in timber and masonry;
(iii) have demonstrated a knowledge of the basic principles of performance of the fabric of a small-scale timber and masonry building, through analysis and application to an individually designed and detailed building;
(iv) have demonstrated the ability in their work to

make an explicit link between design intentions and their realisation in the structure, materials and construction of a small-scale building, primarily of timber and masonry; and

(v) have demonstrated the ability to draw clearly to scale, using the appropriate conventions, to communicate structural systems and construction, and to draft and annotate accurately large-scale details having regard to the conventions of the AS drafting code.

The structure of the semester one assignment and seminar is designed to achieve outcomes (i), (ii), (iii), and (v). The semester two assignment is designed to achieve outcomes (iv) and (v).

The course examines three major 'zones' of typical small-scale buildings: footing/floor/wall; roof/ ceiling/wall; timber and aluminium windows and doors/wall/floor/ceiling. It includes: materials and their characteristics including the concepts of environmental sustainability; structural systems, introductory sizing, constructional and structural compliance with relevant selected SAA codes; waterproofing and flashing; insulation; typical standard details and junctions of materials and components within and between elements. It relates these zones through integration with a design project.

Structure and Form 2 units

23035

Dr Gunaratnam

Prerequisite Materials and Form in Building and Building Principles

Classes lectures, tutorials and laboratory classes

/lssessmOTtwrittenexamination(35percent),model assignment (20 per cent), structural synthesis assignment (15 per cent), tutorials (15 per cent) and quizzes (15 per cent)

Objectives

- To introduce students to a variety of structural elements — types, structural actions and approximate behavioural models — available for assembling structural systems and subsystems for buildings;
- to explore (i) the different ways structural elements can be assembled to form different structural assemblies and subsystems used in buildings and (ii) the influence of the level continuity between elements on the behaviour of the structural assemblies and subsystems;
- to introduce students to behavioural models, mainly qualitative, available for understanding and predicting the behaviour of the different structural assemblies;
- "•" to explore the concept of structural efficiency and the factors that contribute to it — in particular the relationship between structural form, structural action and structural efficiency; and
- to provide students with experience in the synthesis of structures using the computer, and in the construction and testing of physical structural models.

Outcomes

Atthecompletionof the course eachstudentisexpected to:

- be cognisant of the different structural elements and systems available for buildings;
- have a good understanding of how the basic structural elements and structural types behave under loads;
- be able to make qualitative and limited quantitative predictions about the behaviour of structural elements and some simple structural assemblies;
- have an appreciation of the relationship between structural efficiency, structural form and structural actions;
- be familiar with some of the structural design issues that influence structural decisions in buildings; and
- be able to synthesise simple building structural systems using computational aids.

The above course outcomes provide the basis for the different assessment tasks.

The course further examines the relationship between the loading on building structures, their forms and their constituent materials and assemblies. It extends the repertoire introduced in the course Building Principles and aims to convey an essentially complete understanding of structural form in architecture. Topics include: continuity in structures; funicular form; tension systems; compression systems; plane surface structures; curved surface structures; and structures in history including the ideas of line and curve, frame and envelope as structure.

Prerequisite Courses for the BArch

Construction B 4 units

34719

Mr Wheeler

Prerequisite Structure and Form and Construction A

Classes lectures and seminars

Assessment four-part assignment, based on Design E, project 1, involving the design and detailing of a medium-sized building. Part A: graphic analysis of the Building Code of Australia (10 per cent); part B: a sketch design of the building to respond to Part A (20 per cent); part C: case studies of the existing details that relate to details in the design (40 per cent); and part D: working drawings of the design (30 per cent)

Objectives

The following aims are pursued within the context of a medium-sized building:

- to examinetheconstructionof theprimary elements of the fabric of buildings using principally steel and concrete;
- to develop the principles of the performance of structure, materials and construction in relation to stability, soundness, waterproofing, maintenance and basic insulation of the fabric;
- to introduce the application of the requirements of the Building Code of Australia and relevant statutory Australian standards to the construction of buildings in concrete and steel;
- to develop skills in freehand and accurately drafted drawings, to the standard of a set of working drawings;
- to examine the historical development of masonry,

steel and concrete as construction materials; and
- to develop the design principles of standard construction materials in relation to structural and environmental concerns.

Outcomes
Students will have:
- a working knowledge of construction methods for medium-sized buildings;
- knowledge of construction detailing as a design activity and methods of conceptualising construction methods during design;
- a working knowledge of the Building Code of Australia and its application in medium-sized building design;
- an introductory knowledge of historical developments of construction;
- an introductory knowledge of the characteristics and design principles of advanced construction materials;
- an introductory knowledge of the relationships between construction detailing and structural and environmental concerns; and
- a working knowledge of theproduction of working drawings.

Each assignment is structured to exercise the learning and develop the ability of each student for one or more of the above outcomes within the context of a medium-sized building design.

The course addresses construction and structural systems knowledge for medium-sized buildings on the basis of 'knowing about' rather than 'knowing how', and is primarily concerned with the design process and procedures for construction detailing. A performance-based approach is related to a repertoire of materials and systems, and issues of constructability and resource management are introduced. The course knowledge is contained in four themes, namely: strategic planning for building construction design; the role of building codes and their influence on building design and construction; an historical survey of building processes; construction detailing for medium-sized buildings.

Structural Systems Design 2 units

34772
Dr Gunaratnam
Prerequisite Construction A and Structure and Form
Classes lectures, tutorials, site visit and laboratory classes
Assessment assignment

Objectives
- To introduce students to the different stages in the structural design process;.
- to explore the structural decisions associated with the synthesis and preliminary design stages of the design process;
- to introduce students to strategies and information required for the synthesis of efficient structural systems;
- to introduce students to the structural design philosophies and provisions in the load and material codes of practice;
- to familiarise students with the different representations of structural design information and to explore their use in structural decision making;
- to present information on the different types of structural joints and the principles behind their design and detailing; and
- to provide students with experience in making structural decisions within the context of a building design.

Outcomes
At the completion of the course each student is expected to:
- have a good understanding of the different stages in the structural design process;
- have a good understanding of the design philosophies on which the current codes of practice are based;
- be able to collect appropriate information and formulate the structural design requirements for a medium-scaled building;
- be able to generate a number of alternative structural systems that satisfy the design requirements and to evaluate them to arrive at a final design;
- be able to use the appropriate design aids and codes of practice to arrive at suitable approximate sections for structural elements in concrete, steel, timber and masonry; and
- be able to detail structural connections in concrete, steel and timber for the transfer of specific structural actions.

The above course outcomes provide the basis for the different assessment tasks.

The course provides information for making structural decisions within the context of building design. It examines the different stages in the structural design process and explores the means of integrating the different types of structural knowledge with the information available in the various codes of practice to arrive at an appropriate structural system for medium-scaled buildings. It considers the different representations of structural design knowledge available for making structural decisions and provides experience in their use.

The course is structured around three major topics: structural design process; structural design codes; and structural design information.

Elective Courses

Cost Planning and Control 2 units

33059
Dr Holland
Classes lectures
Assessment 2 assignments (45 per cent each) and class tests (10 per cent)

Objectives
The course will outline the principles and techniques of cost planning and control, including feasibility studies, methods of finance, costs in use, and the role of the architect and quantity surveyor.

Outcomes
The student will understand the influence of cost issues on building design, understand factors influencing initial cost and costs in use, and be aware of the roles of quantity surveyor and other consultants.

The assignments will emphasise the first two outcomes.

The course outlines the principles and techniques of cost planning and control, including feasibility studies, estimating, methods of finance, costs in use, the Australian Standard Method of Measurement of Building Works, and the role of the quantity surveyor.

Object Design and Construction 2 units

31003
Dr Holland
Prerequisite Workshop Technology — Timber
Quota 24 students
Classes tutorials and workshops
Assessment assignment

Objectives
The aim of this course is to develop design and making skills and to increase the understanding of the relationship between them. The course is also designed to increase ability to communicate intentions through drawings.

Outcomes.
The student will gain an understanding of the relationship between designing and making, and develop knowledge of materials and their working.

The documentation and object made show the outcomes.

Each student designs and draws an object, and makes it. Tables, chairs, beds and light fittings have been made in previous years. Any materials can be used but the student must bear in mind their own, and the workshop's limitations.

Each student should choose a full-time member of staff to tutor the design's development and making. The workshop's technicians will also tutor the development and making and likely further design developments during making.

Structures Theory 2 units

33068
Dr Gunaratnam
Prerequisite Structure and Form
Classes lectures, tutorials and computer laboratory sessions
Assessment structural modelling assignment (30 per cent), casestudy(30per cent), and a computer-aided design (40 per cent)

Objectives
- To introduce students to a number of the general techniques and methods available for the analysis of structures;
- to provide students with experience in extracting approximate structural analysis models from a three-dimensional skeletal structure for a building, and to explore the effect of the levels of idealisations and abstractions on the accuracy and performance of these models;
- to introduce students to the detailed design methods recommended in the material codes of practice for the different structural elements usually occurring in buildings; and
- to provide students with experience in computer-aided design of skeletal building structures using some of the state-of-the-art structural analysis and design programs.

Outcomes
At the end of this course eachstudent is expected to be:
- familiar with a number of the basic structural analysis methods and techniques and be able to apply some of them to solve simple structural analysis problems;
- cognisant of the bases for the provisions in the material codes of practice for the detailed design of the more common structural elements, and be able to carry out detailed design of some of these elements using the design handbooks and computer-based design aids;
- familiar with the internal structure and implementation issues relating to some of the computer-aided structural analysis and design tools that are presently available; and
- able to (i) select appropriate idealisations of building structures and model them on a computer as 2D or 3D skeletal structures, (ii) validate and interpret the computer results using simple behaviouralmodels, and (iii) use the computer results to arrive at a final design for the structure.

The above course outcomes provide the basis for the different assessment tasks.

This course extends the theoretical basis for the analysis of structural responses and the satisfying of performance criteria, and links these with practical methods and computer-based tools for the exploration of structural design. It complements the survey of building structure morphology presented in the prerequisite course Structure and Form and thus leads to a fuller understanding of the provision of adequate building structures in architecture.

The types of structural response are reviewed. Loadings and performance criteria are equated with the limit state approach to strength and serviceability. Bending theory is extended to encompass torsion and general frame behaviours. Stress and strain analysis is taken on to three-dimensional continua. Computer-based analytical tools are introduced and used interactively in a project for the exploration and design of a building structure.

The Building Industry in Australia 2 units

31261
Dr Holland
Classes lectures, seminars and site visits
Assessment 1 seminar/assignment

Objectives
The course will increase the understanding of the organisation, structure and operations of the building industry,includingbuildingmaterials' manufacturing, and will explore the present and future role of architects in it.

Outcomes
The student will gain an understanding of the interrelationships between the factors that influence the industry, be exposed to some organisations in the industry and increase their understanding of the role and influence of architects.

The seminars will demonstrate the student's understanding of lecture material and other sources, and the assignment their ability to write about it.

The course presents an overview of the building industry including its role in the national economy, the nature of organisations and processes that produce buildings, the role of various organisations within the industry, e.g. manufacturers, builders, unions. The present and future role of architects is described. Students present seminars at some of the organisations studied.

Workshop Technology — Timber 2 units

35088
Dr Holland
Quota 4x14 students
Classes workshop
Assessment 1 assignment

Objectives
The objectives are to develop an understanding of the working, jointing and finishing of timber, to develop an understanding of the use and behaviour of hand and power tools, and to learn safe workshop practices.

Outcomes
The student will understand the working of timber and learn tool use and safe workshop practices.

The object made will be assessed for quality of workmanship including accuracy of cutting, jointing and gluing. Assessment of the student's performance in the workshop will include skill development, care of tools, and understanding and use of safe practices.

The working, jointing and finishing of timber, the use and behaviour of hand and power tools, and safe workshop practices are demonstrated and done. A small object such as a box is made.

Independent Study Electives

Materials, Structure and Construction Elective A 2 units

33093-F (first semester)
33093-S (second semester)

Materials, Structure and Construction Elective B 1 unit

33101-F (first semester)
33101-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: SOCIAL CONTEXT OF DESIGN AND THE BUILT ENVIRONMENT

This area draws on a number of disciplines and includes the study of: environmental perception and cognition; socio-spatial related behaviour; means of articulating environmental needs including consultation and participation; the socio-economic, political, legislative and (cross-) cultural considerations influencing the form of habitats with an emphasis on Australian cities; and the interface between the design professions and society, including the ethics and responsibilities of the design professional.

Mandatory Courses

People and the Environment 3 units

11005
Assoc. Prof. Purcell
Classes lectures
Assessment 3 assignments (equally weighted)

Objectives
The objectives of the course are to:
- give participants an overview of the complex relationship between people and everyday and designed environments;
- present knowledge relating to the design of objects and their settings from a modern ergonomic viewpoint and to establish the relevance of this approach for design;
- examine the impact of the basic processes relating to sensory thresholds and adaptation on design;
- review the properties of central and peripheral vision and relate these to the experience of detail and colour, on one hand, and the experience of the large-scale visual world and its properties on the other;
- review the characteristics of and the basis for our experience of surfaces and the role surfaces and lighting play in design;
- review material related to our experience of objects and groups of objects and to relate this to design of objects at all scales; and
- review knowledge relating to our experience of a three-dimensional world and the connection between the experience of depth and size and how this relates to the issue of scale in design.

Outcomes
Participants will have a knowledge of the concepts and principles involved in each of the above areas and how they can be related to specific examples of everyday and designed environments. They will have used this knowledge to analyse and evaluate examples of environments and have gained an understanding of how these basic processes underpin more complex aspects of experience such as symbolic meaning and similarities and differences between cultures.

Assessment of the course is based on three assignments. Each requires that participants apply knowledge from one or more of the areas outlined above to analyse and evaluate an example of a designed environment of their choosing.

The results of the architectural design process become, when built, the spaces and places that we experience and use and where we interact with others. An understanding of the complex sets of relationships between people and buildings can, as a result, both inform the design process and form the basis for an evaluation of a design proposal or an existing building.

Habitat and Society A — 2 units

21023
Dr Lamb
Prerequisite People and the Environment
Classes lectures and discussions
Assessment major essay assignment integrated with Design C (40 per cent), short answer test (30 per cent) and final assignment (30 per cent)

Objectives
The aims of the course are to develop a critical understanding of the ecological context of architecture, relate the objectives of ecologically sustainable design to design learning, develop skill in the assessment of ecologically appropriate building methods and materials, and relate ecological sustainability to urban planning at an introductory level.

Outcomes
Students will develop skill in the ability to critically examine their own designs, evaluating the relative merits of building designs, systems and materials from an ecologically sustainable design perspective, and researching the environmental impacts of design at levels from site planning to sketch design.

Students are assessed on their ability to demonstrate skill in reflection on their own design thinking. Assignments evaluate the ability of students to critically evaluate options in design and planning from an ecologically sustainable viewpoint. Tests evaluate students' ability to relate knowledge about the envkonrnentalirnpactsofarchitecturetodesignactivity.

The course will consider the following: the ecological contextof design and case studies on the environmental impacts of buildings; the operation of ecosystems with natural and human attributes — the ecological impacts of building materials and systems; good design practice, including the protection and enhancement of biodiversity, choice of friendly materials and systems, use of ecological environmental controls, trade-off as a method of choice; and a critique of urban consolidation and Ecologically Sustainable Development — introduction to the planning framework and its role in environmental control — the role of architects in sustainability.

Habitat and Society B — 2 units

21045
DrRubbo
Prerequisite People and the Environment
Classes lectures and discussion
Assessment in-class test (10 per cent), 2 assignments (30 per cent, 60 per cent)

Objectives
- To increase awareness of the relationship between habitat (place) and society (people);
- to enhance awareness and skills in involving people in the design process; and
- to explore issues of social responsibility in relation to the design process and the making of architecture.

Outcomes
Assessment requirements will ensure a familiarity with the literature in the field and an understanding of key concepts, an ability to apply knowledge, and skills in participatory design processes.

Using a cross-cultural approach two main themes are covered. Theme A covers theory and practice in participatory processes, and the development of skills. Theme B illustrates the ways in which social and cultural ideas help shape the built environment. Through example, belief, systems, power, politics, gender, class, ethnicity and life-cycle issues are considered in relation to selecting building types and environments in the developed and developing world.

The Design Professions — 3 units

31082
Dr Billings and guest lecturers
Classes lectures and seminars
Assessment 3 assignments: (1) a practitioner interview and an essay (40 per cent), (2) requires answers to a set of questions concerned with hypothetical ethics (25 per cent) and (3) a 2000 word essay on the rights and responsibilities of design professionals (35 per cent)

Objectives
The course provides an introduction to the contexts of professional practices in the design professions* in particular architecture, and includes: the range and diversity of professional roles; management and organisational structures; legal aspects of professional practice; the social, ethical and environmental responsibilities of design professionals; and conflicts between the theory and practice of designing.

Outcomes
At the end of the course students will have knowledge of the nature of design practices and professional roles; organisational frameworks, management and legal practices. They will have developed an inquiring attitude about the ethics of design professional practice, in order to use this knowledge in their work experience in their practical year (first year of the BArch).

The work done should indicate, in a progressional way, the degree to which a student has a clear perception of what a design professional does, within what formal structures of organisation, ethics and the laws and statutes governing the designed enyironment, and with reference to architects, the building industry, and regulatory bodies.

The course examines the nature and range of design disciplines and the roles of individuals, in a professional context, with particular reference to the built environment and to architecture. It includes knowledge of office management theory, practice and organisational structures; ethical concepts and their application; legal concepts and structures as applied to design and the built environment and as effecting the operations of a designer; the roles and

responsibilities of all parties in the creation of a building.

Elective Courses

Colour Design 3 units

37799
Assoc. Prof. Purcell
Prerequisite People and the Environment
Quota 30 students
Classes lectures and computer based design sessions
Assessment 3 assignments (weighted 10,30 and 60 per cent)

Objectives
The course has five objectives:

- to teach participants ho w to use computer software which allows the manipulation of the colour of both photographic and graphic images;
- to integrate the available knowledge about the way colours are experienced into a number of design exercises;
- to use the capacities of the computer to explore the interaction between colours using simple graphic images;
- to carry out a colour design exercise involving the design of a simple artefact such as a lapel badge, letterhead or package; and
- to design a series of colour schemes for a building facade.

Outcomes
On completing the course participants will have:

- developed a sufficient level of skill in using a computer to generate graphic images, and to manipulate the colour of those images, in order to develop a series of colour designs efficiently and effectively;
- carried out a series of exercises investigating both fundamental aspects of the way we experience colour (colour interaction via contrast) and more complex aspects of colour experience (preference, familiarity, exciting-calming);
- designed a small-scale artefact for a particular client that integrates knowledge about the way colour is experienced into a particular design context; and
- designed colour schemes for the facade of an existing building in an inner city context for two different client groups with different requirements, again using the knowledge available about the way we experience colour.

Assessment will be based on the three colour design assignments. The first involves the investigation of colour interaction. The second involves the design of a simple artefact. The third involves a series of colour designs for a building facade.

Whenever a designer specifies the materials to be used in a building, decisions about colour are automatically involved. This occurs whether or not the designer thinks about the decisions made in this way. Colour also has a major impact on our experience of a building. Knowledge about how people experience colour can be used both to develop a design and to evaluate design decisions. The course involves using such knowledge to develop a series of colour designs.

Cross-Cultural Approaches to Architecture and Planning 2 units

33198
DrRubbo
Prerequisite Habitat and Society A and B
Classes seminars
Assessment class presentation and participation (50 per cent), 2500 word essay (50 per cent)

Objectives
This course will encourage imaginative and lateral thinking approaches to issues of cultural diversity. It will enhance students' employment opportunities and workplace effectiveness through knowledge of architectural and planning practices in cross-cultural settings and understanding of social and cultural sustainability in environmental design.

Outcomes
Seminar participants will enhance their knowledge of cultural difference and its significance for environmental design, and increase their capacity to understand, interpret and act effectively in areas related to the design planning, protection and conservation of the built environment for diverse cultures in developed and developing economies.

This seminar seeks to expand participants' knowledge of cultural factors in relation to the processes and practices of environmental design in developing and developed economies. Drawing on examples from Asia, Latin America, Africa and Australia the focus of the course will be the relationship between culture and architecture, development policy, the economics and politics of settlement, and the often conflicting role facing professionals as a result of class differences and ethnic diversity.

Design and Consultation 2 units

31262
DrRubbo
Prerequisite Habitat and Society B
Classes seminars
Assessment class presentation and participation (50 per cent); 2500 word essay or field work project (50 per cent)

Objectives
This course will further explore people-oriented approaches to environmental design.

Outcomes
Students will enhance their knowledge of, and gain skills in, consultative and group processes in design; and enhance their employment opportunities and workplace effectiveness through capacity to apply these skills.

This seminar seeks to expand participants' knowledge of, and skills in, consultative processes including active listening, participant observation, interviews, focus groups, mediation, conflict resolution, appropriate representation, and the generation of ideas amongst diverse stakeholders — e.g. colleagues, clients,

communities, authorities — and increasingly diverse design disciplines — architecture, landscape architecture, urban design, visual, digital and plastic arts, urban, regional and cultural planning, and services. Case studies will focus on the opportunities and constraints consultation affords design and planning processes.

Knowledge Structures in Design 3 units

37800
Assoc. Prof. Purcell
Prerequisite People and the Environment
Quota 30 students
Classes lectures and research project
Assessment assignment (100 per cent)

Objectives
The objectives of the course are to (1) present the results of research concerning the nature of knowledge structures and their development, (2) examine models of the processes through which emotion is generated and their relationship to knowledge structures, (3) review research which links knowledge structures and models of emotion to our experience of buildings and places, and (4) examine the possible nature of specific designer knowledge structures and their role in the design process.

Outcomes
Participants in the course will have an understanding of how knowledge structures develop and the role they play in our experience of the environment generally. They will have examined how this knowledge could be applied in the design of a variety of types of buildings, and will have used this knowledge to analyse a videotape of a designer solving a specific design problem in terms of the knowledge that is being used during the design process.

Assessment of the course will be based on an assignment that documents the nature of the knowledge structures that enter into a design process and the role they play in that process.

Architectural design involves decisions which result in the buildings and places that we experience and use and where we interact with others. These experiences and interactions involve immediate sensory experience with the attributes of a particular building or place. However, equally importantly, they involve the way in which the particular place relates to our past experience of similar places. These representations of past experience, or knowledge structures, govern both how we will understand a place and our emotional response to it. Because designers share the same types of experience with the buildings and places present in a culture, they would be expected to have similar knowledge structures to those they are designing for. Designers however develop expert knowledge which is different to the everyday knowledge of most members of society. The course examines the nature of and the way in which both everyday and expert knowledge structures develop, the role they play in the design process and in the experience of buildings and places.

Urban Conservation Planning 2 units

31194
Prof. Domicelj
Classes lectures and videos
Assessment position paper, seminar and discussion

Objectives
The course aims to identify and assess the cultural significance of urban places, to introduce the main skills required in the practice of conservation planning, and to examine the trends and policies which have led to current conservation-based development.

Outcomes
By the end of the course the student will have knowledge of the trends which influence the interpretation and assessment of cultural significance in urban areas; have an introductory knowledge of the basic skills required for the practice of conservation planning; and be familiar with those trends which have influenced and promoted conservation-led planning policies.

The position papers will ask participants to analyse the factors which lead to the formal assessment of value in urban places and to their expression by means of policy instruments. The seminars will encourage debate on the critical questions guiding current conservation practice.

The course will examine both the theory and the practice of heritage conservation planning in urban areas. It identifies the concepts, instruments and policies which lead to the definition and evolution of the concept of cultural significance in cities. It will also analyse planning trends which have encouraged the conservation of valuable urban environments. Both Australian and international cases will be examined.

Independent Study Electives

Social Context Elective A 2 units

31284-F (first semester)
31284-S (second semester)

Social Context Elective B 1 unit

31296-F (first semester)
31296-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: ENVIRONMENTAL SCIENCE AND TECHNOLOGY

This area aims to develop an awareness of the environmental constraints of the built environment and an understanding of the physical processes which interact with built forms to produce these constraints. It explores appropriate responses to climate, topography and landscape, and the behaviour of thermal, visual and aural phenomena in the natural and built environments. Appropriate evaluative and analytical skills are developed.

Mandatory Courses *

Climate, Landscape and the Built Environment A — 2 units

12100
Mr Forwood
Classes lectures, tutorials and laboratory classes
Assessment 3 small assignments, 1 large assignment

Objectives
The course will study the natural environment as a setting for design; introduce some of the knowledge and skills required to evaluate the physical environment on a site; and relate the study and evaluation of a site to an understanding of the physical characteristics of the region within which it is located.

Outcomes
At the conclusion of this course each student is expected to:

- know about the operation of the natural environment as a physical, biological and ecological system;
- understand how the natural environment acts as an influence upon the design of objects within the built environment;
- understand how to evaluate the impact of design actions upon an existing environment;
- understand the concept of climate;
- be able to collect, analyse and interpret climate data at the regional or microclimatic scale for the purposes of a particular design task;
- be able to undertake a site planning study for a particular site and a particular design task;
- be able to evaluate the wind and solar environments on a site;
- be able to define the different microclimates existing on a site; and
- be able to interpret the topography and the physical structure of the landscape of a site and relate it to its surrounding region.

The first two assignments test students' ability to apply their understanding of the physical environment at the global and regional scales to an investigation of the landscape and microclimate of a particular region. The major assignment provides the opportunity for students to demonstrate their skills at site evaluation and analysis on a particular site located within the region.

The course begins with a study of the physical processes which generate the natural environment and explores how these processes create the world's climates. Attention is then focussed upon Australia, and more particularly Sydney, as settings for design and these microclimates are studied in more detail. Techniques are presented for the collection and analysis of climatic data as a knowledge base to support the design process. The regional biosphere is then studied, again concentrating upon Sydney, in order to study the operation of natural processes in the landscape and as an introduction to assessing the impact of designed interventions upon these processes. The scale of the individual site is then considered and techniques for site planning are presented as a systematic process for exploring the full environmental potential of a site.

Climate, Landscape and the Built Environment B — 2 units

12118
Mr Forwood
Classes lectures, tutorials and laboratory classes
Assessment 2 hr examination (40 per cent), assignment (60 percent)

Objectives
This course aims to explore the influence of climate and environmental factors upon the form of the built environment; to study the relationship between this form and the environmental quality of space enclosed by it; to explore the concept of 'environmental dimensions' of space as a means of determining the impact of space upon people's sensory experience of it; and to introduce some of the knowledge and skills required for the measurement of 'environmental dimensions' and their effective use in design.

Outcomes
At the conclusion of this course each student is expected to:

- know about and develop views upon the influence of climate as a determinant of the form of the built environment;
- understand what is meant by 'environmental dimensions' of space and the relationship between these dimensions and the forms which enclose and create space;
- understand how these dimensions determine the impact of an environment upon people's sensory experience of space;
- be able to use standard instrumentation to measure some of these dimensions, in particular those which describe the thermal, aural and luminous environments; and
- be familiar with, and be able to critically examine, available literature on the environmental qualities of architecture.

The examination tests students' basic understanding of the concepts and principles underlying environmental dimensions and their impact on people's sensory perception of space. The assignment provides an opportunity for developing instrumentation, measurement and reporting skills as well as exploring the use of environmental dimensions in designing the built environment.

The first component of the course examines historically the hypothesis that the form of the built environment in any age is influenced by the interaction between climate, available technology and materials, and cultural values. The second component defines three sets of environmental dimensions (thermal, luminous and aural) which define enclosed space and examines their impact upon human sensory perception of space. The third component explores the use of these dimensions in design and introduces some of the literature of environmental design.

Environmental Science and Technology A
3 units

22127
Mr Hayman
Prerequisite Climate, Landscape and the Built Environment A and B
Classes lectures, tutorials and investigations
.Assessment multi-part assignment (60 per cent) and 2 examinations (20 per cent each)

Objectives
The course aims to:
- develop an understanding of the basic laws which determine the physical environment in buildings;
- explore measurement and evaluation of the physical environment to inform decisions which have an influence upon the environmental dimensions of enclosed space;
- develop a theoretical basis for the exploration of the environmental performance of building elements; and
- generate appropriate solutions from first principles rather than accepting standard or commonly held solutions and rules of thumb.

Outcomes
At the completion of the course students should:
- understand the basic principles of heat, light and sound transfer through the building fabric;
- understand how to achieve a desired set of environmental dimensions for spaces within a buUdingbydesigningthebuildingfabricasaselective environmental filter; and
- beprohcientmevaluatmgdesigndedsionsmrelation to environmental criteria by estimating internal temperatures, daylight quantities and sound levels using established analytical techniques.

Examinations test basic understanding of the principles and concepts discussed in the lectures and an assignment, in parts, will assess the ability to apply the knowledge and skills gained in lectures and tutorials to a small-scale design exercise.

The course content discusses the physical processes involved in the transmission of light, sound and thermal energy. The properties of materials and construction of elements which influence this transmission are outlined. The course focuses on the application of this knowledge to theroleof the building fabric as an environmental filter.

Landscape Design
2 units

22145
Mr Powell
Classes lectures and field trips
Assessment assignment (60 per cent), 2-hr examination (40 per cent)

Objectives
The course introduces the need to integrate the design of buildings with the landscape. It explores and discusses the traditional background, contemporary ideas and theories of landscape design and its practices, and the influence of the fourth dimension time, through management and maintenance of the built landscape. It also provides an opportunity to appreciate landscapes both directly and by careful analysis.

Outcomes
The student will be expected to begin to demonstrate a personal philosophy towards the making of external spaces, appreciate special design themes appropriate to particular environments and users, be able to make a simple evaluation of a landscape in a ordered way, be able to make judgements.at an introductory level about the qualities of a space, and report such information clearly in written and graphic form.

The assignment is designed to provide the student with an opportunity to exercise all of the tasks in the outcomes through a series of written and drawn observations and design suggestions, while the examination requires a more precise series of explanations of the same considerations.

Design theories, principles and practices are explored as themes through various lecture topics providing different ways of perceiving landscapes. The major physical elements of landscape, such as space, scale, land, air, water, vegetation and built forms, are discussed together with their related surface, edges, and types of materials used in different contexts.

Prerequisite Course for the BArch

Environmental Science and Technology B
3 units

32157
Assoc. Prof. Fricke
Prerequisite Environmental Science and Technology A
Classes lectures, tutorials and investigations
Assessment multi-part assignment (100 per cent)

Objectives
The course aims to:
- investigate the concept of environmental goals and management strategies to building design;
- apply the environmental principles learnt in this and prerequisite courses to whole, small- to medium-scale, building projects; and
- coordinate this application with a common project in the courses Construction B and Design E.

Outcomes
At the completion of the course students should be able to:
- analyse the environmental potential of a site;
- understand and apply environmental management strategies, including alternative approaches, to small- to medium-scale building design projects including their interior-spaces;

- define appropriate quantitative and qualitative environmental goals for such a project; and
- design an integrated project and evaluate the effectiveness of it, quantitatively and qualitatively, in meeting these environmental goals.

The assessment assumes all knowledge gained in Climate Landscape and the Built Environment and Environmental Science and Technology A and is therefore seen as a summary project for all environmental knowledge gained in the BSc(Arch). Environmental goals, strategies and decisions made in a design process are required to be justified, both quantitatively and qualitatively, so that the success, or otherwise, of that environmental decision making can be evaluated.

This course provides formal instruction in principles of thermal services, artificial lighting, room acoustics, and fire in buildings. It applies these and the environmental principles learntin prerequisite courses to whole, small- to medium-scale, building projects.

Elective Courses

Energy and the Built Environment 2 units

32163
MrForwood
Prerequisite Climate, Landscape and the Built Environment A and B
Classes lectures and seminars
Assessment assignment and seminar participation

Objectives
The course will explore the social, economic, political and technological constraints which influence the flow of energy in modern society; examine alternative energy supply options for a sustainable future built environment; present an understanding of buildings as energy investments and examine their environmental impacts; and debate the role of architects and other building designers in creating a sustainable built environment.

Outcomes
At the conclusion of this course eachstudent is expected to:
- understand the way modern societies utilise energy and know about the industry which supplies it;
- have a working knowledge of both renewable and non-renewable energy sources for the built environment;
- understand how buildings consume energy;
- have developed an understanding of, and formed opinions about, the concept of 'sustainability' as it relatesr to the built environment; and
- have developed a defensible position on the role of architects in creating a sustainable society.

Participation in a seminar provides an opportunity for students to develop attitudes and opinions and explore fundamental issues. The assignment allows them to elucidate these views and to explore particular topics of interest in greater depth.
The course addresses the issue of energy usage in modern society and relates this to the creation of a sustainable built environment. Existing energy sources and their environmental implications are discussed and alternative, more sustainable forms are explored. The role of architects in designing a sustainable built environment is explored in a series of seminars.

Ergonomics 2 units

32178
Mr Hayman
Prerequisites People and the Environment, Mathematics and Science in Design
Classes lectures, tutorials and seminars
Assessment assignment - case study in two parts (40 per cent, 60 per cent)

Objectives
The course will demonstrate that ergonomics is the systematic study of the relationship between individuals, populations and their environment, examine relevant ergonomic knowledge and skills for design practice, and provide appropriate statistical background for the analysis of ergonomic data.

Outcomes
Each student should be familiar with ergonomics as a scientific activity, be able to demonstrate the application of ergonomics to a design situation, and utilise appropriate data collection and analysis techniques.

The assignment is concerned with the ergonomic analysis of a particular case study and the provision of a report with recommendations for its improvement. The format used is designed to encourage the formal presentation of data, analysis and underlying argument.

Ergonomics is a central component of the detail design of the built environment. This course covers not only the traditional areas of static and dynamic anthropometrics (human dimensions) but also the wider context of environmental, perceptual, cognitive and organisational ergonomics. Case studies are used to demonstrate the application of ergonomic knowledge to design practice.

Introduction to Plant Material 3 units

32194
Lecturer to be announced
Prerequisite Landscape Design
Quota 15 students
Classes lectures, practicals, fieldwork
Assessment examination, assignment

To successfully design with plants it is essential to know something about them as a material. This course examines basic plant structures and functions and the essential requirements to promote growth. It discusses broad classification systems, important vegetation types, taxonomy, nomenclature and simple identification techniques. Distinguishing visual and structural characteristics of broad sub-divisions of plants such as trees, shrubs, ground covers, climbers, herbaceous perennials and grasses are identified and their design potential, together with aesthetic and environmental values, are discussed. Both native and

exotic species are used as examples, and students are expected to acquire a sound working knowledge of useful landscape plants for a range of design situations.

Independent Study Electives

Environmental Science Elective A 2 units
32209-F (first semester)
32209-S (second semester)

Environmental Science Elective B 1 unit
32242-F (first semester)
32242-S (second semester)

Landscape Design Elective A 2 units
32258-F (first semester)
32258-S (second semester)

Landscape Design Elective B 1 unit
32266-F (first semester)
32266-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: DESIGN COMMUNICATIONS

The design communications area involves both the communication of ideas to others and the articulation of the designer's own ideas. It combines an understanding of the theory of communications, critical abilities in evaluating communicated messages, and some practical skills in a variety of communications media including computer-based media.

Mandatory Courses

Design Communications A 3 units
15006
Ms Sodersten
Classes lectures, studio exercises and tutorials
Assessment assignments

Objectives
The course will introduce students to the various types of communication required in the built environment field, including: fundamental drawing and sketching skills; basic architectural drawing skills; basic model-making; written communication; and use of computing tools to communicate words and images. The main focus is the development of skills which increase the students' ability to elucidate and express ideas to themselves and others.

Outcomes
At the successful completion of the course students will:
- have gained familiarity with a range of drawing media, mostly dry;
- be able, at least in a schematic way, to observe and draw objectively;
- have demonstrated basic orthographic drawing skills in pencil;
- have demonstrated basic model-making skills;
- have demonstrated basic essay writing skills, including referencing; and
- have demonstrated elementary computing skills in word processing, image processing, graphics and page layout.

The outcomes of the course are achieved through weekly tutorials and studio exercises based on developing particular skills. Assessment criteria examine the development and level of those skills expressed in the work presented. Assessment is based on weekly tutorials and exercises and a portfolio of work presented at the end of each part of the course.

The main focus of the course is the development of skills which increase the students' ability to elucidate and express ideas to themselves and fellow designers. The course is divided into two main sections covering manual and computer skills. The first covers primarily manual graphic and model-making skills, and includes written and verbal skills. The second covers introductory computer skills for use in word and image processing.

Design Communications B .3 units
15023
Ms Sodersten
Classes lectures, studio exercises and tutorials
Assessment assignments

Objectives
The course will develop skills in the various types of communication required in the built environment field and including: fundamental drawing skills; architectural graphic skills; model-making; and use of computing tools to produce 3D models.

Outcomes
At the successful completion of the course students will:
- have developed familiarity with a range of drawing media, mostly dry;
- be able, in a schematic way, to observe and draw objectively;
- have demonstrated basic orthographic drawing skills in pencil, ink and a range of drawing media sufficient to communicate appropriately their design proposals to other members of the built environment professions;
- have demonstrated model-making skills sufficient to communicate appropriately their design proposals;
- have developed strategies for representing a buildihg in three dimensions, using a modelling system;
- have achieved a level of competency using modelling software; and
- have developed a facility with computer-based 3D models and views.

The outcomes of the course are achieved through weekly tutorials and studio exercises based on developing particular skills. Assessment criteria examine the development and level of those skills expressed in the work presented. Assessment is based

on weekly tutorials and exercises and a portfolio of work presented at the end of each part of the course.

The main focus of the course is the development of skills which increase the students' ability to communicate with other members of the built environment professions. The course is divided into two main sections covering manual and computer skills. Manual skills development includes graphic and model-making skills, and the computer skills component emphasises 3D wireframe and solid modelling of objects.

Design Communications C 2 units

25034
Dr Rutherford
Prerequisite Design Communications A and B
Classes lectures, demonstrations of CAD techniques and tutorials
Assessment tutorial submissions (50 per cent), project drawings and 3D models (50 per cent). Tutorial assignment files are submitted to an electronic drop box for assessment on a regular continuing basis. The second half of the semester is devoted to projects during which a specific building is modelled in 3D from which 2D drawings are produced. This project submission is in the form of printed drawings for the 2D presentation and electronic form for 3D models.

Objectives
The course introduces computer-aided drafting, modelling and visualisation techniques that enhance and extend design communications, and develop computer skills in CAD — 2D plans and elevations, 3D modelling and production of views.

Outcomes
At the end of the course the student's computer skills should be sufficient to allow for the production of 2D drawings with dimensions and layers, and the production of 3D models and perspective views with hidden lines removed and surfaces with colour.

The assessment of the tutorials relates to basic CAD skills and the project submission relates to the production of drawings and 3D models.

The lectures cover the following subjects: essential elements of CAD, CAD applications and future directions for CAD modelling.

The tutorials introduce AutoCAD, operating on a UNIX network and/or PCs, to develop and reinforce knowledge in the following areas: basic CAD orientation, drawing and editing commands and tools; 3D 'wire frame', 'hidden line', and surface modelling; display and presentation commands.

Design Communications D 2 units

25047
Mr James
Prerequisite Design Communications A and B
Classes lectures and studio workshops
Assessment Design communications (A3 recommended) portfolio including representations of Design C parts 1 and 2 and Design D final submissions, hard copy from Design Communications C, selected log book extracts and reproductions froirl workshop exercises.

Objectives
The course aims to continue manual skills' development in the representation of architectural works which communicate ideas to lay persons and the public at large.

Outcomes
At the conclusion of the course students will be able to:

- understand and realistically portray conventional orthogonal and three-dimensional projections of buildings and settings;
- understand and use a mixed range of communication techniques including graphic design and layout, photography (particularly models), available graphic reproduction technology, verbal and written techniques; and
- assemble, format, style and present a bound portfolioof personal contemporary works including CAD exercises.

Assessment is based upon the degree to which the outcomes represent communications techniques at a sub-professional level equivalent to a capacity to gain employment in an architect's office.

The course reviews all first semester design submissions and CAD work by means of workshop exercises in model photography and perspective by oral, written and multi-media communication techniques, composition, lettering, graphic reproduction techniques, log book enhancement and portfolio presentation.

Elective Courses

Computer-Based Design 2 units

31275
Assoc. Prof. Maher
Classes lecture/demonstration
Assessment design project

Objectives
The course will present computer-based design as the integration of multi-disciplinary design tools and provide experience in electronic communication and documentation of group design.

Outcomes
Students will develop skills in using networked computer facilities; skills in computer-based design synthesis, analysis, and documentation; and experience in using e-mail and the World Wide Web.

The assessment of the design project relates to the computer skills outcomes and experience in e-mail and the Web.

This is an interdisriplinary course attracting students from architecture and engineering. The lectures present and demonstrate computer tools for synthesis and analysis of design. The students work in groups on a design project to develop and document a design using computer tools.

Understanding Design 2 units

32183
Dr Rosenman, Dr Billings

Classes lectures
Assessment 3 essays (2 x 25 per cent, 1 x 50 per cent)

Objectives
The course aims to present design as a general activity in its own right concerned with the needs of the consciously created environment; to stress the importance of design and its consequences; to point out the commonalities and differences between the various design disciplines regarding their specific goals, concerns; factors and methods; and to make students aware of the processes involved in design.

Outcomes
Students are expected to realise the existence of design and designing, the purpose of and outcomes from design as an activity, and the consequences of designs at social, cultural and ecological levels. They are expected to appreciate the commonalities and differences between various design disciplines and to have acquired knowledge of how a physical object can be designed.

Students' awareness will be demonstrated through the satisfactory completion of the three assignments. The first assignment directs students to examine a designed object in a familiar setting, familiarising themselves with the aims and results of designed objects; the second focuses on how a designed object fits into the socio-cultural and physical context and how it affects this environment and to examine the role of the particular design disciplines involved; the third asks the student to utilise all the knowledge they have gained during the lectures to propose improvements in an existing object to meet some perceived need.

The lectures and assignments divide into three parts. Part A deals with the broad overview of design as an activity, its relation with the social context and its relationship to the activities of science and art; part B presents the activities of various design disciplines; part C describes some formal concepts relating to modelling the design process, representing design, and positioning design/ing within current critical thinking. Three assignments complement the three parts of the lecture series.

Art Workshop courses

Ceramics — Handbuilding 1 — 2 units

13212-F (first semester)
13212-S (second semester)
Mr Jones
Quota 16 students
Classes practical studio work
Assessment attendance (10 per cent), visual diary/journal (10 per cent), technical development/workshop practice (40 per cent) and final work(s) (40 per cent)

Objectives
This course aims to introduce the many and varied techniques of handbuilding in clay as well as the processes of firing and glazing.

Outcomes
Students should have an understanding of: pinch, slab and coil building techniques; coloured under glaze applications; and bisque and glaze firing applications.

Studio workshop practice is assessed continually as are concept developments with the student's visual diary. Three set projects are assessed on originality of idea and technical proficiency.

The course involves an exploration of the plastic properties of clay to create a wide variety of constructions that have to be fired and glazed. Set projects will enable students to discover their own means of expression in this versatile medium. Projects include slab construction, coil construction and combinations of coil, slab and pinch construction. Various surface finishes and decorative techniques will also be introduced including brightly coloured under glazes, slips and glazes.

Ceramics — Handbuilding 2 — 2 units

13213-F (first semester)
13213-S (second semester)
Mr Jones
Prerequisite Ceramics — Handbuilding 1
Quota 16 students
Classes practical studio work
Assessment as for Ceramics — Handbuilding 1

Objectives
The course aims to expand knowledge and develop technical abilities acquired in Ceramics — Handbuilding 1 and to facilitate more conceptually advanced work.

Outcomes
At the end of the course students should be able to construct more technically difficult forms than in Ceramics — Handbuilding 1, develop self-initiated projects under the direction of the tutor, and explore varied surface treatments.

Studio workshop practice is assessed continually as are concept developments with the student's visual diary. Six finished works are assessed on originality of idea and technical proficiency.

Emphasis in this course is placed on exploring and developing ideas using more advanced techniques such as working with plaster moulds, tile making, murals, slip casting as well as the usual handbuilding methods. Experimental and personal expression will be encouraged. A wider variety of decorative techniques and firing methods will be introduced and may include pit firing.

Ceramics — Wheel Throwing 1 — 2 units

13214-F (first semester)
13214-S (Second Semester)
Mr Jones
Quota 14 students
Classes practical studio work
Assessment attendance (10 per cent), visual diary/journal (10 per cent), technical development/ workshop practice (40 per cent), final work(s) (40 per cent)

Objectives
The aim of the course is to produce a set of wheel thrown ceramics.

Outcomes
At the end of the course students should:
- be technically proficient at centring, throwing, turning and applying handles to ceramic vessels;
- have developed colourful designs and glaze applications for a pre-determined breakfast set;
- have a basic understanding of the problems associated with ceramic production; and
- understand firing schedules i.e. bisque and glaze.

Studio workshop practice is assessed continually as are concept developments with the student's visual diary. The finished, produced set is assessed on useability, design, and craftsmanship.

The course introduces varied techniques of throwing clay on the wheel to produce vessels and domestic items with an emphasis on the art and craft of this age-old speciality. There will be an investigation of this practice on an historical and contemporary level. Various techniques will be introduced including combination throwing and handbuilding, turning, glazing and decorating with slips and glazes.

Ceram ics — Wheel Th rowi n g 2 2 u n its

13215-F (first semester)
13215-S (second semester)
Mr Jones
Prerequisite Ceramics -^ Wheel Throwing 1
Quota 14 students
Classes practical studio work
Assessment see Ceramics — Wheel Throwing 1

Objectives
The aim is to produce six individual wheel thrown ceramic works.

Outcomes
At the end of the course students should:
- be able to combine thrown shapes to achieve forms developed from drawing;
- have an understanding of the differences between earthenware and stoneware ceramics; and
- be able to produce larger forms for utilitarian use.

Studio workshop practice is assessed continually as are concept developments with the student's visual diary. Six finished ceramic works are assessed on design and craftsmanship.

This course is for students with some experience in wheel throwing. Larger and more advanced forms will be attempted and more involved decorative techniques used. The emphasis will be on technical proficiency with an individual approach to the functional vessel and how it can be used as a base for decorative and sculptural exploration.

Drawing 1 2 units

11093-F (first semester)
11093-S (second semester)
MrLevitus
Quota 20 students
Classes studio work, slide lectures and gallery visits
Assessment attendance (10 per cent), studio skills and technique (20 per cent), studio work (20 per cent), portfolio and completed projects (50 per cent)

Objectives
The aim of this course is to provide students with the knowledge, skills and attitudes required to use a range of fundamental drawing skills, media and techniques and observational skills, to make drawings based on observation of the physical world, to experiment with imaginative applications of media and drawing techniques and develop imaginative drawings based on observational skills.

Outcomes
Students will gain familiarity with a range of drawing media, mostly dry, including charcoal, graphite, pencil, conte, pen and ink, brush and ink, as well as watercolour and gouache as ground or backwash. They will also be able to use imaginative approaches to observing and recording the visible world using a variety of techniques and combinations of drawing media.

Students are assessed on attendance, demonstrated familiarity withmaterials and techniques, studio work including approach and attitude, successful completion of all projects and a portfolio containing final works for projects, and a selection of fifteen drawings and sketches completed during the course. A journal or sketchbook is to be kept throughout the course and will be included in the assessment.

The course begins with a discussion of motives for drawing supported by a slide lecture, introduction to a range of drawing materials, instruction on a range of mark-making techniques, methods of tonal range, use of perspective and an understanding of composition. Through structured projects students learn to use these materials and techniques to express individual responses based on observation in creative and imaginative ways.

Drawing 2 2 units

11121-F (first semester)
11121-S (second semester)
Mr Levitus
Prerequisite Drawing 1
Quota 20 students
Classes practical studio work
Assessment workshop practice (50 per cent) and portfolio of works (50 per cent)

Objectives
This course aims to increase the student's level of skill in all three skill areas of drawing — representational, interpretive and expressive—and in the use of media, more specific to the individual student's need of expression. Imaginative and experimental techniques will be used for all subject matter including the human figure.

Outcomes
Students will build on their experience with a range of drawing media and be able to use imaginative approaches to observing and recording the visible world using a variety of techniques and combinations of drawing media. They should have enough experience at the end of the course to be able to

criticise and select from their own work for their finished portfolio or exhibition.

Students are assessed on attendance, demonstrated ability with materials and techniques, studio work including approach and attitude, successful completion of all projects and a portfolio containing final works for projects or exhibition. A journal or sketchbook is to be kept throughout the course and will be included in the assessment.

This course provides students with the opportunity to combine sound observational skills with imaginative and experimental techniques, in order to encourage a personal vision and style and a commitment to the practice of drawing as a visual art discipline in its own right.

Etching 1 — 2 units

11133-F (first semester)
11133-S (second semester)
Ms Martin
Quota 14 students
Classes practical studio work
Assessment attendance (10 per cent), class participation (10 per cent), studio skills and technique (30 per cent), final project (50 per cent)

Objectives
The course will develop critical awareness of images and image making, explore etching as an artistic medium, and develop studio skills.

Outcomes
At the conclusion of the course students will understand the techniques required to produce an etching, have a working understanding of the chemicals, equipment and materials used in the studio, and have gained a greater understanding about art production.

The assessment is ongoing, encompassing studio practice, punctuality and attendance, students' ability to apply the techniques demonstrated, originality of the art work and general attitude in the studio environment and to the work itself.

Students will be introduced to the creative side of etching while developing new skills. They will acquire a broad understanding of how a print is made, while emphasis is placed on the theory and history of print making. Techniques covered are: dry point, hard ground, soft ground, aquatinting, sugar lift, marbling and embossing. Students will be able to elaborate and apply these skills, being free to explore the potential of these diverse techniques while developing their own individual approach to print making.

Film/Video 1 — 2 units

11712-F (first semester)
11712-S (second semester)
Mr Benedek
Quota 20 students
Classes practical studio and outdoor work
Assessment attendance (10 per cent), class participation (20 per cent), synopsis (10 per cent), storyboard (10 per cent), and final project (50 per cent)

Objectives
The course will explore the language(s) of moving images, conventions of framing, movement and editing; develop an understanding of the fundamental technical aspects of pre-production, production and post-production; and generate independent and cooperative production using a variety of media.

Outcomes
Students will gain technical proficiency in the diverse areas of pre-production, production and post-production; understand conventions of classical continuity and main visual styles; and produce a moving image piece using videotape or mixed media.

Students are assessed in the context of theoretical understanding and technical aptitude in the various aspects of moving-image production.

In this course Super-8, VHS video systems, spool and cassette audio tape will be used. Emphasis is placed on skills' development, process and conceptual awareness. The course is divided into units, exploring approaches to lighting, shooting, editing, sound production and concept development for film and video. A short work in either film or video is to be completed by each student by the end of semester.

Graphic Design 1 — 2 units

11190-F (first semester)
11190-S (second semester)
Mr Clark
Quota 10 students
Classes practical studio work
Assessment participation (10 per cent), class projects (30 per cent), analysis of examples (20 per cent), major project (40 per cent)

Objectives
The aim of the course is to develop visual literacy with graphic techniques involving a variety of media; encourage students to value visual experimentation and initial research as a process for personalised creative problem solving; initiate group and self assessment methods for evaluating and analysing receiver engagement and communication effectiveness of a design solution; and to introduce the importance of hand skills and project management in the refining and detailing of processing, production and presentation of design solutions.

Outcomes
Students will gain the ability to maximise the graphic qualities and physical form of media and apply them to static and dynamic design solutidhs, and to understand the criteria by which communication effectiveness, can be evaluated along with receiver engagement.

Students will compile a process journal containing annotated graphic design examples from contemporary sources along with class projects which explore subjects such as texture, tone, typography, figure/ground reversal, and layout. The major project is a communication concept in collaboration with tutor and self-selected group, to separate and then

synthesise graphic elements, and to manage deadlines of completion of tasks. Self and peer assessment methods are applied.

This course introduces students to the basic skills, concepts and materials of graphic design, undertaking preliminary exercises in layout, use of type, illustration techniques and paper engineering. A set of exercises integrates and develops the range of skills explored in the preliminary exercises by concentration on set themes.

Painting 1 — 2 units

11216-F (first semester)
11216-S (second semester)
MrLevitus
Quota 20 students
Classes practical studio work
Assessment attendance (10 per cent), studio skills and techniques (20 per cent), studio work (20 per cent), portfolio and completed projects (50 per cent)

Objectives
The purpose of this course is to provide the student with the knowledge, skills and attitude required to use a range of fundamental painting skills, including an understanding of acrylic media and techniques, basic colour theory, how to mix colours, an understanding of tonal values and composition, to make paintings based on observation of the physical world, and to experiment with imaginative applications of acrylic media based on observational skills.

Outcomes
On successful completion the student should have gained familiarity with acrylic media; be able to apply basic colour theory, to mix secondary and tertiary colours/and to create a tonal range; and be able to use imaginative approaches to observing and painting the visible world based on sketches and studies.

Students are assessed on attendance, demonstrated familiarity withmaterials and techniques, studio work including approach and attitude, successful completion of all projects and a portfolio to be handed in at the end of the course containing final works for three projects and a selection of 10 drawings, sketches and studies completed during the course. A journal or sketchbook should be kept throughout the course and will be included in the assessment.

This introductory course shows students who have little or no experience with painting how to prepare canvas and grounds, rnix colours, then undertake practical work in observational painting (still-life painting form, modelling and shading techniques), anatomy (painting with a live model, self portraiture), perspective and ideas and images (style and appropriation, the decorative, words and text, collage and abstraction).

Painting 2 — 2 units

11254-F (first semester)
11254-S (second semester) V •
MrLittler
Prerequisite Painting 1
Quota 20 students
Classes practical studio work, slide lectures, gallery visits, demonstrations
Assessment attendance (10 per cent), studio skills and technique (20 per cent), special projects and finished work (70 per cent)

Objectives
This course aims to increase students' level of skill in paintingbothfrom the visible world and in interpretive and expressive modes. Emphasis will be placed on students' individual projects. Imaginative and experimental techniques such as mixed-media and collage/montage will be taught, reflecting current contemporary practice.

Outcomes
Students will build on their experience with a range of painting media and be able to use imaginative approaches using a variety of techniques and combinations of painting and mixed-media. They should have enough experience to be able to criticise and select from their own work for possible exhibition.

Students are assessed on attendance, demonstrated ability with materials and techniques, studio work including approach and attitude, successful completion of all projects and a final work to be handed in at the end of the course. A journal or sketchbook is to be kept throughout the course and will be included in the assessment.

This course provides students with the opportunity to combine imaginative and experimental techniques, in order to encourage a personal vision and style and a commitment to the practice of painting as a visual art discipline in its own right.

Photography 1 — 2 units

11285-F (first semester)
11285-S (second semester)
Ms Mifsud
Quota 28 students
Classes practical studio and outdoor work
Assessment application of skill to assignments (50 per cent), final work (50 per cent)

Objectives
This practical course demonstrates techniques of basic black and white photography camera operations, film exposure and development and printing negatives.

Outcomes
Students should understand the principles and practice of camera operations for successful completion of the course.

A portfolio of finished work is assessed at the end of semester. The student is also assessed on the skills gained, their understanding of the principles of basic photography and darkroom work, their application to the course and their performance during the course. Individual assignments are designed to test progressive skill development.

This beginners' course covers basic 35 mm SLR black

and white photography and assumes the student has no prior photographic skills. Technical skills developed will include the operation of camera, exposure, lighting, processing, printing, developing and experimentation from exposed negatives.

Photography 2 — 2 units

11330-F (first semester)
11330-S (second semester)
MsTalbert
Prerequisite Photography 1
Quota 28 students
Classes practical studio and outdoor work
Assessment attendance and studio practice (20percent), technical development (20 per cent), final work(s) (60 per cent)

Objectives
The course aims to advance technical skills in the creation and printing of black and white negatives.

Outcomes
Students should become proficient with the skills of developing negatives from Kodalith (Film 2000) and Orthographic black and white film; techniques of montage in the camera and the enlarger; colour re-touching of prints using a broad selection of materials, i.e. photographic inks, food dyes, watercolours and gouache paints; and photographing art works in a studio and copy stand environment.

Assessment is ongoing and includes the areas of attendance, studio practice, technical skills and development and the completion of a final set of works.

This course refines and develops the skills introduced in Photography 1. Students will research a number of different genres in photographic art history with a view to completing their own visual project in an area of interest to them. A critical attitude to the production and construction of images, including hand colouring and montage, will be encouraged.

Screen Printing — Fabric 1 — 2 units

11432-F (first semester)
11432-S (second semester)
MsFieldsend
Quota 10 students
Classes practical studio work
Assessment attendance(10 per cent), workshop practice (10 per cent), working journal (20 per cent), technical development (15 per cent) and final work (45 per cent)

Objectives
The purposes of this course are to provide students with the knowledge and skills to design for and paint on textiles; for students to gain an appreciation of textile decorative art in both clothing and furnishing applications; and to experiment with various techniques and to develop finished textile prints that exhibit an imaginative understanding of colour and design as well as technical proficiency.

Outcomes
On successful completion of this course the students should have gained a knowledge of a range of stencils (wax emulsion, photostencils and paper); be familiar with ink technology and its relation to various fabrics; have an appreciation of textile decora five art; be aware of design in its application to textiles; and have completed two finished prints — showing an ability to print a multi-coloured placement print, and a length of fabric — using scatter, over and repeat printing.

Students are assessed on attendance, technical development and demonstrated proficiency with screen printing procedures and materials, and the successful completion of aseriesof preliminary design and technical exercises leading to two final projects— a placement print and a length of printed fabric. Included in the assessment is a working journal that is kept throughout the course as well as the students' approach and attitude to their work and the course.

This beginners' course investigates and teaches hand painting, paper, wax and photostencils, mixing and fixing of inks, design and colour exercises as related to suitable fabrics; scatter printing, over printing, repeat pattern and multi-colour printing.

Screen Printing — Paper! — 2 units

11369-F (first semester)
11369-S (second semester)
Ms Fieldsend
Quota 12 students
Classes practical studio work
Assessment design exercises (20 per cent), attendance (10 per cent), workshop practice (10 per cent), research journal/ image conception (20 per cent), technical development (10 per cent), final work (30 per cent)

Objectives
This course will introduce the student to a range of screen printing techniques as well as developing creative and design skills. It will provide basic awareness of the history of screen printing in the graphic and the fine arts.

Outcomes
On successful completion the student should have gained a knowledge of a range of design techniques for screen printing and be familiar with screen printing stencils, including photo stencils, ink technology, image registration and editioning as well as experimental techniques. They should also have a basic understanding of colour and appreciation of screen printing in its graphic, industrial and fine arts applications.

Students will be assessed on: attendance and workshop practice, on a series of preliminary exercises and a working journal that shows an engagement with various screen printing techniques as well as design considerations. Assessment will also be of a final project which will be a multi-coloured edition or experimental series of screen prints showing imagination and technical proficiency.

This beginners' course covers design development, the preparation of hand-cut, wax, and photo-emulsion stencils, colour mixing, image registration and editioning. Artist quality, water-based non-toxic inks are used. An awareness of historical and contemporary

screen prints is also taught. Students will produce an edition of multi-coloured screen prints or a series of experimental works.

Screen Printing — Paper 2 — 2 units

11392-F (first semester)
11432-S (second semester)
MsFieldsend
Prerequisite Screen Printing — Paper 1
Quota 12 students
Classes practical studio work
Assessment as for Screen Printing — Paper 1

Objectives
Students will develop and consolidate technical and imaginative skills in screen printing. They will gain the ability to use a wide variety of screen printing' techniques showing accomplishment and originality, and a greater knowledge of screen printing in its graphic and fine arts applications.

Outcomes
Students should have an in-depth knowledge of a wide variety of techniques and be able to use them in a creative and imaginative way. They should also have the ability to utilise graphic and fine arts research in their studio work and should also have produced an edition of screen prints/series of experimental prints (usually on a larger scale than in Screen Printing — Paper 1) that shows a developed appreciation of technique, colour and image construction.

Students will be assessed on attendance, technical development and demonstrated familiarity with screen printing procedures and materials that are appropriate to the course; completion of an edition of a series of prints that show an in-depth awareness of technique and design; a working journal that is kept throughout the course; and their approach and attitude to their work and the course.

This course extends the students' skills and abilities acquired in Screen Printing — Paper 1, allowing students to develop their printing and creative skills while also allowing for greater experimentation and complexities in their design and technical applications.

Sculpture 1 — 2 units

11473-F (first semester)
11473-S (second semester)
Mr Purhonen
Quota 10 students
Classes group demonstration and discussion, individual tuition and practical studio work
Assessment 1 projects (50 per cent each)

Objectives
This course should provide students with knowledge, skills and confidence to use a range of materials and techniques necessary for three-dimensional sculpture. They will be introduced to the. conceptual and theoretical aspects of sculpture.

Outcomes
The student should become aware of the inter-relationships between the technical, personal and conceptual concerns in sculpture making.

Assessment will be based on attendance at classes, participation in group discussions and the attempt to demonstrate the understanding and potential of various materials and processes and the attempt to develop and execute ideas, as evident in the complicated works.

This is an introductory course for students with little or no previous experience in sculpture. A number of traditional sculptural techniques such as clay modelling, plaster mould making, casting in cement, soldering and welding will be taught and used to explore elementary aspects of three-dimensional form. The student will be required to complete two projects: to make a traditional portrait as well as a more conceptually-based work.

Sculpture 2 — 2 units

11694-F (first semester)
11694-S (second semester)
Mr Purhonen
Prerequisite Sculpture 1
Quota 10 students
Classes group demonstration and discussion, individual tuition and practical studio work
Assessment as for Sculpture 1

Objectives
The course will further develop the students' knowledge, skills and confidence to explore the potential and limitations of a variety of materials and techniques, as well as an awareness of contemporary sculpture to be able to produce more technically and conceptually advanced work.

Outcomes
Students should become aware of a broader field of possibilities of expression in the three-dimensional medium.

Students will be required to keep a visual journal which will form part of the assessment. Assessment will also be based on attendance at classes, participation in group discussions and the attempt to demonstrate the understanding and potential of materials and processes, and the attempt to develop and execute ideas, as evident in the completed works.

This course will allow students to increase their level of technical skills and understanding of three-dimensional form and its context. Various fabrication techniques will be taught. Students will be asked to look at contemporary examples of sculpture and installation art and will be encouraged to combine non-traditional materials and techniques or other media with traditional sculptural processes.

Set Design 1 — 2 units

11105-F (first semester)
11105-S (second semester)
Ms Ruff
Quota 12 students
Classes practical studio work and site visits

Assessment research assignment (20 per cent), final model, verbal presentation and journal (80 per cent)

Objectives
This course provides an introduction to the local theatre industry, stage and set design.

Outcomes
At the end of the course students should understand the relationship between a text and designing a theatrical space; understand accurately miniaturising a design for theatre and transposing from life size to a 1:25 drawing and model; develop skills in visual rendering and spatial organisation; and develop historical visual references, cultural references and the ability to visualise for changing performances.

Students are required to research, design and build a miniature set, utilising the floor plans of local theatre spaces and imaginary film and TV sets. Work practice is assessed by the students' approach and attitude to their work and studio. Research and image conception are assessed by the production of a working journal kept throughout the course and application of learned skills gained.

Students select from a series of nominated projects and present their research, scale drawn design and model for assessment. This course utilises skills of painting, model construction, interior design and lighting. Liaison with the Centre for Performance Studies will inform the course with structure and direction of plays and deal with the use of space necessary to performance. The course includes visits to Belvoir Street, the Performance Space and other interested groups.

Works on Paper 1 — 2 units

27450
Ms Fieldsend
Quota 12 students
Classes discussion, slides and studio practice
Assessment preliminary exercises (20 per cent), work practice (10 per cent), technical development (15 per cent), research and image conception (20 per cent), final works (35 per cent)

Objectives
The course will introduce the skills of screen printing, mono and lino printing, creative use of a photocopier, montage and collage; develop awareness of arthistory and art theory to inform the student's own approach to image making; explore and develop the imagination and ability to use a wide range of materials; and develop the ability to create, develop and complete a project.

Outcomes
At the end of the course students should understand the basic principles of screen, mono and lino printing, montage and collage techniques, form and colour. They should have developed a critical approach to image construction; gained anintroductory knowledge of historical and contemporary works on paper; and demonstrated an ability to use a wide range of technical skills, critical awareness and imagination to develop and complete finished works on paper.

Preliminary exercises test the students' ability to experiment with techniques and design, and work practice is assessed by the students' approach and attitude to their work and the studio. Research and image conception are assessed by the production of a working journal which is kept throughout the course and by the students' understanding of a critical approach to image construction. Technical development is assessed by the application of skills gained during the course. The final works are a series of small works or 2/3 large works which show a knowledge of technique, design and use of the imagination.

The course introduces a variety of skills to produce a series of works on paper. These include basic screen, mono and lino printing, creative use of the photocopier, found objects and papers, montage, frottage and collage. Imaginative and creative skills will be developed in preliminary exercises and finished projects relating to both graphic and fine art applications.

Art Elective 1 — 2 units

11749-F (first semester)
11749-S (second semester)

Art Elective 2 — 2 units

11772-F (first semester)
11772-S (second semester)

Art Elective 3 — 2 units

11791-F (firstsemester)
11791-S (second semester)

Advanced Art 1 — 4 units

11805 (first semester)

Advanced Art 2 — 4 units

11814 (first semester)

Advanced Art 3 — 4 units

11842 (first semester)

Advanced Art courses include an advanced use of media, artistic content and design, art theoretical coursework, the production of a visual research book and exhibition. The course's theme will be published prior to enrolment. As the project of the Advanced Art course changes each year, students may take the course more than once.

Independent Study Electives

Design Communications Elective A — 2 units

36129-F (first semester)
36129-S (second semester)

Design Communications Elective B — 1 unit

36138-F (first semester)
36138-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should thence handed to the Faculty office.

BSc(Arch) Honours

Thesis and Research Methods

44752

Coordinator to be appointed

Assessment The requirements for the submission of a thesis, its examination, and the determination of the results, are given in the Faculty resolutions on pages 64-66.

Objectives

The Honours year allows the candidate to explore and research an area of architectural study in some depth, by private study under the direction of a supervisor, and to produce a thesis reporting the study. The objectives of the course are to enable the candidate to learn about research methods and to experience the production of a research thesis, and to explore an area relevant to the study of architecture, in much greater depth than is possible within the undergraduate course structure.

Outcomes

At the completion of the year the candidate is expected to:

- be able to develop a program of research, from the initial proposal, through examination of the literature, to developing a research methodology;
- be able to carry out the research methodology, modifying it in the light of findings as it proceeds;
- be able to draw conclusions from the research, and relate those conclusions to the original proposition; and
- be able to write up and produce a formal research thesis, in appropriate language, and with proper referencing.

Because each candidate selects a thesis topic, there is no specific subject content for the course.

The candidate is required to select an area of study, and negotiate with an appropriate staff member to become supervisor for the Honours project. In consultation with the supervisor, the area of study is refined and a thesis outline is developed.

During the year the candidate is expected to examine the existing literature in the field, develop a methodology for researching the proposed topic, carry out the investigation and modify the methodology as necessary, and finally write up the results in the appropriate thesis form.

Courses of study — BArch

AREA: GENERAL

Mandatory Course

Report

26444

Dr Billings

Assessment 1 assignment in the form of a written and illustrated report/extended essay of 5000 words, which describes a researched topic. Each person is required to obtain approval of their topic before enrolling.

Objectives

The objectives are to increase a student's experience and knowledge of architectural theories and practices; to provide an opportunity to develop specific personal skills of researching, recording and writing in preparation for full-time architectural practice; and to encourage a personal familiarity with an aspect of architecture within the context of one or more cultural settings.

Outcomes

The student will attain a broader experience and hence knowledge of architecture and its making within various social/cultural contexts, and the ability to do research and to report critically on the findings of an investigation, in the form of discussion and assessment of a topic, to an acceptable major essay standard.

The report is assessed in terms of the extent to which the student has successfully investigated and reported on a specific aspect of architecture and/or the built environment, shows a greater understanding of the context of architecture, and exhibits an ability to write informatively but explicitly.

This course is viewed as a scholarly activity which is supported by employment, travel, and/or research within the ambit of the built environment. The student is required to choose and investigate a topic to the extent that an informed position on that topic can be described. The investigation will occur in the firstyear of the BArch degree, whence the studentis notrequired to attend the University, but must research the chosen topic for a substantive portion of that time.

AREA: ARCHITECTURAL DESIGN

Mandatory Courses

Architectural Design 1 — 10 units

21685

Mr Wheeler

Classes studio-based instruction and supporting lectures

Assessment 4 design projects (each weighted according to its length in weeks). Each project must be attempted and an aggregate of 50 per cent gained to pass the course. A portfolio containing all projects mustbe submitted at the end of the course. Assessments are based oh criteria general to all design courses, as well as in relation to the specific objectives of a project.

Objectives
The course aims, within the context of four projects, to continue the development of thoughtful approaches to architecture; enhance students' fluency in the makingof architecturefromideas to theuseof sketches, drawings and models to achieve a desired result; encourage a broader consideration of precedent and place, and a thoughtful interpretation of the program to achieve buildings which are expressive and have appropriate character; and integrate technical requirements of construction, structure and services.

Outcomes
Students will:
- have a greater ability to put forward ideas and propositions and will continue to formulate their attitude to architecture;
- be better able to make choices and order priorities in interpreting a program;
- achieve a design which reflects some personal understanding and expression;
- develop greater skill in drawing and model making and in the presentation of ideas and intentions;
- have the ability to consult precedent in both works and theories; and
- be able to integrate technical requirements in design.

Designs will be assessed as to ho w well each solution for each project uses each of the knowledge outcomes to achieve the project and course objectives.

The course comprises four design projects which explore various architectural types and settings.

The first project is a small building set in landscape. The search for a suitable appearance and character for the building is carried out through a series of study models and drawings leading to presentation drawings and models. This project also meets the requirements for the assignments in the course Contract Documentation.

The second project involves the consideration of a large civic space in an urban setting. The relation of the building to its neighbours, the street or corner condition, and the synthesis of its parts into a whole, are the major architectural tasks. The integration of services and the development of structure are part of this project.

The third project is concerned with a group of buildings that make urban spaces between and around them. This group brings in more complex relationships, and issues of planning and appropriate character.

The fourth project develops one of the major spaces in greater detail.

Architectural Design 2 — 10 units

31717
Prof. Nield
Prerequisite Architectural Design 1
Classes studio and design groups
Assessment Each project submission will be assessed in relation to the objectives of the course and the specific aims of that project. For a pass or better to be achieved in the course, every project must be attempted and submitted and the total percentage marks gained must aggregate 50 per cent or more. To this end all final year course work must be submitted in a portfolio at the end of the course.

Objectives
Students will learn to interpret and resolve: complex building briefs; theoretical ideas and propositions relevant to each project; detailed analysis of and response to 'topos' whether natural or urban; varying responses to function and purpose, inflection for light, gravity and climate; details of form and materials; and suitable . techniques for presentation and communication.

Outcomes
It is expected that students will be able to critically interpret briefs, developing ideas, skills, ethics and judgement in relation to the design of complex buildings and the urban environment; design a building responsive to a complex brief, special 'topos' or place, and the climate; and use drawings and models for architectural exploration and communication.

Student projects will be assessed by visiting and departmental critics using criteria based on the required outcomes and project specific issues. Students should be able to investigate, maintain or amend a proposition. This means that a student should state a design-related position (ideological, functional, aesthetic, etc.) and through consideration of needs, the use of ideas and concepts and the development of a design, demonstrate that the proposition is sound and that the design supports the position.

Generally three projects are completed during the course involving the resolution of a range of environmental, social and programmatic issues. In second semester a major project is completed involving the resolution of complex architectural and urban issues. Architectural Design is run concurrently with Applications of Technology in Architectural Design.

Applications of Technology in Architectural Design — 4 units

31832
Prof. Nield
Prerequisite Building Services Systems, Advanced Construction, Architectural Structures and Materials and Architectural Design 1
Classes building visits, seminars and studio classes
Assessment assignments (80 per cent) and building construction or engineering drawings of theBArch major project (20 per cent)

Objectives
The course aims to develop knowledge and skills in advanced construction, building service systems, . architectural structures, materials and environmental modification.

Outcomes
The expected outcomes are the resolution of construction and structural issues (tectonics) and the integration and coordination of building services and environmental control.

Marking of assignments and the major project is informed by the required outcomes. -

The course involves the considered resolution of construction, structure and materials in relation to the major design project, in short: the tectonic resolution of the design; the application of building service systems; the application of a range of climate modification systems and the strategic consideration of electrical systems, lifts and hydraulic services; and the strategic and detailed consideration of an ecologically sustainable building.

Elective Courses

Building Programming Documentation 2 units

39407
Dr Billings
Classes lectures, seminars and office visits
Assessment 2 assignments. The first consists of a short explanation of EIS, DAs and BAs, as they relate to feasibility studies, building briefs, and preliminary designs (25 per cent). The second requires the completion of either a feasibility study, a written program, a functional brief, or a post-occupancy evaluation for a building (75 percent).

Objectives
This course aims to demonstrate the existence, need and methods of production of written documents which support the efficacy of each stage of a building development proposal. It will explain how these documents provide vital information for each of the tasks which create a clear perception of what a building is for, whether it is needed, whether it can be afforded in terms of capital and/or operating costs, whether it is feasible in the contexts of authorities' requirements, and whether the completed building allows for the planned functions. It will provide for the acquisition of skills to create such documentation.

Outcomes
Students will recognise the range of non-design documentation associated with a building development, appreciate the data required for each type of document, perceive the relationship between such data and the building design, and acquire some skills in compiling such a document type.

The first assignment indicates the student's understanding of the connection between regulatory-type submissions and the written and drawn documents required for a building development project. The second assignmentindicates the student's degree of ability to collect, collate, and describe operational data as a set of impact statements on a building design.

This course provides the context of written reports, and examines their compilation, contents and use in terms of decision-making during several stages of the development of a building project. The material relevant to such reports is examined and includes information about the following areas: socio-political/ economic, market, organisational, functional, environmental, regulatory, financial, physical. The course stresses the interrelationship between such documents, and between them and design solutions, and the effectiveness of a building in use. Office resources requirements and the impact of such tasks on project management are also examined.

Master Planning 2 units

39415
Dr Billings
Classes lectures, seminars, office visits and studio-based design teaching
Assessment 1 assignment — creation of a physical master plan of a building complex, together with supporting documentation.

Objectives
The course will identify the existence of, need for, and knowledge and skills required to produce a physical master plan; to distinguish between a master plan design for a building complex, and the design for a single building; to explain the aims of such a plan, its generic elements and the qualities which must be expressed in each, and as a whole, and the skills required to use particular design methods for generating such a design type.

Outcomes
The student will be able to identify physical master plans for building complexes, and know how to design such a plan.

By creating a physical master plan the student learns how to do it, what it consists of, and why such plans are required. The submitted plan is assessed for the degree to which the qualities which make up an effective plan are present in the design. The more these design qualities are present and complementary to an effective whole, the better the plan.

The course covers the origins of master plans, recognition of the main design elements, building complexes as form and shape grammars and as developmentframeworks. It explores precedents, needs data, characteristics of forms and shapes, movement elements as structuring patterns, the significance of fixed and moveable elements in building design, strategies for achieving combinations, interactions and change in such designs, attributes and their classification to achieve effective designs, case studies and prototypes, and design methods for generating master plans. Individual and group studio-based tutorials are used to assist completion of the assignment.

Independent Study Electives

Architectural Design Elective A 2 units

32119-F (first semester)
32119-S (second semester)

Architectural Design Elective B 3 units

32136-F (first semester)
32136-S (second semester)

Architectural Design Elective C 1 unit

32769-F (first semester)
32769-S (second semester)

These electives enable students to undertake additional design work to a maximum of 6 units over the two years of the degree. This may be an individually structured program or, for example, related to an architectural design competition sponsored by a professional institute. In all such cases application must be made for approval, setting out the specific educational objectives of the project, and the program of work proposed.

Building Programming Elective A 2 units

39461-F (first semester)
39461-S (second semester)

Building Programming Elective B 1 unit

39475-F (first semester)
39475-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: HISTORY AND THEORY OF ARCHITECTURE

Studies in this area are concerned with underlying principles and concepts of architecture. The courses presented examine theories, models and parameters for the creation of architecture and the physical outcome of these in built form.

Mandatory Courses

Theory of Architecture 2 units

22148
Prof. Webber
Classes lectures and seminars
Assessment 3 seminars (15 per cent each) and an assignment (55 per cent)

Objectives
The course aims to encourage familiarity with some of the important theoretical writings about the discipline, to stimulate a questioning approach to theoretical positions in architecture, and to pro vide opportunities for structured discussion and debate about the fundamental attributes of architecture.

Outcomes
At the conclusion of the course participants should be able to refer with confidence to the views and arguments of a representative range of 'important theorists, demonstrate an open-minded, receptive and inquiring position about architectural theories, and show that they have formed some thoughtful ideas about the essential qualities of architecture.

The assessments are based upon the achievement of the students in seminars and written work specifically in relation to the objectives of the course and to the outcomes.

The first par t of this course provides an opportunity to review and reflect on the fundamental and timeless attributes of architecture. A series of questions are raised as a basis for argument. Lectures provide an introduction to various positions and arguments which relate to these questions. Some of the core questions deal with issues of the integrity of structure and form, the nature and expression of materials, environment and context, the relation of moral and political issues to architectural expression, the role of formal themes, and the nature of meaning in architecture.

The second part of the course explores some issues which are the subject of current debate, and which are also of critical importance to understanding of the nature of architecture.

Architecture in the Twentieth Century 3 units

27087
Assoc. Prof. Taylor
Classes lectures and seminars
Assessment 2 short in-class tests on the mandatory readings (20 per cent), and a 2500-3000 word essay (80 per cent)

Objectives
The course presents selected topics on major issues addressed in architecture in the early Modern Movement and during the second half of the twentieth century. It aims to explain the rationale behind the evolution of the theoretical and formal aspects of modern architecture and some of the various strands that characterise the search for a relevant architecture today.

Outcomes
It is intended that students will:

- have knowledge and insight into the evolution of architectural thought and built form during the twentieth century;
- be able to enter into informed and critical debate on architectural issues;
- be in a sound position to place their own work in the context of historical architectural development;
- be able to assess the value and relevance of the contemporary work of others as it relates to their own endeavour; and
- be culturally educated individuals, well-informed and confident in determining their own stance regarding value in architectural ideology and performance.

The tests and the essay are designed to indicate the extent to which the student can both discourse on, and apply knowledge of, this history to their own and others' architectural works.

The course is presented in two parts. The first part covers the emergence of modern architecture in Europe and America, and the development of the ideas and proposals arrived at through the heroic phase of the 1920s and 1930s. The second part looks at the dominance of modern architecture following the Second World War and the early critiques. This is followed by an analysis of the emergence of postmodern thought and the various directions being pursued to find viable and meaningful designs for the current period,

Elective Courses

The following courses offered in the BSc(Arch) degree maybe taken as electives in this area by BArchstudents. Consult the BSc(Arch) section of this handbook for course descriptions.

History of Building Science 3 units

History of Eastern Architecture 2 units

History of Landscape Design pre 1700 2 units

History of Landscape Design post 1700 2 units

History of Urban Design pre 1800 2 units

History of Urban Design post 1800 2 units

Mathematical Modelling for Designers 2 units

Renaissance to Baroque Architecture in Italy 2 units

Science and Society 2 units

Special Topics in Architectural History and Theory A 2 units

Special Topics in Architectural History and Theory B 1 unit

Statistics in Environmental Design 2 units

Theatre Design and History 2 units

History and Theory Elective A 2 units

History and Theory Elective B 1 unit

Architecture, Poststructuralism and Contemporary Thought 2 units

37811 •
DrSnodgrass
Classes lectures
Assessment essay

Objectives
To show the close relationship of philosophical thinking and architecture, with special reference to the way in which the ideas which have prevailed since the Enlightenment have been reflected in architectural forms and in attitudes towards architectural practice; and to show how these perspectives are now being subjected to an intense scrutiny which is transforming some of our fundamental understandings of architecture. The course is ihtehded to ihtfoduce, in broad outlines, some of the main themes of contemporary thought, and to show their relevance to architectural theory and practice.

Outcomes
It is expected that at the end of the course students will have an introductory knowledge of the manner in which architecture relates to ideas, and that students will have some familiarity with the more important themes in contemporary thinking.

The assessment will be based on an essay in which students will be expected to indicate the implications for architectural theory and practice of some aspect of contemporary thought.

The course looks at the foundations of the modern outlook in the philosophies of Plato and the Enlightenment thinkers, and traces these influences through to Structuralism. It then proceeds to describe the contemporary critique of these ideas, concentrating on the thinking of the Poststructuralists, the Postmodern philosophers of science, and hermeneutic philosophy. In each case the implications for architecture will be spelt out.

History and Theory Group Research Project 3 units

37812
Assoc. Prof. Taylor
Classes depends on the nature of the project
Assessment as appropriate to the specific project

Objectives
The course aims to encourage group research activity, to familiarise students with research disciplines and methods, and to advance knowledge and scholarship.

Outcomes
These will be related to the specific project.

The group research project will be initiated by various members of staff and will be concerned with areas of investigationin pertinent historical enquiry and critical theoretical studies. The content, method and practical aims of the research will depend on the nature of the enquiry. Details of the specific programs for each year will be made available prior to enrolment. A series of public lectures will be held in relation to the project.

Seminars on Contemporary Architecture 2 units

37808
Assoc. Prof. Taylor
Prerequisite Architecture in the Twentieth Century (or corequisite)
Classes seminars
Assessment class participation, weekly readings, seminar presentation, bibliography on seminar topic, and a critically developed paper on seminar topic and full bibliography

Objectives
The course will provide a forum for discussion of current issues in architecture; encourage and foster critical thought and analysis; encourage informed and critical debate; investigate the rationale behind some considerations within the various complex strands that characterise the search for a relevant architecture today; encourage and assist students in undertaking research and enquiry; and provide experience in presenting ideas and research findings in a seminar.

Outcomes
At the end of the course students should be familiar

with the literature and works associated with the topic, be more highly skilled in research techniques and presentation, and have been exposed to a critical method of analysis and appreciation.

The specific areas of investigation will vary but they will be issues of concern pertinent to contemporary architecture.

AREA: BUILDING TECHNOLOGY AND ECONOMICS

Courses in this area deal with the construction of non-domestic scale buildings and are designed to acquaint students with the theory and practice of current building materials and techniques. The mandatory core course is Advanced Construction. The other courses enable students to develop an understanding of the economics of construction, the building industry, and to pursue particular subjects in depth.

Mandatory Course

Advanced Construction 3 units

25035
Mr Wheeler
Classes lectures, tutorials and site visits
Assessment 3 assignments. Two are linked to design projects and have two parts — the first explores issues and options arising from performance criteria and the impact of the Building Code of Australia; the second shows and explains initial design and construction decisions, including responses to the BCA. The third requires a number of drawings of construction layouts and details of the finalised design.

Objectives
The course aims to:
- examine the construction of the primary elements of the fabric of large buildings;
- further develop the principles of the performance of structure, materials and construction;
- develop the application of the requirements of the BCA and relevant Australia Standards;
- develop the primacy of detailing, skills in accurate drafting for contract documents, and the design principles of advanced construction materials in relation to structural and environmental concerns.

Outcomes
On successful completion of this course students will have a working knowledge of construction methods for large/complex buildings; a decisionmaking ability for the selection of materials, detailing of assemblies, and their relation to other parts of a building; and a working knowledge of the BCA for large buildings, the relationships between construction detailing and structural and environmental concerns, and the production of construction details for contract documents.

Each assignment is structured to exercise the learning and develop the ability of each student for one or more of the above outcomes within the context of large buildings.

The course covers the essential design elements and controls for construction design issues; buildability; programming and equipment; building elements, foundations and basements; cores, frames and floors; external walls; roofs; internal walls and ceilings.

Elective Courses

Cost Planning and Control 2 units
The Building Industry in Australia 2 units

Consult the BSc(Arch) section of this handbook for the course descriptions.

Materials and Methods 3 units

36913
Dr Holland
Classes lectures, tutorials and site visits
Assessment 2 assignments (70 per cent and 30 per cent)

Objectives
The course aims to extend understanding and knowledge of the construction of non-domestic scale buildings beyond that of mandatory construction courses, both in scope and depth.

Outcomes
On successful completion the student will (i) have gained a greater understanding of tolerances, assembly, joints, fixing methods, and the impact of the sequence of construction; (ii) have gained a greater understanding of the mechanisms of weathering, and how to design for it; and (iii) have demonstrated an ability to analyse and evaluate alternative solutions to demonstrate knowledge of (i) and (ii).

The development and detailing of part of a design is assessed against design intent and performance criteria. The understanding of weathering is assessed by the quality of observation and deduction shown. The course consists of lectures and site visits covering the material listed above. Students are asked to develop and detail parts of a building from an earlier design program. They are required to describe the performance of that part of the building to be developed. Tutorials are held on work in progress.

Independent Study Electives

Technology and Economics Elective A 2 units

35075-F (first semester)
35075-S (second semester)

Technology and Economies Elective B 1 unit

35086-F (first semester)
35086-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: BUILDING SERVICES AND ENVIRONMENTAL CONTROLS

This area covers the use of mechanical and electrical services systems in buildings, and aspects of building science relating to heat, light, sound and the natural environment. It includes the effect of wind, sun and fire on the building and its surroundings, building acoustics, security systems and conventional and alternative energy systems including energy-conservative design.

The courses in the area are based on the assumption that a student has completed the mandatory courses in the BSc(Arch). The mandatory courses in this area are intended to provide a minimum level of familiarity with and practice in the use of the services systems most commonly encountered in building design. The specific and general elective courses are intended to allow study in more depth of particular aspects.

Mandatory Course

Building Services Systems 2 units

26382
Lecturer to be advised
Classes lectures, tutorials and site visits
Assessment 2 assignments in conjunction with design projects (25 per cent, 50 per cent), report on building under construction (25 per cent)

Objectives
To provide students with sufficient knowledge of the principles of operation of the various services systems in buildings of larger than domestic scale in order to be able to contribute competently to the decisions that have to be made about these systems, and to be aware of the implications of these decisions upon building design.

Outcomes
At the completion of the course the studentis expected to:

- understand the principles involved in the functioning of the systems (these principles should remain relevant in the future even if the technology changes);
- know about the technology currently available, and understand the issues involved in deciding between competing solutions (not necessarily to make a final choice, but to contribute competently to a discussion about that choice); and
- be aware of the implications the system has on the planning of the building. This usually means the space occupied, the need for access for maintenance, and the effect on floors below and above. In the case of lifts, escalators and stairs, the pedestrian traffic patterns created should be considered.

Topics covered in the course include: strategic planning for services; air conditioning and ventilating systems; lifts and escalators; hydraulics systems; fire services; electrical services, lighting, security systems.

Elective Courses

Electricity in Buildings 2 units

36457
Mr Pearce and specialist guest lecturers
Classes lectures
Assessment 3 assignments (equally-weighted)

Objectives
The course aims to present basic principles of electricity and magnetism as necessary for an understanding of the application of electrical services in buildings; to introduce students to the applications of these principles to electrical distribution in buildings; and to outline the principles of electric motors, transformers and switchboard design.

Outcomes
It is expected that students will gain basic knowledge of components of the electricity generating and distribution network external to and within buildings; the types and use of cables and enclosures in and around buildings; methods of assessment of loads and cable sizes; principles of operation of transformers and motors and the design of switchboards and earthing, emergency evacuation lighting and early warning information systems; and a basic understanding of data transmission via copper wire and optical fibre.

Assignments will test acquired skills in electrical load estimation and the design of simple electrical distribution systems.

An understanding of electrical services is an essential requirement for building services practitioners involved in the design professions and the construction and building management industries.

Energy-Conservative Architectural Design 2 units

36403
Mr Forwood
Classes lectures and seminars
Assessment assignment (100 per cent)

Objectives
The course will explore the form-making and space-making potential of energy and environmental issues in architectural design to locate the issues of 'sustainability' and 'environmental quality' within contemporary architectural design paradigms.

Outcomes
At the conclusion of this course eachstudentis expected to (1) have explored the form-making and space-making potential of low-energy design principles by critically examining relevant contemporary and historical architecture; (2) understand the influence of modern architectural theory informing contemporary attitudes, to technology and environmental issues in modern architecture; and (3) be able to develop a definable position on the relevance of 'sustainability' in contemporary architectural design practice.

The assignment and associated seminars provide the Opportunity for students to elucidate their views and critically examine contemporary buildings in relation to the principles of sustainability.

The course begins by examining the status of energy and environmental issues in contemporary architectural discourse, then develops the hypothesis that these and the related issue of 'sustainability' will remain peripheral to this discourse until they form part of an architectural design paradigm. The second part of the course explores how this paradigm may be developed by examining the form and space-making potential of these issues in a series of critical analyses of contemporary buildings.

Solar Energy and Passive Design 2 units

36463
Mr Forwood
Classes lectures, tutorials and seminars
Assessment 2 assignments

Objectives
The course aims to provide the opportunity to study solar energy as an energy source for buildings and to explore, in depth, the principles and practice of passive solar building design.

Outcomes
At the end of the course students are expected to have a working knowledge of the physics of radiation energy transfer; have an understanding of the use of solar energy in active and passive technologies in building; and have studied, in depth, some aspect of the impact of solar energy in buildings. Students should be able to determine the preliminary sizing of the major elements of a passive solar building.

One assignment provides the opportunity for students to present the findings of their in-depth study and the other is a design analysis exercise.

Topics covered in the course include: solar energy as a source of power; the physics of radiant energy transfer; active solar systems; principles of passive solar design; sizing of passive solar elements; case studies.

Wind Effects on Buildings 2 units

36430
Mr Forwood
Classes lectures and laboratory classes
Assessment assignment (100 per cent)

Objectives
The course will study the impact of wind upon building design and explore techniques to evaluate the ground level wind environment in urban spaces.

Outcomes
At the conclusion of this course each student is expected to (1) have a working knowledge of the principles of fluid mechanics associated with airflow around buildings; (2) understand the causes of major wind related problems in architectural and urban design; (3) be familiar with the range of techniques available for evaluating the impact of wind on buildings; and (4) be able to undertake, and report on, a wind tunnel investigation of the wind environment in an urban space.

The assignment requires students to undertake a supervised investigation using scale models in a wind tunnel and to report on the findings and explain them using their knowledge of fundamental principles and theories.

The course begins by identifying common wind-related problems in architectural and urban design. Sufficient fluid dynamics to understand the cause of these problems is then studied. The major component of the course is concerned with the evaluation of the wind environment in urban spaces. Wind tunnel simulations are explored and the role of these investigations in the development approval process is discussed. The course concludes with an investigation of natural ventilation in buildings.

Independent Study Electives

Building Services Elective A 2 units

36477-F (first semester)
36477-S (second semester)

Building Services Elective B 1 unit

36489-F (first semester)
36489-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: ARCHITECTURAL STRUCTURES AND MATERIALS

This area deals with the selection of structural form, and its relationship to the design of buildings; and the selection and appropriate use of building materials, their performance, and their effect upon the performance of the building.

Most of the courses in the area relate to buildings of larger than domestic scale; structural systems and materials for small buildings having been dealt with in the BSc(Arch) degree.

Mandatory Course

Architectural Structures and Materials 3 units

27134
Dr Gunaratnam
Classes lectures, tutorials and site visits
Assessment 2 design projects (30 per cent each), *2* case studies (10 per cent each) and a study of a building under construction (20 per cent)

Objectives

- To introduce students to the different structural and foundation systems available for advanced structures;
- - to explore structural design issues and strategies for synthesising these structures;
- to provide designinformationfor the synthesis and selection of appropriate structural systems within the context of a building design;
- to introduce students to approximate behavioural models for understanding and predicting the behaviour of these structures;
- to familiarisestudentswiththeproperties, processes and applications of materials such as glass, concrete and polymers; and
- to introduce students to the different factors influencing corrosion in materials, particularly in metals, and methods of controlling corrosion in buildings.

Outcomes

At the completion of this course each student is expected to:

- be familiar with the different structural strategies used in the synthesis of wide-span and tall building structures;
- be familiar with the different structural and foundation systems available, for wide-span and tall buildings, and the context in which they are used;
- be able to collect appropriate information and formulate the structural design requirements for wide-span and tall building structures;
- be able to generate and evaluate a number of alternative structural systems that satisfy the design requirements;
- » be able to select suitable design parameters for the structural system using available design information, and to extract appropriate behavioural models for the approximate sizing of some of the major elements in the system;
- have an appreciation of the relationships between design parameters, structural form, structural efficiency and cost; and
- be cognisant of the properties, production methods and architectural applications of materials such as glass, concrete, polymers, sealants and metal, and be able to use this information for making decisions relating to material selection and use.

The above course outcomes provide the basis for the different assessment tasks.

The course focuses on structural design issues applicable to advanced structures that fall within the categories of wide-span and tall building structures, and provides the knowledge required for their synthesis and preliminary design. It provides experience in making structural decisions within the context of building designs that exploit these classes of structures. It also provides information on the properties, processes and applications of a selected group of building materials.

Elective Courses

Object Design and Construction 2 units

Workshop Technology — Timber 2 units

Consult the BSc(Arch) section of this handbook for the course descriptions.

Independent Study Electives

Architectural Structures and Materials Elective A 2 units

37159-F (first semester)
37159-S (second semester)

Architectural Structures and Materials Elective B 1 unit

37163-F (first semester)
37163-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: MANAGEMENT

This area deals with the legal and management aspects of office and project organisation, including relationships with the community, authorities, clients, consultants, contractors and suppliers.

Courses are presented on the assumption that a student has completed a course related to the law and professional practice in the BSc(Arch) degree, or elsewhere.

The mandatory courses in this area provide a basic level of familiarity with the ethics of professional practice, systems for implementing processes, and recognised contract procedures available within the construction industry. They also provide instruction on approaches to documentation and the preparation of contract documents, and include contract drawings, specification and preliminary estimates of simple buildings. Other courses are provided to allow study in depth of areas of concern to the student of management.

Mandatory Courses

Contract Documentation 3 units

28728

Dr Billings (coordinator), Mr MacCallum, Mr Wheeler and design staff

Classes lectures, seminars and studio-based instruction

Assessment set of working drawings (40 per cent), a series of specifications and costs and a 1 hr documentation-related law quiz (60 per cent)

Objectives

The course aims to provide information about, and skills in the production of, working drawings, specifications, and estimates to represent a set of contract documents for the architectural work of a small building.

Outcomes
Each student will be competent to produce a set of working drawings, a set of specifications, and an estimate for the architectural components of a small building.

The submitted drawings are assessed for the degree to which there is a correct use of conventions, dimensions, identification of parts, referencing, draughtsmanship, clarity, and set-out, and the specifications cover the essential elements of such a document, such that clients, authorities, other consultants, bidders and sub-contractors can understand what is required to be built.

This course provides instruction in the making of contract drawings, the writing of specifications, and the estimating of probable costs. These tasks also provide the basis for relating information on trades, schedules and finance; the form and purpose of such documents for all parties to the construction of a building; the place of contract documents in contracts and contractual processes; the relationship between contract documents and relevant law and the implications of non-performance; preparation for undertaking technical drawings for more complex buildings in the final year of the BArch; and a context for understanding the full examination of contracts in the course Professional Practice.

Professional Practice 4 units

38734
Dr Billings (coordinator), Mr MacCallum
Prerequisite Contract Documentation
Classes lectures and seminars
Assessment This is done by a series of exercises. In first semester, students work individually to produce four letters or opinions on copyright, conditions of engagement, and engagement of consultants, plus a calculation of hourly and charge-out rates for a small office. In second semester, students work in pairs to present seminar papers on 2 of 16 topics in Conditions of Contract, and two papers solving two case studies of professional practice.

Objectives
The course provides information on professional practices in architecture as it applies to the responsibilities of architects to clients, other professionals and builders, and to contract administration practices within the construction industry including traditional and alternative procurement methods for buildings.

Outcomes
Students are expected to demonstrate a knowledge of an architect's responsibilities, the ways in which architectural practices are involved in the implementation of contract administration, and contract procedures available within the building industry.

The assignments in first semester indicate the degree to which the student has appreciated the architects' responsibilities to themselves, to the work required and to other persons involved in a project. The assignments in second semester allow the student to demonstrate a knowledge of the links between contracts, their administration, the professionals' responsibilities to both, and of the relationship between contracts, their administration, and how both can impact on the design and construct phases of a project.

The course informs on the following: the regulation of the architectural profession and the building industry; roles of consultants and their selection, engagement, coordination and responsibilities; modes of practice; conditions of engagement for architects; fee structures; meeting procedures for clients, site and authority investigations; pre-contract management; contract selection and administration; alternate building procurement methods; and the relationship of all of the above in completing a building project.

Elective Courses

Architectural Office Management 1 unit

38747
Dr Billings
Classes practice-based lectures and seminars
Assessment 1000 word written report, in two parts. The first part describes the personal and business objectives of an architectural firm as envisaged by the student, the second part describes the management of personnel and projects in terms of budgeting and forecasting cost, time and quality.

Objectives
The course aims to inform senior students of management practices and systems as they pertain to the administration of an architectural office, including marketing the office, entities and structures available for use in conducting a business, and in-house project, financial and personnel management.

Outcomes
At the end of the course the student should be able to describe personal and business objectives for an architectural office, define ways of managing personnel and projects, and create a budget and cash flow forecast for a project.

The assignment provides an opportunity for the student to indicate an ability to describe business objectives and a preferred management style, and to demonstrate how these provide a way of maximising the potential of the various resources of the office, so that the imagined practice completes projects on time, on budget and to an acceptable quality, such that the firm is assured of continuity.

The course includes instruction on the structure and changing nature of the architectural profession and the building industry in general; various forms of contemporary practice for procuring buildings; the meaning and nature of corporate plans, including business plans, performance targets, strategies for achieving objectives, and preferred management styles; in-house project management including project acquisition, planning and monitoring; office practices including data recording, filing, coordination/ meetings, quality assurance standards; project progress reviews; value and risk management, financial management, and personnel management.

Independent Study Electives

Management Elective A — 2 units

38811-F (first semester)
38811-S (second semester)

Management Elective B — 1 unit

38823-F (first semester)
38823-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: DESIGN COMPUTING

The current transition from traditional media for design, documentation and communication to computer-based media is changing the processes of design and construction. These innovations are occurring at a rapid rate and are imposing increasing pressures on design professionals. The courses in this area explore the placement, management and use of computers in design offices as well as some techniques of computing. The representation of design knowledge in computers (knowledge engineering) is also explored. In addition, higher level postgraduate courses in this area may, with permission, be taken by BArch students.

Elective Courses

CAD in Design — 3 units

17714
Assoc. Prof. Maher
Classes lecture/demonstrations and tutorials
Assessment tutorial exercises (30 per cent), CAD project (50 per cent) and CAD extension (20 per cent)

Objectives
The course will develop skills in the use of AutoCAD (or equivalent industry standard CAD system) for producing 2D drawings, 3D models, the use of layers, colours, libraries, and non-graphic data representation. It will present the various issues in the use of CAD in the building and construction industry.

Outcomes
Students will acquire skills in using a broad range of AutoCAD commands for generating complex drawings, for the layout and printing of production drawings, and in the development of 3D CADmodels. They will also gain a basic understanding of how CAD systems represent graphic and non-graphic data, and produce a portfolio of designs documented using a CAD system.

The three assessments lead progressively to each outcome.

The specific course content will vary depending on the CAD system the student and lecturer choose to use. The general knowledge portion of the course includes: introduction to the representation of graphics and non-graphic data in CAD systems; and presentations by visiting lecturers from professional practice on the use of CAD.

The content associated with the specific CAD system includes: demonstration and tutorial exercises for the use of commands, blocks, and 3D models to generate production drawings; instruction on the development of layers, colours, shadows, and animation of 3D models; and development of documentation for a specific building using CAD.

Database Management Systems for Design — 3 units

13248
Assoc. Prof. Maher
Classes lectures and tutorials
Assessment (1) development of a hypertext stack of design data combining images and text (25 per cent); (2) design and implementation of a database management scheme for a design application (50 per cent); (3) extend the database developed in assignment 2 to include multimedia data (25 per cent).

Objectives
The course will:
- introduce the concept of database management through the development of a HyperCard stack;
- introduce basic programming techniques through the development of scripts in a HyperCard environment;
- introduce the theoretical basis for database management systems;
- provide methods and guidelines on the design of a database schema for design application; and
- develop skills in implementing and maintaining a database using a standard query language.

Outcomes
Students will be able to implement a database in HyperCard or equivalent, write simple scripts to navigate through the data, design and develop a database using a relational database management system (RDBMS), write SQL statements to manipulate the data in the RDBMS, extend the RDBMS to include multimedia data, and select an appropriate software tool for implementing a professional design database.

The first assessment relates to the first two outcomes, the database assessment relates to the third, fourth and sixth outcomes, and the multimedia assessment relates to the fifth outcome.

Areas covered by the course include: HyperCard databases and scripting languages; relational, extended relational, and object-oriented data models; database design and normalisation techniques; query languages and SQL; multimedia data management.

Multimedia in Design — 3 units

17716
Dr Rutherford
Classes lectures and tutorials
Assessment Project work involves a series of staged exercises exploring different aspects of computer graphics and multimedia, leading up to the production of a complete multimedia system.

Objectives
The course will present students with the range of current technologies pertaining to the design of interactive, networked multimedia computer systems. These systems will be presented in the context of design.

Outcomes
Students will be equipped with the following:
- broad understanding of the capabilities of computer systems in the area of graphics and multimedia;
- skills in using simple computer graphics and multimedia systems;
- skills in comparing and evaluating different graphics systems and their suitability for different practical situations;
- critical appreciation of the role of the computer as a mass media technology; and
- material for a portfolio of work and sample systems demonstrating design and technical competence in the various areas of computer graphics and multimedia covered in the course.
  The production of a multimedia system for assessment relates to each outcome.

The following material will be covered in the course: 3D modelling, paint systems, image processing, video processing, computer animation, integrated multimedia systems, the role of multimedia in design, and multimedia authoring and programming.

Theory and Practice of Design Computing 3 units

17713
Assoc. Prof. Maher
Classes lectures and demonstration/ tutorials
Assessment (1) a test on computer systems (30 per cent); (2) discussion paper (2500 words) on a topic chosen by the student (40 per cent); (3) a collaborative design project using network facilities to enable collaboration, for example, the design of a newsletter to be placed on the World Wide Web (30 per cent).

Objectives
The course aims to:
- provide an overview of the scope of design computing applications and their use in practice;
- to describe the use of the computing applications and network available in the design computing laboratory;
- to present design computing as a network which provides an environment for collaboration; and
- to present various theories of design and design computing.

Outcomes
At the end of the course the student will:
- have an understanding of the broad range of design computing in practice;
- have a basic knowledge of Macintosh and UNIX computers, applications, and file management;
- be able to find and place information on the World Wide Web, and establish a collaborative project using e-mail;
- have a general understanding of the range of design theories useful to design computing; and
- have a deep understanding of one aspect of design theory and its implications to design computing.
  The three-part assessment relates to specific outcomes. The test relates to the first two outcomes, the newsletter to the third outcome and the paper to the last two outcomes.

The course covers: practice of design computing (design and CAD; computers, systems and software; computers in design practice; the role of knowledge in CAD; multimedia in design; networks, Internet, and e-mail); theory of design computing (computational models of design; knowledge-based design; research in design science).

Computer-Based Design 2 units

Understanding Design 2 units

Consult the BSc(Arch) section of this handbook for course descriptions.

Independent Study Electives

Design Computing Elective A 2 units
31777-F (first semester)
31777-S (second semester)

Design Computing Elective B 1 unit
31784-F (first semester)
31784-S (second semester)

For these courses students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: SOCIAL CONTEXT OF DESIGN AND THE BUILT ENVIRONMENT

Elective Courses

Colour Design 3 units

Cross-Cultural Approaches to Architecture and Planning 2 units

Design and Consultation 2 units

Knowledge Structures in Design 3 units

Urban Conservation Planning 2 units

Social Context Elective A 2 units

Social Context Elective B 1 unit

Consult the BSc(Arch) section of this handbook for course descriptions.

AREA: CONSERVATION

Elective Course

Conservation of the Built Environment

2 units

31762
MrHowells
Classes lectures and site visits
Assessment 1 assignment—statementof cultural significance in accordance with the methodology of J.S. Kerr's *Conservation Plan*

Objectives
Students will develop practical, applicable professional skills in the methodology and practice of architectural conservation in Australia. They will demonstrate an understanding of the Australia ICOMOS Burra Charter and J.S. Kerr's *Conservation Plan* and apply this knowledge in preparing Statements of Cultural Significance of selected buildings and /or structures. Current theoretical and philosophical approaches to architectural conservation in Australia will bestudied.

Outcomes
At the end of the course students will demonstrate an understanding of the Burra Charter and J.S. Kerr's *Conservation Plan* and be able to apply this knowledge in preparing Statements of Cultural Significance. They will demonstrate skill in methods and techniques of analysis, assessment and documentation of cultural significance, and historical research skills and their application to architectural conservation.

The intended outcomes are achieved through inquiry, individual study and research demonstrated by each student by the successful completion of set assignments. The written assignment assesses the students' understanding of the principles and methodology for the determination of cultural significance of a selected place of importance and allows them to demonstrate their skills of assessment, analysis and documentation of a selected place consistent with the given methodology. Assessment criteria based on the course outcomes are used for the examination of the work.

The course will consider material from each of the following areas: survey and documentation methods (historic and archival research methods, thematic history methods, pattern recognition, aesthetic analysis; material and stylistic analysis); evaluation methods (criterion, typology and threshold-based systems, statements of significance; hybrid methods withboth classification and conservation action goals); assessment methods (relating; dynamic processes to identified patterns of cultural values; describing, assigning priority, and justifying values worthy of conservation practice); conservation action (conservation and management plans, orders and agreements).

AREA: ADVANCED STUDY

Students are encouraged to prepare a report based upon in-depth study in a specialised area, normally during the third year of the degree. This may be either an individual study program, or be taken concurrently with the Conservation of the Built Environment course.

This work provides an opportunity for training in research, analysis and documentation of material in a systematic academic format. Advanced Study Reports do not in themselves consist of architectural design work or art work, but may be very closely related to and supportive of the process of design and production of the works of art. Successful completion of an Advanced Study Report is a prerequisite to the award of an honours degree.

Prior to enrolment, students should discuss a potential topic with a member of staff and obtain their agreement to supervise the study. Students may be asked to present seminars on their work to the staff and students of the Faculty. The report will be assessed by two examiners. Only one course of Advanced Study may be taken in any year.

Preparatory Advanced Study Report

Elective 2 units

37860
Assoc. Prof. Taylor, Dr Snodgrass
Classes seminars
Assessment
Option 1: A developed research proposal that provides a referenced discussion of the literature (for students who wish to continue and complete an ASR the following year).
Option 2: An essay that is a critical analysis of the literature studies (for students who do not wish to continue with an ASR).

Objectives
The course aims to equip students with the research and writing skills needed to prepare an Advanced Study Report or similar research-oriented documents. It will provide an introductory overview of basic research techniques; basic methodological skills; information search, storage and retrieval techniques; organisation and writing skills for completing a research document.

Outcomes
At the completion of the course students will be expected to have acquired the skills necessary for the successful completion of an Advanced Study Report or equivalent research document.

The course is divided into two parts. The first will cover the following basic issues that are involved in an ASR: deciding on a research topic; searching for information; managing a research project; writing a research proposal. The second part will involve each participant working with his or her supervisor to produce a research proposal or an essay.

Advanced Study Report 1

6 units

33323

Advanced Study Report 2

6 units

33340

Coordinator to be appointed
Prerequisite Preparatory Advanced Study Report Elective
Assessment The requirements for the submission of an advanced study report, its examination, and the determination of the results, are given in the Faculty resolutions on pages 64—66.

Objectives
The Advanced Study Report allows the candidate to explore and research an area of architectural study in some depth, by private study under the direction of a supervisor, and to produce a document reporting the study. The objectives of the course are to enable the candidate to learn about research methods and to experience the production of a research report, and to explore an area relevant to the study of architecture, in greater depth and at a more advanced level than is possible within the mandatory courses or other electives.

Outcomes
Atthe completion of the year, the candidateis expected to be able to:
• develop a program of research from the initial proposal, using an examination of the literature, and develop a research methodology;
• carry out the research methodology, modifying it in the light of findings as it proceeds;
• draw conclusions from the research, and relate those conclusions to the original proposition; and
• write up and produce a formal research report, in appropriate language, and with proper referencing.

Because each candidate selects a topic, there is no specific subject content for the course. Within the prerequisite subject, which is normally taken in the year preceding the Advanced Study Report, the candidate is required to select an area of study, and negotiate with an appropriate staff member to become supervisor for the Advanced Study Report. In consultation with the supervisor a research proposal is developed which provides a referenced discussion of the literature. In this course the candidate is then expected to further develop the methodology for researching the proposed topic, carry out the investigation and modify the methodology as necessary, and finally write up the results in the appropriate form.

Advanced Study Report (Conservation and Restoration) 6 units

32823
MrHowells
Prerequisite Conservation of the Built Environment
Classes lectures, tutorials and site visits
Assessment The requirements for the submission of an advanced study report, its examination, and the determination of the results, are given in the Faculty resolutions on pages 64-66.

Objectives
The course is intended to introduce students to the philosophies and accepted professional standards of practice of the conservation of the built environment in Australia.

Outcomes
Students will demonstrate skills in historical research, documentary recording techniques, the analysis and ' interpretation of the physical fabric, the assessment of cultural significance and the formulation of sound conservation policies and programs.

The form of presentation will conform to J.S. Kerr's *Conservation Plan* and embody the principles of the Australia ICOMOS Burra Charter.

The course will include specialist lectures, seminars, numerous site visits, excursions and tutorials.

AREA: ART

The ability to explore and express ideas through visual media is extremely important for architects who must be able to communicate in two and three dimensions, detailed and precise plans about properties, objects and processes, as well as general concepts and ideas.

The courses offered by the Art Workshop provide students with the opportunity to expand their abilities by acquiring specific art media skills invaluable for their development into professional architects. Art Workshop courses also enable students to refine their understanding, through first-hand experience in a variety of art media, of the continuing and productive relationship between architecture and art.

Consult the BSc(Arch) section of this handbook for descriptions of these courses.

Ceramics — Handbuilding 1	2 units
Ceramics — Handbuilding 2	2 units
Ceramics — Wheel Throwing 1	2 units
Ceramics — Wheel Throwing 2	2 units
Drawing 1	2 units
Drawing 2	2 units
Etching 1	2 units
Film/Video 1	2 units
Graphic Design 1	2 units
Painting 1	2 units
Painting 2	2 units
Photography 1	2 units
Photography 2	2 units
Screen Printing — fabric 1	2 units
Screen Printing — paper 1	2 units
Screen Printing — paper 2	2 units
Sculpture 1	2 units
Sculpture 2	2 units
Set Design 1	2 units
Works on Paper	2 units
Art Elective 1	2 units

Art Elective 2 **2 units**
Art Elective 3 **2 units**
Advanced Art 1 **4 units**
Advanced Art 2 **4 units**
Advanced Art 3 **4 units**

AREA: LANDSCAPE STUDIES

The professions of architecture and landscape architecture have much in common. Increasing numbers of design projects, where both professions work together, are being undertaken in urban, rural and natural locations.

A basic knowledge of the theory and practice of landscape design, an understanding of the major elements of the landscape and how these can be manipulated in design, together with ah appreciation of how and why buildings and their surroundings should be designed as a totality and not as separate entities, is an important part of architectural education.

Refer also to the History and Theory of Architecture area for courses covering the History of Landscape Architecture.

Independent Study Electives

Landscape Architecture Elective A 2 units
35190-F (first semester)
35190-S (second semester)

Landscape Architecture Elective B 1 unit
35207-F (first semester)
35207-S (second semester)

For these courses students are able, by means, of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

AREA: URBAN AND REGIONAL PLANNING

The theory and practice of town planning is of very considerable interest and relevance to practitioners of arcMtectare. Whustplanningprofessionalsareinvolved with a wide range of issues and policies relating to problems sometimes at a national and regional level, and manyof them withoutspecificspatial implications, there are nevertheless important areas which are the common concern of both planners and architects.

Elective Courses

Planning and Architecture 2 units
36383
Staff of the Department of Urban and Regional Planning
Classes lectures
Assessment assignments

This course will explore the impact of current planning philosophies and planning practice on building development and design in New South Wales. The first part of the course will outline contemporary planning issues and literature, while the second part will focus on the specific role and operations of planning and related authorities. The learning mode will emphasise seminars and assessment will be by case studies and assignment.

Independent Study Electives

Urban and Regional Planning Elective 2 units
36449-F (first semester)
36449-S (second semester)

For this course students are able, by means of private study and research, to explore in depth a selected topic. In the first instance students should obtain written approval of their proposed study from a lecturer in the area concerned. This approval should then be handed to the Faculty office.

Senate resolutions

Table of courses for the BSc(Arch) (1993 resolutions)

Area	Course title	Unit value	Mandatory or elective	Prerequisite
Design	Design A	4	M	
	Design B	4	M	
	Design C	6	M	Design A and B
	Design D	6	M	Design A and B
	Design Support D	1	M	(corequisite Design D)
	Design E	6	M	Design C and D
	Design F	6	P*	Design C and D
	Design Support F	2	P*	(corequisite Design F)
	Design Elective A	2	E	
	Design Elective B	1	E	

Area	Course title	Unit value	Mandatory or elective	Prerequisite
History and Theory of Design	History of the Built Environment A	3	M	
	History of the Built Environment B	3	M	
	Mathematics and Science in Design	2	M	
	History of the Australian Built Environment	3	M	History of the Built Environment A and B
	Design Theory and Method	2	M	Design A, B, C and D
	History of Building Science	3	E	History of the Built Environment A and B
	History of Eastern Architecture	2	E	History of the Built Environment A and B
	History of Landscape Design pre" 1700	2	E	History of the Built Environment A and B
	History of Landscape Design post 1700	2	E	History of the Built Environment A and B
	History of Urban Design pre 1800	2	E	History of the Built Environment A and B
	History of Urban Design post 1800	2	E	History of the Built Environment A and B
	Mathematical Modelling for Designers	2	E	Mathematics and Science in Design
	Renaissance to Baroque Architecture in Italy	2	E	History of the Built Environment A and B
	Science and Society	2	E	Mathematics and Science in Design
	Special Topics in Architectural History and Theory A	2	E	
	Special Topics in Architectural History and Theory B	1	E	
	Statistics in Environmental Design	2	E	Mathematics and Science in Design
	Theatre Design and History	2	E	History of the Built Environment A and B
	History and Theory Elective A	2	E	
	History and Theory Elective B	1	E	
Materials, Structure and Construction	Materials and Form in Building	2	M	
	Building Principles	3	M	
	Construction A	3	M	Building Principles and Materials and Form in Building
	Structure and Form	2	M	Materials and Form in Building and Building Principles
	Construction B	4	P*	Structure and Form and Construction A
	Structural Systems Design	2	P*	Construction A and Structure and Form
	Cost Planning and Control	2	E	
	Object Design and Construction	2	E	Workshop Technology — Timber
	Structures Theory	2	E	Structure and Form
	The Building Industry in Australia	2	E	
	Workshop Technology — Timber	2	E	
	Materials, Structure and Construction Elective A	2	E	
	Materials, Structure and Construction Elective B	1	E	
Social Context of Design and the Built Environment	People and the Environment	3	M	
	Habitat and Society A	2	M	People and the Environment
	Habitat and Society B	2	M	People and the Environment
	The Design Professions	3	M	
	Colour Design	3	E	People and the Environment
	Cross-Cultural Approaches to Architecture and Planning	2	E	Habitat and Society A and B
	Design and Consultation	2	E	Habitat and Society B
	Knowledge Structures in Design	3	E	People and the Environment
	Urban Conservation Planning	2	E	History of the Built Environment A and B
	Social Context Elective A	2	E	
	Social Context Elective B	1	E	

Area	Course title	Unit value	Mandatory or elective	Prerequisite
Environmental Science and Technology	Climate, Landscape and the Built Environment A	2	M	
	Climate, Landscape and the Built Environment B	2	M	
	Environmental Science and Technology A	3	M	Climate, Landscape and the Built Environment A and B
	Landscape Design	2	M	
	Environmental Science and Technology B	3	P*	Environmental Science and Technology A
	Energy and the Built Environment	2	E	Climate, Landscape and Built Environment A and B
	Ergonomics	2	E	People and the Environment, Mathematics and Science in Design
	Introduction to Plant Material	2	E	Landscape Design
	Environmental Science Elective A	2	E	
	Environmental Science Elective B	1	E	
	Landscape Design Elective A	2	E	
	Landscape Design Elective B	1	E	
Design Communications	Design Communications A	3	M	
	Design Communications B	3	M	
	Design Communications C	2	M	Design Communications A andB
	Design Communications D	2	M	Design Communications A andB
	Computer-Based Design	2	E	
	Understanding Design	2	E	
	Ceramics — Handbuilding 1	2	E	
	Ceramics — Handbuilding 2	2	E	Ceramics — Handbuilding 1
	Ceramics — Wheel Throwing 1	2	E	
	Ceramics — Wheel Throwing 2	2	E	Ceramics — Wheel Throwing 1
	Drawing 1	2	E	
	Drawing 2	2	E	Drawing 1
	Etching 1	2	E	
	Film/Video 1	2	E	
	Graphic Design 1	2	E	
	Painting 1	2	E	
	Painting 2	2	E	Painting 1
	Photography 1	2	E	
	Photography 2	2	E	Photography 1
	Screen Printing — fabric 1	2	E	
	Screen Printing — paper 1	2	E	
	Screen Printing — paper 2	2	E	Screen Printing — paper 1
	Sculpture 1	2	E	
	Sculpture 2	2	E	Sculpture 1
	Set Design 1	2	E	
	Works on Paper	2	E	
	Art Elective 1	2	E	
	Art Elective 2	2	E	
	Art Elective 3	2	E	
	Advanced Art 1	4	E	
	Advanced Art 2	4	E	
	Advanced Art 3	4	E	
	Design Communications Elective A	2	E	
	Design Communications Elective B	1	E	
Honours	Thesis and Research Methods	—	—	

Consult the timetable for electives offered in any year.
* P = prerequisite course for the BArch

Table of courses for the BArch (1993 resolutions)

Area	Course title	Unit value	Mandatory or elective	Prerequisite
General	Report	—	M	
Architectural Design	Architectural Design 1	10	M	
	Architectural Design 2	10	M	Architectural Design 1
	Applications of Technology in Architectural Design	4	M	Architectural Design 1, Advanced Construction, Building Services Systems and Architectural Structures and Materials
	Building Programming Documentation	2	E	
	Master Planning	2	E	
	Architectural Design Elective A	2	E	
	Architectural Design Elective B	3'	E	
	Architectural Design Elective C	1	E	
	Building Programming Elective A	2	E	
	Building Programming Elective B	1	E	
History and Theory of Architecture	Theory of Architecture	2	M	
	Architecture in the Twentieth Century	3	M	
	Architecture, Posts tructuralism and Contemporary Thought	2	E	
	History and Theory Group Research Project	3	E	
	History of Building Science	3	E	
	History of Eastern Architecture	2	E	
	History of Landscape Design pre 1700	2	E	
	History of Landscape Design post 1700	2	E	
	History of Urban Design pre 1800	2	E	
	History of Urban Design post 1800	2	E	
	Mathematical Modelling for Designers	2	E	
	Renaissance to Baroque Architecture in Italy	2	E	
	Science and Society	2	E	
	Seminars on Contemporary Architecture	2	E	Architecture in the Twentieth Century (or corequisite)
	Special Topics in Architectural History and Theory A	2	E	
	Special Topics in Architectural History and Theory B	1	E	
	Statistics in Environmental Design	2	E	
	Theatre Design and History	2	E	
	History and Theory Elective A	2	E	
	History and Theory Elective B	1	E	
Building Technology and Economics	Advanced Construction	3	M	
	Cost Planning and Control	2	E	
	Materials and Methods	3	E	
	The Building Industry in Australia	2	E	
	Technology and Economics Elective A	2	E	
	Technology and Economics Elective B	1	E	
Building Services and Environmental Controls	Building Services Systems	2	M	
	Electricity in Buildings	2	E	
	Energy-Conservative Architectural Design	2	E	
	Solar Energy and Passive Design	2	E	
	Wind Effects on Buildings	2	E	
	Building Services Elective A	2	E	
	Building Services Elective B	1	E	

Area	Course title	Unit value	Mandatory or elective	Prerequisite
Architectural Structures and Materials	Architectural Structures and Materials	3	M	
	Object Design and Construction	2	E	Workshop Technology — Timber
	Workshop Technology — Timber	2	E	
	Architectural Structures and Materials Elective A	2	E	
	Architectural Structures and Materials Elective B	1	E	
Management	Contract Documentation	3	M	
	Professional Practice	4	M	Contract Documentation
	Architectural Office Management	1	E	
	Management Elective A	2	E	
	Management Elective B	1	E	
Design Computing	CAD in Design	3	E	
	Computer-Based Design	2	E	
	Database Management Systems for Design	3	E	
	Multimedia in Design	3	E	
	Theory and Practice of Design Computing	3	E	
	Understanding Design	2	E	
	Design Computing Elective A	2	E	
	Design Computing Elective B	1	E	
Social Context of Design and the Built Environment	Colour Design	3	E	
	Cross-Cultural Approaches to Architecture and Planning	2	E	
	Design and Consultation	2	E	
	Knowledge Structures in Design	3	E	
	Urban Conservation Planning	2	E	
	Social Context Elective A	2	E	
	Social Context Elective B	1	E	
Conservation	Conservation of the Built Environment	2	E	
Advanced Study	Preparatory Advanced Study Report Elective	2	E	
	Advanced Study Report 1	6	E	Preparatory Advanced Study Report Elective
	Advanced Study Report 2	6	E	Preparatory Advanced Study Report Elective
	Advanced Study Report * (Conservation and Restoration)	6	E	Conservation of the Built Environment
Art	Ceramics — Handbuilding 1	2	E	
	Ceramics — Handbuilding 2	2	E	Ceramics — Handbuilding 1
	Ceramics — Wheel Throwing 1	2	E	
	Ceramics — Wheel Throwing 2	2	E	Ceramics — Wheel Throwing 1
	Drawing 1	2	E	
	Drawing 2	2	E	Drawing 1
	Etching 1	2	E	
	Film/Video 1	2	E	
	Graphic Design 1	2	E	
	Painting 1	2	E	
	Painting 2	2	E	Painting 1
	Photography 1	2	E	
	Photography 2	2	E	Photography 1
	Screen Printing — fabric 1	2	E	
	Screen Printing — paper 1	2	E	
	Screen Printing — paper 2	2	E	Screen Printing — paper 1
	Sculpture 1	2	E	
	Sculpture 2	2	E	Sculpture 1
	Set Design 1	2	E	

Area	Course htle	Unit value	Mandatory or elective	Prerequisite
	Works on Paper	2	E	
	Art Elective 1	2	E	
	Art Elective 2	2	E	
	Art Elective 3	2	E	
	Advanced Art 1	4	E	
	Advanced Art 2	4	E	
	Advanced Art 3	4	E	
Landscape Studies	Landscape Studies Elective A	2	E	
	Landscape Studies Elective B	1	E	
Urban and Regional Planning	Planning and Architecture	2	E	
	Urban and Regional Planning Elective	2	E	

Consult the timetable for electives offered in any year.

Bachelor of Science (Architecture) and Bachelor of Architecture

Coursework to be completed

1. (1) A candidate shall complete the courses prescribed by the Faculty for the relevant degree, satisfying all requirements with regard to mandatory courses and taken in such sequence as the Faculty may determine from time to time.

(2) Coursework shall consist of lectures and seminars together withsuchtutorialinstruction, essays, exercises, practical work and assignments as may be prescribed by the Faculty.

(3) A candidate who does not satisfy the coursework requirements in subsection (2) may be refused permission to present for examination in that coursework.

(4) Credit is granted for coursework on the basis of units being gained for successfully completing courses. One unit is equivalent to one hour of contact time per week for one semester together with any appropriate practical work.

(5) Courses may include prerequisites and/or corequisites and may be grouped to form areas of study.

(6) A candidate may, in satisfying the requirements of subsection (1), receive credit for courses previously completed or may enrol in substitute courses for those prescribed, subject to sections 7,8,9,10 and 11.

2. A candidate who completes a course at a standard higher than that required for a Pass may be awarded High Distinction, Distinction or Credit.

3. A candidate who has been prevented by duly credited illness or misadventure from completing a course may be required to complete that course or a supplementary course as the Faculty shall determine.

4. Unless exempted by the Faculty a candidate, having failed to complete a course and being permitted to re-enrol, shall complete all the requirements for that course.

5. A candidate who presents for re-examination in any course shall not be eligible for any prize or scholarship awarded in connection with such examination.

6. (1) A candidate may take in one year courses whose total unit value exceeds 40 units for the Bachelor of Science (Architecture) or 34 units for the Bachelor of Architecture only with the approval of the Faculty, provided that no candidate may take in any one year courses whose total unit value exceeds 43 for the Bachelor of Science (Architecture) or 37 for the Bachelor of Architecture.

(2) If in the opinion of the Faculty any change of the resolutions relating to the requirements for the degrees of Bachelor of Science (Architecture) or Bachelor of Architecture acts to the prejudice of a candidate, that candidate may complete candidature under such conditions as may be prescribed by the Faculty subject to the authority of the Academic Board and the Senate.

(3) A candidate who commenced candidature for the BSc(Arch) before 1 January 1992 shall:

(a) complete the requirements for the Pass degree no later than 31 December 1993 in accordance with the resolutions of the Senate and Faculty in force at the time of commencement, or

(b) complete the requirements for the degree in accordance with these resolutions The Faculty may grant credit for any courses completed towards the degree.

(4) A candidate who commenced candidature for a degree before 1 January 1993 shall:

(a) complete the requirements for the degree no later than 31 December 1994 in accordance with the resolutions of the Senate and Faculty in force at the time of commencement, or

(b) complete the requirements for the degree

in accordance with these resolutions. The Faculty may grant credit for any courses completed towards the degree.

Credit for courses completed at the University of Sydney

7. (1) A candidate may be granted credit towards the degree for any course or courses completed during a previous period of candidature as a non-degree student or in any Faculty or under a Board of Studies at the University, provided that the Faculty shall not grantcreditiftheresultrecordedforthatcourse is, or is equivalent to, 'Terminating Pass'.

(2) The Faculty may, with the consent of another Faculty or Board of Studies, permit a candidate to complete while enrolled in the Faculty of Architecture a course or courses taught in the other Faculty or under a Board of Studies but not listed in the Tables of Courses.

(3) Where credit is granted under subsection (1), or permission granted under subsection (2) in relation to a course not listed in the Tables of Courses, the Faculty shall specify the deemed unit value of that course for the purpose of these resolutions.

Credit for courses completed elsewhere

8. (1) A candidate may be granted credit towards the degree for a course or courses regarded by the Faculty as equivalent in workload and academic standard, completed atanotheruniversityorothertertiaryinstitution.

(2) The Faculty may permit a candidate to complete after admission to candidature a course or courses offered at another university or tertiary institution.

(3) Where creditis granted under subsection (1) or permission granted under subsection (2) the Faculty shall specify in relation to the course or courses concerned either:

(a) the course or courses in the Tables of Courses for which credit has been or would be granted, or

(b) their deemed unit value for the purpose of these resolutions.

(4) The maximum credit granted under subsection (1) or permission granted under subsection (2) shall not, without the special permission of the Faculty, exceed half the unit requirement of the relevant degree.

Credit for informal learning and experience

9. (1) A candidate may apply to the Faculty to have credit granted towards the degree on the basis of non-credentialled learning or experience, that is equivalent to a course or courses in the Table of Courses.

(2) The Faculty will determine the method for demonstrating the achievement of the equivalent academic standard.

Conditions on receipt of credit

10. A candidate granted credit towards the degree under section 7, 8 or 9 shall:

(a) count towards the degree all courses and units so credited subject to the provisions of these resolutions,

(b) not count towards the degree any course subsequently completed within the University of Sydney which overlaps substantially in content with the course or courses upon which grant of credit is based, and

(c) complete all necessary qualifying courses for the degree within such period of time and such number of years of enrolment as the Faculty may determine having regard to the amount of credit granted, the length of the time over which the course or courses concerned were completed and the time limits for completion of the degree prescribed under these resolutions.

Restrictions on the grant of credit

11. (1) A candidate shall not, except with the approval of the Faculty, be granted credit towards the degree on the basis of any course or courses completed more than nine years prior to admission or readmission to candidature.

(2) A candidate seeking credit on the basis of a course or courses for which the candidate has relied for the award of another academic qualification may:

(a) receive specified credit, together with any other credit to the limit set in section 8(4) when the application for credit is on the basis of section 8(1).

(b) receive unspecified credit subject to limits set by resolution of the Faculty.

(3) In addition to the credit granted in subsection (2) a candidate for the BArch may have unspecified credit granted for elective courses completed in the BSc(Arch), in excess of those needed for the award of the BSc(Arch), and common to both Tables of Courses to a maximum of 7 units.

(4) TheFacultymaylimitthetotalunitvalue of courses completed outside the Table of Courses that may be credited towards a degree.

(5) Except as provided in subsection (3) credit will not be granted to BArch candidates on the basis of courses completed in the BSc(Arch).

Time limits

12. (1) Unless the Faculty otherwise determines a candidate shall complete all the requirements for the award of the degree withina (cumulative) total of 10 calendar years of admission or re-admission to candidature.

(2) A candidate proceeding from the BSc(Arch) to the BArch shall commence candidature for the BArch within six years of completing the BSc(Arch), or shall be required to apply for admission to the BArch.

Approval for suspension

13. (1) A candidate must seek suspension of candidature if the candidate:

(a) intendsnottore-enrolinthenextcalendar year after discontinuing or failing due to absence each of the courses in which that candidate has been enrolled, or

(b) intends not to re-enrol within two years of last having been enrolled,

otherwise the candidature will lapse.

(2) Except where the Faculty determines otherwise in any particular case, a candidate who suspends candidature for a period in excess of one year shall proceed under the by-laws and resolutions in force at the time of re-enrolment.

Lapse of candidature

14. (1) Unless the Faculty o therwise determines in any particular case, a candidature for the degree shall lapse if:

(a) all the requirements for the award of the degree in accordance with sections 10 and 12 have not been satisfied, or

(b) re-enrolment for the degree as required by section 13 does not occur.

(2) A person whose candidature has lapsed under subsection (1) shall not re-enrol as a candidate for the degree unless again selected for admission.

Bachelor of Science (Architecture)

15. An applicant for admission to candidature for the degree of Bachelor of Science (Architecture) shall, before such admission, produce evidence of having qualified for admission under Chapter 10 of the by-laws.

16. The degree shall be awarded in two grades, namely the Pass degree and the Honours degree.

Pass *degree*

17. (1) A candidate to be eligible for the award of the degree shall have completed courses of total unit value of at least 105 units.

(2) A candidate for the degree shall:

(a) complete all mandatory courses shown in the Table of Courses for the Bachelor of Science (Architecture), and

(b) complete elective courses from the Table of Courses for the Bachelor of Science (Architecture),

provided that the candidate may complete instead of any of the courses referred to in (a) and (b) above, such other courses as the Faculty may approve.

(3) A candidate who proposes to proceed to the Bachelor of Architecture shall complete all prerequisite courses for the Bachelor of Architecture shown in the Table of Courses for the Bachelor of Science (Architecture).

18. A candidate who has completed a course referred to in 17 above shall have units credited towards the completion of the degree in accordance with the values shown in the Table.

Honours degree

19. An applicant for admission to candidature for the degree with Honours shall:

(a) except with the permission of the Faculty be of not more than four years'standing or the semester equivalent as a candidate for the Pass degree,

(b) have qualified for the award of the Pass degree, and

(c) be considered by the Faculty to have requisite knowledge and aptitude.

20. (1) Subject to subsection (2), a candidate for the Honours degree shall, in the year subsequent to qualifying for the award of the Pass degree, present a thesis on a subject approved by the Faculty.

(2) A person to whom the Pass degree of Bachelor of Science (Architecture) has been awarded may, with the permission of the Faculty and in such further time as the Faculty shall determine, be admitted to candidature for the Honours degree of Bachelor of Science (Architecture) provided that person satisfies the other requirements of these resolutions for admission to candidature for Honours.

21. (1) There shall be two classes of Honours namely, Class I and Class II and within Class II there shall be two divisions, namely Division 1 and Division 2.

(2) The candidate most distinguished at the final examination shall, if the candidate has obtained Honours Class I and in the opinion of the Faculty possesses sufficient merit, receive a bronze medal.

(3) Except with the permission of the Faculty, no candidate who is of more than five years' standing as a candidate for the degree shall be awarded Honours at graduation.

Bachelor of Architecture

22. (1) An applicant for admission to candidature for the degree of Bachelor of Architecture shall have completed all the requirements for the degree of Bachelor of Science (Architecture) in the University of Sydney with a weighted average mark in the degree of at least 50, or such other degree of the University of Sydney as the Faculty of Architecture may approve or possess such equivalent standing as may be approved by the Faculty.

(2) The Faculty will regard an applicant for admission to candidature as possessing equivalent standing within the meaning of subsection (1) if the applicant has completed studies and has experience that together provide the applicant with a standard of knowledge equivalent to the standard of knowledge required of an applicant who has completed all the requirements for the degree of Bachelor of Science (Architecture) or such other degree of the University of Sydney as the Faculty of Architecture may approve.

23. The degree shall be awarded in two grades, namely, the Pass degree and the Honours degree.

Pass degree

24. (1) A candidate to be eligible for the award of the degree shall have completed courses of total unit value of at least 60 units.

(2) Except with the permission of the Faculty a candidate for the degree shall, before undertaking courses in accordance with subsection (3), have completed the courses shown as prerequisites for the Bachelor of Architecture in the Table of Courses for the Bachelor of Science (Architecture) if the candidate is proceeding from the Bachelor of Science (Architecture) degree provided that in special circumstances a candidate may be exempted from these requirements with the approval of the Faculty.

(3) Subject to subsection (2) a candidate shall:

(a) complete all mandatory courses in the Table of Courses for the Bachelor of Architecture, and

(b) complete elective courses from the Table of Courses for the Bachelor of Architecture,

provided that the candidate may complete instead of any of the courses referred to in (a) and (b) above, such other courses as the Faculty may approve, and provided that a candidate who has completed all the requirements for the Honours degree of Bachelor of Science (Architecture) or such other equivalent qualifications as maybe approved by the Faculty rnay be exempted from the course, Report.

25. A candidate who has completed a course referred to in section 24 shall have units credited towards the completion of the degree in accordance with the values shown in the table.

Honours degree

26. To be eligible for the award of Honours a candidate must complete at least one of the courses:

(a) Advanced Study Report I,

(b) Advanced Study Report II, or

(c) Advanced Study Report (Conservation and Restoration)

27. Except with the special permission of the Faculty, no candidate who is of more than three years' standing as a candidate for the degree may be awarded Honours at graduation.

28. (1) There shall be two classes of Honours, namely Class I and Class II and within Class II there shall be two divisions, namely Division 1 and Division 2.

(2) The award of Honours at graduation shall depend upon the proficiency shown by a candidate in completing the courses for the degree and incompleting such specific courses, if any, as may be determined by the Faculty of Architecture.

(3) The candidate most distinguished at the final examination shall, if awarded Honours Class I and in the opinion of the Faculty possesses sufficient merit, receive a bronze medal.

Failure and exclusion

The Senate authorises the Faculty of Architecture to require a student who is a candidate for the degree of Bachelor of Science (Architecture) or Bachelor of Architecture to show good cause why he or she should be allowed to re-enrol in the Faculty of Architecture if he or she fails to maintain a weighted average mark of at least 50 per cent.

Faculty resolutions

Bachelor of Science (Architecture) and Bachelor of Architecture

Availability

1. The number of students admitted and the Bachelor's degrees and the courses available may be limited and will be determined by:

(a) the availability of resources, including space, library, equipment and computing facilities,

(b) availability of adequate and appropriate supervision, and

(c) availability of staff resources for the conduct of courses.

Eligibility for admission to Honours in the BSc(Arch)

2. In addition to the requirements of the resolutions of Senate regarding the BSc(Arch) degree, an application for admission to the Honours degree shall be determined by the Honours Committee which will consider the candidate's academic performance over the three years of the Pass degree.

3. A research topic which is satisfactory in terms of research interests, resources and availability of supervision within the Faculty must be agreed upon between the applicant and the relevant head of department before the candidate can enrol in the course Thesis.

Appointment of supervisors for Honours theses and Advanced Study Reports

4. The Faculty shall appoint a member of the full-time or fractional academic or research staff of the Faculty to act as supervisor of the candidate. The Faculty may also appoint an associate supervisor or co-supervisor who may be a member of the academic or research staff of the University, an Honorary Associate or a person with appropriate qualifications in another institution or organisation.

Thesis and Advanced Study Report requirements

5. Candidates undertaking a thesis or Advanced Study Report shall:

(a) lodge with the Faculty the thesis or Advanced Study Report embodying the results of an originalinvestigation carried out by the candidate,

(b) state in the thesis or report, generally in the preface and specifically in the notes, the sources from which the information was derived, the extent to which the

candidate has made use of the work of others and the portion of the thesis or report which is claimed to be original, and

(c) not lodge as the candidate's work any work previously submitted for a degree of the University of Sydney or any other university, but may incorporate such work in the thesis, provided that the candidate indicates the work so incorporated.

Form of a thesis or Advanced Study Report

6. (1) A thesis or Advanced Study Report may be bound in either a temporary or permanent form.

(2) Temporary binding must be able to withstand ordinary handling and postage. The preferred form of bindingis the TerfectBinding' system; spring back, ring-back or spiral binding is not permitted.

(3) The cover of a temporarily bound thesis or Advanced Study Report must have a label showing the candidate's name, name of the degree, title of the thesis and the year of submission.

(4) The requirements for permanent binding are given in the University's *Statutes and Regulations,* under the statutes governing the degree of Doctor of Philosophy.

(5) Following examination and emendation if necessary, at least one copy (the Library copy) of the thesis or Advanced Study Report must be bound in a permanent form.

(6) If emendations are required, all copies of the thesis or Advanced Study Report which are to remain available within the University must be amended.

Examination of a thesis or Advanced Study Report

7. The Faculty shall appoint two examiners. The examiners shall report to the Faculty.

Result of Honours candidature

8. (1) The Honours Committee recommends the award the degree whenever:

(a) the examiners have recommended without reservation that the degree be awarded, or

(b) all of the examiners have recommended the degree be awarded or awarded subject to emendations to all copies of the thesis or Advanced Study Report which are to remain available in the University, or

(c) the Committee unanimously accepts the recommendation of the supervisor that the degree be awarded subject to emendations despite reservations expressed by one or more examiners, and

(d) the coursework results are satisfactory.

(2) The Honours Committee will determine the class of Honours, if any, on the following basis:

(a) BSc(Arch): The overall performance of the candidate using a mark derived from weighting the mark for the thesis at 65 per cent and the weighted average mark of the Pass degree studies at 35 per cent.

(b) BArch: The weighted average mark achieved over the two coursework years of the degree.

(3) The Honours Committee may recommend that an unsuccessful candidate be permitted to prepare for re-examination if, in its opinion, the candidate's work is of sufficient merit and the supervisor has so recommended.

Satisfactory progress

9. In addition to the resolutions of the Senate regarding satisfactory progress the Faculty shall require a candidate to show good cause why re-enrolment in a course which has been failed twice should be allowed.

Delegation

10. (1) The Faculty delegates its responsibility for admissions to the BArch to the BArch Admissions Committee. ,

(2) The Faculty delegates its responsibility for examinations to the Board of Examiners.

(3) The Board of Examiners delegates its responsibility for the determination of Honours to the Honours Committee.

(4) The Faculty delegates the following responsibilities to the Dean, who in turn, may delegate them to the Associate Dean (Undergraduate):

(a) approval of examiners,
(b) supervisory arrangements,
(c) approval of enrolments,
(d) administration of results,
(e) variations of candidature,
(f) extension of candidature, and
(g) completion of candidature away from the University,

subject to these matters being reported to the Faculty, Board of Examiners or the Honours Committee.

The determination of credit granted on the basis of equivalence to courses in the Tables of Courses

11. Pursuant to sections 8 and 9 of the Senate resolutions the Faculty has determined that a candidate seeking credit:

(a) for courses completed elsewhere shall apply on the form provided by the Faculty, shall supply documentary evidence of the course description and the assessment result and will be available for discussion with the appropriate course coordinator, and

(b) on the basis of non-credentialled learning or experience shall apply on the form provided by the Faculty and shall be available for assessment by the appropriate course coordinator.

The course coordinator will be satisfied of the equivalence from the documentary evidence and discussion under (a) and by appropriate assessment of the candidate under (b) before credit will be granted.

Restrictions on unspecified credit and credit for courses outside the Tables of Courses

12. (1) The maximum credit that a candidate may receive on the basis of:

(a) unspecified credit based on courses completed towards another degree for which there has been an award, and

(b) credit received for courses completed after admission outside the Table of Courses, and

(c) in the case of the BArch, credit received for excess units in the BSc(Arch),

shall not exceed 26 units for the BSc(Arch) or 16 units for the BArch.

(2) The granting of unspecified credit towards the BSc(Arch) or the BArch shall be limited to the degree in which the candidate enters the architecture program.

Assessment Appeals Review Board

The Faculty has resolved that there shall be an Assessment Appeals Review Board.

1. The Board will meet at the formal request of a student of the Faculty to consider an appeal regarding the assessment of any coursework subject of the Faculty.

2. The Board will not review marks awarded but will consider appeals for a reassessment of work based on assessment procedures, illness, misadventure, etc.

3. The Board will request the attendance of the examiner for the appeal. If either the examiner or student wishes, they may attend separately, but only if the other party agrees or if there are, in the view of the Board, exceptional circumstances.

4. The Board will report its recommendations to the examiner and to the Faculty's Board of Examiners.

5. The membership of the Board will be the Dean and up to five persons referred to in subsection 1(a) of the resolutions of the Senate relating to the constitution of the Faculty of Architecture and up to four students who are enrolled in the coursework degrees of the Faculty, all of whom will be appointed by the Dean, on the advice of the heads of departments and in consideration of the nature of the appeals before the Board. For an appeal by an undergraduate student, the four students shall be nominated by the Sydney University Architecture Society.

3 Postgraduate study

Postgraduate degree, graduate diploma and graduate certificate requirements

There are ten postgraduate degrees, four graduate diplomas and a graduate certificate that may be awarded in the Faculty of Architecture. They are outlined in the table below.

Degree/diploma		Normal admission requirements	Study method	Normal length of study (yrs) f/t	p/t	Department and contact person
DArch	Doctor of Architecture	—	—	—	—'	(head of department)
PhD	Doctor of Philosophy	master's or honours	research	3-5	3-7	any department
MArch	Master of Architecture	BArch	research	2	4	any department
MDesSc(Research)	Master of Design Science (Research)	graduate	research	2	4	Architectural and Design Science
MSc(Arch) •	Master of Science (Architecture)	graduate	research	2	4	any department
MUrbStud	Master of Urban Studies	graduate	research and coursework	1	2	Urban and Regional Planning (Mr Mills)
MURP	Master of Urban and Regional Planning	graduate	coursework and dissertation	2	4	Urban and Regional Planning (Mr Mills)
MDesSc	Master of Design Science (Audio), (Building), (Building Services), (Computing), (Energy Conservation), (Facilities Management), (Illumination)	graduate or certain professional qualifications	coursework or coursework and dissertation	2	4	Architectural and Design Science
MHeritCons	Master of Heritage Conservation	graduate	coursework	1	2	Architecture (Dr Lamb)
MUrbDes	Master of Urban Design	graduate (degree with major design component)	coursework and research study report	1	2	Interdepartmental program (Prof. Droege)
GradDipURP	Graduate Diploma in Urban and Regional Planning	graduate or certain professional qualifications	coursework	2	4	Urban and Regional Planning (Mr Mills)
GradDipDesSc	Graduate Diploma in Design Science (Audio), (Building), (Building Services), (Computing), (Energy Conservation), (Facilities Management), (Illumination)	graduate or certain professional qualifications	coursework	2	3	Architectural and Design Science
GradDipUrbDes	Graduate Diploma in Urban Design	graduate (degree with major design component)	coursework	1	2	Interdepartmental program (Prof. Droege)
GradDipHeritCons	Graduate Diploma in Heritage Conservation	graduate	coursework	1	2	Architecture (Dr Lamb)
GradCertDesSc	Graduate Certificate * in Design Science (Audio), (Building), (Building Services), (Computing), (Energy Conservation), (Facilities Management), (Illumination)	graduate or certain professional qualifications or prior learning	coursework	1	2	Architectural and Design Science

Detailed information on these degrees and diplomas is given in the following pages. For further details about the doctorates see the University's *Statutes and Regulations* and the *Doctor of Philosophy Handbook.*

Application procedure (for all postgraduate applicants)

1. All applicants are required to supply the following information:

   (1) a completed 'Application for Admission to Candidature' form;

   (2) an *original* transcript of academic record including evidence of the award of the degrees held;

   (3) original evidence of Australian citizenship or Australian permanent residency status. Applicants not holding either must apply through the International Education Office.

For some postgraduate degrees/diplomas, applicants are asked to provide (in any case it is advisable) a written statement supporting the application.. This should address career objectives and the interest in the particular program. Applicants wishing to undertake a research degree must provide a detailed research proposal.

Applicants are encouraged to make contact with the department or lecturer concerned with the program prior to submitting an application form.

2. Applications must be addressed to and received by the Registrar, University of Sydney, N.S.W. 2006, no later than *31 October* of the year preceding that in which the applicant wishes to enrol.

They may also be lodged by hand at the Faculty of Architecture office (room 458) in the Wilkinson Building. Applications received later than 31 October will be considered in order of receipt after due consideration has been given to all applications received on time.

3. Applications from overseas students should be addressed to the University's International Education Office and will be considered at the time of their receipt. This procedure is designed to allow overseas students as much time as possible to overcome any delays and difficulties experienced in the completion of the necessary formalities prior to their arrival in Australia.

4. Successful applicants must inform the Faculty office in writing, as soon as possible after receipt of the offer of a position, of their intention to accept or reject the offer. Failure to do so may result in the place being offered to another applicant.

5. Please note that students are normally only eligible for AUSTUDY if enrolled in a diploma course. Seek advice before enrolment from the Department of Employment, Education and Training.

Resolutions of the Senate and Faculty

Students undertake degrees and diplomas in accordance with the resolutions of the Senate and Faculty. These are strict requirements with which candidates must comply. Read them on pages 105-114. They include information on admission, length of candidatures and coursework to be completed.

Degrees by research

Doctor of Philosophy

The degree of Doctor of Philosophy is a research degree awarded for a thesis considered to be a substantially original contribution to the subject concerned. Some coursework may be required (mainly in the form of seminars) but in no case is it a major component. Applicants should normally hold a master's degree or a bachelor's degree with first or second class honours of the University of Sydney, or an equivalent qualification from another university or institution. The degree may be taken on either a full-time or part-time basis.

For full-time candidates, the minimum period of candidature is two years for candidates holding a master's degree or equivalent, or three years in the case of candidates holding a bachelor's degree with first class or second class honours; the maximum period of candidature is normally five years.

Part-time candidature may be approved for applicants who can demonstrate that they are engaged in an occupation or other activity which leaves them substantially free to pursue their candidature for the degree. The minimum period of candidature is three years and the maximum period of candidature is normally seven years.

Consult the University's *Statutes and Regulations* and the *Doctor of Philosophy Handbook* for further information about the PhD. The Faculty resolutions governing part-time PhD candidatures are set out on pages 110-111.

Master of Architecture

If you have a professional qualification in architecture you may undertake research in any one of many related areas towards the MArch degree, which may include some coursework.

Master of Design Science (Research)

The MDesSc(Research) option allows a candidate to undertake research in any of the areas of design science offered by the Department of Architectural and Design Science. The candidate is required to submit a thesis incorporating the results of the research, and may undertake some coursework relevant to the topic.

Master of Science (Architecture)

The MSc(Arch) degree offers research opportunities in environmental design and related topics including theapplicationofthehumansciencestoenvironrnental design. An MSc(Arch) candidate will normally have a degree in design studies or appropriate equivalent qualifications. However, as a graduate from any other discipline you may also undertake research related to environmental design.

Master of Urban Studies

The MUrbStud is a program offered for students to pursue a broad range of issues relating to cities in the late twentieth century. The emphasis is on developing the more conceptual and theoretical side of urban studies and planning, and students are given the opportunity to pursue their own interests within a flexible course structure. The course, as much as possible, is comparative in focus, drawing on international research and literatures. Students come from a wide variety of backgrounds including arts or

social sciences. They may be interested in seeking work in planning related areas, rather than in local or state government planning offices. A candidate for the degree is required to submit a research thesis and may be required to undertake some coursework.

Degrees, diplomas and certificate by coursework

DEPARTMENT OF URBAN AND REGIONAL PLANNING

The Department of Urban and Regional Planning is a postgraduate department within the Faculty of Architecture. It offers courses leading to the award of the:

Master of Urban and Regional Planning MURP
Graduate Diploma in Urban and Regional Planning GradDipURP

Suitable applicants may be accepted as candidates for the research degrees, Doctor of Philosophy and Master of Urban Studies.

GradDipURP and MURP

Courses in Urban and Regional Planning are recognised by the Royal Australian Planning Institute and graduates and diplomates are eligible, subject to the professional experience requirements, for corporate membership of that body.

The department, being a postgraduate unit, operates largely as a resource base for students, and students' success depends heavily upon self-motivation in pursuing those study areas in which they have a particular interest.

Staff in the department will help students clarify matters related to the choice and pursuance of these interests and attainment of study aims. Students are encouraged to select courses reflecting their particular interests and study objectives from the range of courses offered.

Undertaking an average workload a full-time student may expect to spend 12 class hours per week supported by an additional 24 to 30 hours per week of background reading and general preparation during the academic year. A part-time student could expect to spend roughly half this amount of time per week. As a general guide, all students are expected to take no fewer than 12 units per year.

The" department accepts candidates with a wide rangeof academic backgroundsincluding engineering, architecture, surveying, economics, law, and other qualifications in the social sciences/ humanities and the natural sciences.

The diploma and master's program operates on a unit system. Candidates for the master's degree must complete a nainimum of 48 units; candidates for, the diploma must complete at least 40 units. Both can be completed in two years of full-time or four years of part-time study. All candidates are required to complete 24 mandatory units of core courses. The balance is made up of elective courses which provide students with the opportunity to specialise in their preferred field. In addition, master's candidates complete a dissertation (8 units). No more than 30 units may be taken in any one year.

The requirements for the GradDipURP and MURP are shown in the resolutions of the Senate and the Faculty (pages 105-111) and the Table of Courses (page 111).

Course outlines

Mandatory Courses

Economic Applications in Planning 2 units

17377
DrPhibbs
Classes lectures
Assessment 2 assignments (25 per cent each) and an open book examination (50 per cent)

Objectives
On completion of the course students should be able to:

- explain the following economic terms — price elasticity, income elasticity, marginal costs, fixed costs, variable costs, opportunity costs, accounting and economic profit, social and private costs;
- undertake basic demand and supply analysis for markets;
- explain the impact of indirect taxes and charges on market outcomes;
- describe the fixed, variable and marginal costs associated with a subdivision;
- explain why economists prefer competitive markets as opposed to other sorts of market organisation;
- explain the notion of externalities;
- describe in detail the operation of pollution and road congestion externalities in a city;
- define what is a public good;
- discuss appropriate pricing policies for public goods;
- discuss the benefits and costs of privatisation;
- evaluate a simple cost-benefit analysis;
- explain the terms shadow pricing, intangibles, and the social discount rate as they relate to cost-benefit analysis; and
- discuss the major factors that affect interest rates and the factors which affect exchange rates.

Outcomes
Students will fulfil the learning objectives of the course.

The assignments in the course are aimed at allowing the students to achieve the skills listed in the objectives by 'doing'.

This course provides a basic understanding of major economic concepts and an introduction to major •economic techniques likely to be encountered by planners. For a list of the topics covered refer to the objectives.

Physical and Transportation Planning 4 units

17378
Assoc. Prof. Toon, Mr Payne
Classes lectures, progress reviews and presentations of assignments

Assessment five assignments of equal value; continuous assessment

Objectives
The course aims to develop a critical and reflective awareness of the implications of planning choices for the community and decision makers, and to develop skill in manipulating and synthesising the three key variables in urban and regional planning — the physical environment, land use and infrastructure.

Outcomes
Students should acquire an appreciation of physical and transportation planning issues and a knowledge of relevant literature concepts, and the capability to apply reasoning and logic to simple planning problems and to formulate and present well-justified solutions to those problems. They should achieve a basic competence in land use and transportation planning.

The assignments are designed to develop the range of skills necessary to deal progressively with more complex planning problems. They are an integral component of the course and the completion of all assignments is essential to the achievement of the course objectives.

This course is a basic introduction to physical and transportation planning, presenting an overview of literature and concepts and developing skills in the understanding and manipulation of key physical and transportation planning variables. Basic planning techniques are introduced and discussed in the initial sessions followed by detailed studies of land budgets, densities and the application of planning methods to simple problems. The technical considerations relating to transportation network designs and the principal land uses found in the urban environment are demonstrated by reference to appropriate case studies.

Planning Law and Procedures 4 units

17380
Mr Mills, Ms Taylor
Classes seminars, workshops and site visits with an emphasis on class discussion of planning issues and procedures
Assessment 2 assignments for Planning Procedures (50 per cent) and 3 for Planning Law (50 per cent)

Objectives
To develop an understanding of planning law and procedures which permits competent professional practice in addressing complex planning issues.

Outcomes
Students should "achieve:
- a practical knowledge of the institutional arrangements for urban and regional planning and the law relating to strategic and statutory planning;
- an understanding of the studies involved in preparing planning instruments and the assessment of development proposals;
- an appreciation of the way in which planning ideas are translated into policies and controls;
- an awareness of the procedures for addressing environmental issues in planning;
- a general understanding of techniques associated with community consultation;
- an appreciation of the importance of using evidence and argument when preparing planning recommendations; and
- an understanding of the characteristics of well-structured planning documents.

Assignments require students to demonstrate the ability to generate and analyse data for the purpose of preparing planning documents and assessing development proposals. The emphasis will be upon the production of well-reasoned and well-structured planning documents which reflect an understanding of institutional arrangements, planning procedures and environmental legislation. K

This course is designed to give students a working understanding of the law and practice of environmental planning. Basic skills essential to the preparation and implementation of planning policies and instruments are taught within the context of the Australian legislative framework, the machinery of government and the implications for the financing of development.

The intention of the Law component is to give students an understanding of some of the basic mechanisms of the law as an instrument of public policy. The effect of state intervention on property rights and proprietary relationships is considered. The course will concentrate on those aspects of land and environmental law which guide the planning and development process.

Planning Methods 6 units

17383
DrPhibbs
Classes lectures and computer laboratories
Assessment 3 assignments each semester (of equal value)

Objectives
On completion of the course students should be computer literate and be able to:
- understand basic concepts about a census and be familiar with main sources of data from the ABS and other bodies;
- understand the main concepts of Geographical Information Systems (GIS) and use GIS software to examine a planning problem;
- understand major demographic terms and be able to prepare population forecasts for a small area;
- explain the notion of discounting, IRR and NPV and be able to prepare a simple feasibility report;
- understand the main sampling techniques and critically evaluate sampling procedures;
- prepare and analyse a survey, using simple statistical techniques including chi-squared;
- analyse census data for an area;
- design a program evaluation for a non-profit program; and
- apply qualitative research tools to answer a research question.

Outcomes
Students will fulfil the learning objectives of the course.

The assignments in the course are aimed at allowing the students to achieve the skills listed in the objectives by 'doing'.

This course provides students with basic technical and analytical skills required to complete their planning studies. The course is very much 'hands on'. For a list of the topics covered refer to the objectives.

Planning Theory and Practice 4 units

17384
Mr Mills, Mr Payne
Classes seminars, lectures and case studies
Assessment 5 assignments (of equal value) which require the critical consideration of the literature, preparation of structured planning arguments based on varied sources and types of evidence, and a research proposal

Objectives
- To assist students to develop a reasoned understanding of urban and regional planning within the prevailing legal, institutional, political, social and economic context of planning practice;
- to make students aware of the processes by which understandings of planning issues and problems are developed;
- to develop skills and the understanding of concepts which encourage continued inquiry and the ability to address novel issues or problems;
- to develop communication skills which are relevant to the development andimplementation of reasoned responses to planning issues;
- to develop capability for preparing reasoned arguments and scholarly and professional planning documents; and
- to encourage independent thought and intellectual scepticism through reflection upon established sourcesofauthority,interpretativeframeworksand professional practice.

Outcomes
Students should be able to demonstrate skill in the application of diverse sources of evidence, to construct well-reasoned planning arguments and to address a range of planning issues.

Assignments emphasise the demonstration of skills in constructing planning arguments which reflect an understanding of substantive issues and procedural contexts and their oral and written communication.

This course presents an overview of literature on planning theory and history, policy analysis, organisations and decision making; and of the political and social contexts of planning. It commences by exainining planning as a communicative process which leads from formulation of complex issues to proposed actions. The roles of debate, arguments and documents are discussed. The structure of ad vocative arguments, elements of arguments and basic forms of planning arguments are presented. Examples relating to building and development applications and to statutory and land use plans demonstrate applications.

Attention is given to key concepts, such as power relationships, organisational processes, implementation structures and stories which act as heuristics for preparing arguments. The necessity for a critical approach for preparing planning arguments and documents is developed.

The course emphasises the relationship between types of evidence and form of arguments and the importance of interrogating data and drafting potentially useful statements. Questions of appropriate methodology for producing planning knowledge and evidence are considered. The contribution of restructuring, editing and revising drafts is stressed. Furthermore, the approach is extended to practical planning research, and the preparation of properly researched and argued documents.

Regional Planning: Theory and Analysis 2 units

17389
Assoc. Prof. Lea and guest lecturers
Classes lectures
Assessment 2 assignments (50 per cent each), one focusing on practical issues, the other on theoretical issues

Objectives
The course will introduce professional planning students to the key theoretical literature on regional planning.

Outcomes
Students will achieve familiarisation with the range of regional analytical techniques commonly used in the preparation of regional plans in Australia and a range of insights into regional planning practice by means of a series of Australian and international case studies.

The first assignment explores knowledge of regional planning analysis and plan-making issues in Australia, the second examines the student's ability to comprehend the disciplinary pursuit of regional development planning and broader questions of regionalisation from an international perspective.

In both theory and practice, regional planning combines economic and spatial approaches with political, institutional and social considerations that can be characterised as the study of the political economy of sub-national development. The theoretical foundations and many of the analytical techniques employed rely heavily on the disciplines of geography, economics and politics. Its geographic coverage ranges from the developing countries of the third world to advanced industrialised states and this level of planning occurs both in metropolitan and ruralregions. Regional development is examined largely in the context of Australia and the more industrialised nations together with the particular problems associated with economic restructuring in these countries.

Urban Perspectives 2 units

17524
Assoc. Prof. Lea
Classes lectures and seminars
Assessment an essay on a topic approved by the lecturer

Objectives
The course aims to provide a sound understanding of the context within which planning problems are identified and to introduce students to key interdisciplinary literature on contemporary urban research.

Outcomes
Students will acquire an appreciation of the development of urban and regional policy issues, the processes involved in the structuring of cities and regions, and their implication for planning practice.

Assessment requires students to address a selected planning issue or concept and consider its implication for urban and/or regional planning.

This course introduces students with diverse disciplinary backgrounds to ways of understanding urban and regional development processes and their implications for planning practice. Issues of regional resource development, global restructuring, cultural and ethnic diversity and gender are explored to reach an appreciation of issues and processes which underpin and inform urban and regional planning.

Specialisations

The prerequisite for all specialisations is satisfactory completion of the mandatory coursework.

Economic and Community Development 8 units

14484
Dr Phibbs
Classes lectures, computer laboratories and field trip
Assessment 5 assignments (4 x 15 per cent, 1 x 40 per cent)

Objectives
On completion of the course students should be able to (1) critically review a cost-benefit analysis, an economic impact analysis and a social impact analysis; (2) generate an economic development strategy for a region; (3) describe and analyse the development of regional planning policy in Australia and overseas; and (4) understand the social and economic impacts of tourism.

Outcomes
Students will fulfil the learning objectives of the course.

The assignments are aimed at allowing students to achieve the skills listed in the objectives by 'doing'.

This specialisation is concerned with two main areas. The first deals with the development of practical skills in project and program evaluation, and social impact analysis. The second is concerned with a detailed examination of regional planning. An Australian region is 'adopted' by the course and studied in more detail, culminating in a mid-year field visit and the preparation of a regional planning document for the region.

Housing Policy and Practice 8 units

14517
Assoc. Prof. Lea, Dr Phibbs and guest speakers
Classes lectures and tutorials
Assessment four assignments (one each quarter): an essay on housing theory; an essay on housing inequality; a housing data analysis project; and an essay on housing and development

Objectives
The course will provide the following:
- a good understanding of the main elements of contemporary housing theory in advanced industrialised and developing societies;
- a framework within which to appreciate the way government responds to housing requirements at the three main levels of government;
- an understanding of the role of private and voluntary sectors in meeting national and local housing requirements;
- a good knowledge of the main financial instruments that affect housing policy; and
- a good understanding of the role of housing in creating and maintaining societal inequality in Australia and other countries.

Outcomes
At the conclusion of the course students should be able to:
- identify the main theoretical concepts employed in the housing literature;
- understand thekey elements of Australian national housing strategy 1991-93;
- assess the differing attributes of the main tenure systems;
- conduct a local housing market analysis;
- distinguish the key attributes of the Australian housing finance system;
- identify the range of policy options for households excluded from access to secure housing tenure;
- explain the evolution of housing policy in developing countries; and
- understand how Aboriginal and Torres Strait Islander housing problems have evolved and key policy responses.

Each assignment covers a section of the outcomes listed above.

The course provides an interdisciplinary approach to the housing component of urban and regional planning policy and practice. The lectures are divided into four quarters dealing with (1) housing theory and the Australian housing system, where the emphasis is on gaining a knowledge of the theoretical literature; (2) housing and inequality, with a focus on social policy; (3) housing policy in practice and finance, with an emphasis on quantitative, market and financial analysis; (4) housing and development, with respect to international concepts and experience in the Australasian region.

Land Use and Infrastructure Planning 8 units

14571
Mr Payne
Classes lectures, workshops and seminars
Assessment 4 papers (of about 3000 words) (25 per cent each)

Objectives
Each student should be able to critically and

constructively review materials; use terms, concepts and methods in a valid and useful manner; demonstrate knowledge of key issues; demonstrate a critical and reflective approach; prepare advocative arguments to support proposed initiatives; and produce well-organised and presented documents.

Outcomes
Students will be able to review materials, develop valid and useful understandings, and prepare well-argued and presented documents.

In discussing and preparing responses to assessments, students will be made aware of the need for an iterative approach, with revising and refining understandings, arguments and documents. The assessments require each student to engage in activities fundamental to sound practice and which reflect the course objectives.

The course is based on lectures and discussions on Kteratureabouturbandeveloprnentandinfrastructure provision. Strategic metropolitanissues, such as 'better structured cities', 'urban consolidation' and 'housing variety' are discussed regarding the general concepts and their utility in specific cases. Planning for basic infrastructure (water supply, drainage, sewers, roads, public transport, telecommunications, electricity, and other services) is related to statutory planning, and to the implementation of urban development in existing and new urban areas.

Urban Design and Development Control 8 units

14627
Assoc. Prof. Toon, Mr Mills
Classes lectures, class discussions and presentations, site visits and monitoring and presentation of assignments
Assessment 8 minor exercises (5 per cent each), 3 major assignments (10-15 per cent each) and a major settlement study at the end of second semester

Objectives
The course aims to develop a professional standard of competence in the generation and implementation of urban design and development control policies and instruments; and to demonstrate a critical and reflective awareness of the philosophies, concepts and practice of urban design and development control.

Outcomes
Students should be able to prepare clear and concise planning documents with advocative arguments on design and development issues, assess and report on the physical, social and economic impact of alternative urban design and development control strategies, and prepare and evaluate design proposals (arguments).

The course is structured around a series of assignments that are designed to progressively develop the skills and knowledge essential to the achievement of a professional level of competence in the practice of urban design and development control.

The course focuses on the development of design arguments, the translation of preferred design outcomes into development control codes, the legal framework of development controls and the preparation of development control reports. The course covers the technical areas of local traffic and pedestrian movement, environmental factors, such as sunlight and shade, wind and noise effects, together with the aesthetic considerations relevant to landscape and those elements of the built environment that give definition to the public realm.

General

Contemporary Urban Issues 2 units

17707
Mr Mills
Classes seminars by staff and students
Assessment 1 essay

Objectives
The course provides a forum for the introduction and discussion of issues which are relevant to developing an understanding of and conducting research on contemporary urban and regional policies and processes.

Outcomes
Students gain an appreciation of the range of issues which impact on urban growth and change and develop skills in structuring an understanding of contemporary urban issues as a basis for undertaking research in the field.

Students select an issue for detailed study. This involves the development of literature review skills and consideration of perspectives from the literature to develop reasoned interpretations of the role of the selected issue in urban and regional change. The essay forms the basis of a seminar delivered to students and staff which exposes students to a wide range of perspectives. Students are encouraged to select an issue which relates to their research topic.

This course will examine selected urban issues within an international perspective. Major issues will include urban governance, managing urban growth and change, comparative urban policy, migration, tourism and resource development.

Case Studies A 2 units
17567

Case Studies B 2 units
17568

Case Studies C 2 units
17569

Study Report 1 2 units
17570

Study Report 2 2 units
17571

These general electives are subject to agreement between the student and staff member concerned, and may be carried out by a combination of private study, seminars and other means.

DEPARTMENT OF ARCHITECTURAL AND DESIGN SCIENCE

The Department of Architectural and Design Science offers postgraduate courses leading to the award of the:

Master of Design Science	MDesSc
Graduate Diploma in Design Science	GradDipDesSc
Graduate Certificate in Design Science	GradCertDesSc

specialising in
- Audio
- Building
- Building Services
- Computing
- Energy Conservation
- Facilities Management
- Illumination

Suitable applicants may be accepted as candidates for the research degrees, Doctor of Philosophy, Master of Architecture, Master of Science (Architecture) or Master of Design Science (Research).

The requirements for the coursework degrees, diplomas and certificates are shown in the resolutions of the Senate and the Faculty (pages 105-111) and the Table of Courses (pages 111-114). Generally they are:

Dissertation

An option for the MDesSc.

Coursework

GradCertDesSc—12 units of coursework as specified
GradDipDesSc—24 units of coursework including at least 18 units of core courses and option courses
MDesSc — 36 units of coursework including at least 24 units of core courses and option courses

Individual courses are usually of 1,2, or 3 units in length, and candidates are required to select a program of study from these courses, in consultation with staff. Refer to the Table of Courses on pages 112-114 for details.

Coursework outside the department

For the diploma and master's degree up to 6 units of coursework may be undertaken outside the department, with permission.

Credit for prior study

For the diploma and master's degree up to 9 units may be counted for prior acceptable work.

Specialisations

Audio

Audio engineers are involved in the design of the acoustic environment whether it is by the way they record a musical performance or the sound system they use for amplifying a band or reproducing recordings. This is the first postgraduate program in audio engineering in Australia and one of only a few in the world, and is aimed at transforming audio engineering from a design occupation into a design profession. The program is multidisciplinary with courses being offered by the Departments of Music, Electrical Engineering and the School of Physics as well as the Department of Architectural and Design Science. Laboratories in the four departments collaborating in the presentation of the program will be supplemented by work in state-of-the-art recording studios.

The program aims to:
- develop audio engineeringinto a design profession by giving students in the program a fundamental understanding of acoustics, electroaeoustics, electronics and music;
- develop audio research with particular emphasis on design philosophies and strategies;
- give graduates in architecture, science, music and engineering an alternative career path;
- provide the basis -for continuing self-education of audio practitioners.

Building

The Building program provides an overview of building science and allows students to specialise in areas such as acoustics, building aerodynamics, CAD, structures, building services and environmental science.

The courses are aimed at architects and engineers who require a greater understanding of the science and technology of building design and construction and provide a range of knowledge and skills for educators in the building science area.

Building Services

The built environment makes an increasing impact on our daily lives. As national and international economic growth draws people to work and live in the world's cities, the services of space heating and cooling, ventilation and air conditioning, lighting, hot and cold water, drainage, sanitation, communication and transport systems have become accepted as necessities —part of the modern urban and industrial way of life. The building services engineer provides the skills and technology to help create a comfortable and stimulating environment and makes an important contribution to society and the economy in limiting by design and recommendation energy use in buildings.

The course aims to accelerate the acquisition of knowledge and skills for professionals currently employed in the building services industry and to provide continuing professional development for those in the related fields of architecture and the building industry or to provide vocational training for those intending to transfer into this industry.

Computing

The certificate, diploma and master's degree specialising in Computing allow those associated with the architecture and building professions the opportunity to become knowledgeable in the specialised area of architectural computing.

The basis of the program is that many disparate parts of architecture and building can be better understood from knowledge of the methodological background of system analysis and computing. This has become clear since the introduction of computers to the general areas of building design. Thus, the

program prepares students to participate in the implementation of these new techniques.

The program provides the opportunity for studying at a high level the application of computing, and the related developing discipline of knowledge engineering, to the problem of design. The context includes architectural design and other related fields of design.

As more and more architects and architectural firms adopt computational techniques and introduce computers, there will need to be architects and designers who are competent in this area to complement the computer scientists rather than to replace them. One of the reasons for the slow acceptance of computers amongst the design professions has been the lack of suitably trained personnel with a level of expertise in both areas who canbridge the gap. Already graduates from this Faculty who have specialised in architectural computing are sought after.

Students may substitute suitable courses from other departments, particularly those offered in computer science in the Faculty of Science.

Energy Conservation

The EnergyConservationspecialisation provides those associated with the architecture, engineering and building professions with the opportunity to become knowledgeable in the specialised area of energy-conservative design of buildings.

The course is a professional response to the growing community awareness of the need for economies in energy consumption. It is intended for architects and for mechanical and electrical engineers engaged both in the design of new buildings and in the retrofitting of existing buildings.

Facilities Management

Commercial and domestic buildings are a long-term proposition and a considerable capital investment. Operating costs can often equal or outweigh this investment. Facilities managers are responsible for maintaining the value of the investment by ensuring thatbuildings and other facilities are properly serviced and adequately maintained.

The Facilities Management program leads to a Master's degree, Graduate Diploma or Graduate Certificate in Design Science. It covers such topics as life cycle costing, selection of design elements, materials and equipment, functional/aesthetic trade-offs, procurement methods, maintenance management, asset registers, energy management, facility audits and post-occupancy evaluations.

Illumination

The certificate, diploma and master's degree specialising in Illumination are postgraduate professional courses for architects, interior designers, engineers, ergonomists and related professionals. The aim is to improve the quality of lighting design and the quality of the luminous environment.

Light, whether daylight or electric light, is essential for most human endeavour. Without light there is no seeing, without light there is no architecture. Lighting is the application of technology with an understanding of human factors to facilitate the performance of tasks and to reveal people, objects and spaces. Lighting, therefore, involves the ability to analyse the needs of a particular task or space in order to determine those light-technical parameters which are essential for the design, installation and operation of a suitable lighting system. These requirements apply whether the lighting is task orientated or for the creation of mood or atmosphere.

Like all design processes, lighting design is based on knowledge but its practice also involves processes and skills that are difficult to teach, such as flair, calculated risk-taking, experience and imagination.

This program is one of only a few in the world. Its emphasis is on producing good lighting designers by introducing the student to the multi-disciplinary background of lighting knowledge before integrating this knowledge into the general process of lighting design. The program operates its first year in two parallel streams — one concerned with the physics and technologies of lighting and the other which explores the human bases of seeing and aesthetics.

The breadth of knowledge required for an understanding of lighting is the reason so few programs exist. Much of the knowledge has developed in areas of study which have no direct application to design, such as physiology, psychology, physics, chemistry, etc. Other knowledge has been developed by manufacturers of equipment and applications knowledge has been developed by engineers and architects. Rarely does an institution bring this knowledge together to provide a comprehensive lighting design course.

The program assumes the knowledge and maturity of a graduate with some experience of the design professions. However, it recognises the differences in educational backgrounds of its candidates and provides support courses in related fields concerning the built environment, as well as emphasising the need for students to experience both the technological and human factors bases of lighting.

The program has a core of courses in the area of study called Illumination. This core is compulsory. The successful completion of the core qualifies the candidate for full membership of the Illuminating Engineering Societies of Australia subject to the required practical experience. The core comprises 12 of the units required for the award of the GradCertDesSc, GradDipDesSc or MDesSc. The remaining units can be selected from the options available within the Department of Architectural and Design Science or the Faculty. Some candidates, depending upon their previous studies, may be eligible for credit of up to 9 units, reducing the number of optional courses which need to be completed. The core courses are generally lectures, supported by laboratory work, tutorials and design exercises.

The core courses can be completed in three semesters, either full-time or part-time. The core courses are offered once every two years and are always timetabled in the evenings (6-8 pm).

AREA: GENERAL

Dissertation — 12 units

21076

The aim of the dissertation is twofold:

(1) To train the student in how to undertake advanced study. The student should learn how to examine published and unpublished data, survey and experimental results, set objectives, organise a program of work, analyse information, evaluate this inrelation to existing knowledge and document the work.

(2) To allow the student to pursue an area of interest in greater depth than is possible in coursework or to investigate an area of interest which is not covered in coursework.

The appointment of a supervisor will depend on the topic chosen for the dissertation by the student. There will be no classes associated with the dissertation but it is recommended that the student enrols in the Research Methods course.

The dissertation will normally involve a critical review of published material in a specified subject area, but it may also be an experimental or theoretical investigation, a feasibility study, a case study, a computer program, or other work demonstrating the student's analytical ability.

There is no prescribed word or page limit on the dissertation, but it will usually be less than 25 000 words. The dissertation should contain a literature review, a research methodology, analysis of data, a discussion of results and conclusions. The dissertation will be judged on the extentand quality of the student's work, and in particular on how critical, perceptive and constructive the student has been in assessing his or her own work and that of others.

Three typed A4 sized copies of the dissertation are required to be presented for examination. (Consult page 109 of the Faculty resolutions for more details of the form of the dissertation.)

Elective A — 3 units

17615

Elective B — 3 units

17616

Elective C — 2 units

17617

Elective D — 2 units

17621

Elective E — 1 unit

17622

Elective F — 1 unit

17623

Electives are subject to agreement between the student and staff member concerned, and may be carried out by a combination of private study, seminars and other means.

Architectural Acoustics 1 — 2 units

14887

Assoc. Prof. Fricke

Classes lectures and tutorials

Assessment 2 assignments (50 per cent each)

Objectives

The course is aimed at giving a framework to undertake the acoustic design of buildings and their environments and to solve acoustic problems associated with the built environment. This includes an introduction to the theoretical basis of the behaviour of sound, the terminology involved and the application of theory to practice. At the end of the course students should be able to carry out about 75 per cent of the work that an acoustical consultant does.

The course has the following objectives:

- to present an outline of the part that acoustics has played in history and the effects of noise on people;
- to give an understanding of the theoretical basis for tackling acoustic problems and undertaking acoustic design;
- to familiarise students with acoustic terminology; and
- to show how acoustic principles may be applied to the design of buildings.

Outcomes

At the completion of the course students will be expected to understand basic acoustic theory and terminology; be able to calculate noise levels, in the majority of building design situations, to a sufficient degree of accuracy; to be aware of suitable acoustic criteria for buildings and their environs; to know when and where to seek further information or advice; and to be able to apply for a position as an acoustical consultant.

The assignments take students through a series of calculations which allow them to understand the terminology and theory and apply it to practical situations. The assignments also have some questions which require students to undertake further reading to find information not presented in the lectures.

The course considers the following issues. The need for acoustical designin buildings. Descriptionof sound and how is it propagated. Defining terms: sound pressure, sound pressure level, intensity, sound power, energy density. Frequency analysis of sound. Development of a simple model to estimate sound levels in different situations. The application of the above principles to buildings including the transmission of sound through walls and building elements, the absorption of sound and the behaviour of sound in rooms.

Architectural Acoustics 2 — 3 units

17580

Assoc. Prof. Fricke

Prerequisite Architectural Acoustics 1

Classes lectures, laboratory work and site visits

Assessment essay (40 per cent), laboratory study report (30 per cent) and a report on a field assessment (30 per cent)

Objectives

- to presentinformationaboutanumber of specialised

topics in architectural acoustics;
- to give students experience in undertaking architectural acoustics measurements and analysis;
- to give an understanding of the theoretical basis for tackling acoustic problems and undertaking acoustic design;
- to give students the ability to find and understand material on architectural acoustics;
- to give an opportunity to design and carry out an experiment to investigate an acoustical problem not dealt with in the literature;
- to produce written and verbal reports on work done to a better standard than those produced by consultants; and
- to undertake a field assessment of an acoustic problem with minimal equipment.

Outcomes
At the completion of the course students will be expected to:
- understand and carry out basic acoustic measurements;
- be able to undertake acoustic assessments of buildings and their environs;
- undertake the acoustic design of buildings;
- have a working knowledge of the mechanisms by which sound is generated and attenuated;
- be able to find and use relevant codes; and
- be able to design acoustical experiments, analyse the results and report on findings.

The assignments allow students to gain hands-on experience in laboratory and field measurements and assessments. The assignments can be set to coincide with the specific interests of the students.

Topics covered in the course include acoustic measurement, sound reinforcement, environmental measurement and assessment, auditorium acoustics, noise control in building services, acoustics of musical instruments, and legislation, codes and standards.

Cognitive Processes in Design 1 2 units

12675
Note This course is available in alternate years.
Assoc. Prof. Purcell
Classes lectures and seminars
Assessment 1 assignment

Objectives
The objectives of the course are to review at a basic level knowledge in the following areas of human cognitive processes: the nature of problems — simple versus complex and ill-defined problems; the origin, representation and use of everyday knowledge in problem solving; the nature of expertise and the origin, representation and use of expert knowledge; and the role of analogy and metaphor in everyday understanding and expert performance.

Outcomes
Participants will gain an understanding of the basic issues in human problem solving and knowledge of the nature of expertise and its role in complex problem solving.

Assessment will be on the basis of an assignment involving the review and synthesis of relevant research material.

The activity of designing can be regarded as a form of complex problem solving. As such it involves the use of knowledge represented in memory and is constrained by certain limitations that are associated with all complex human problem solving. Understanding these basic aspects of human problem solving can therefore inform an understanding of design problem solving.

Cognitive Processes in Design 2 2 units

12785
Note This course is available in alternate years.
Assoc. Prof. Purcell
Classes lectures and seminars
Assessment 1 assignment

Objectives
This course develops detailed knowledge in each of the areas covered in the course Cognitive Processes in Design 1.

Outcomes
Participants in the course will have a detailed understanding of the cognitive processes involved in complex problem solving; an overview of the research methods used in analysing design from the cognitive processing point of view; and a knowledge of design as a problem solving process which involves complex cognitive processes.

The format of the course is based around seminars given by the participants. Each seminar will review a particular key paper and associated material and explores its relationship to the activity of designing and design evaluation. The assessment for the course involves the writing up of the material presented in the seminar.

This course reviews the growing body of research analysing the activity of design from the point of view of cognitive processes.

Electricity in Buildings 2 units

36457
Note The course is designed as an alternative to Electrical Services to provide an introduction to electrical services for recent graduates or diplomates in engineering, architecture or science and for people involved at a professional level in the building industry who do not possess a background in electrical engineering but are planning to take the courses in the illumination stream.
Mr Pearce and specialist guest lecturers
Classes lectures
Assessment 3 assignments (equally weighted)

Objectives
The course aims to present basic principles of electricity and magnetism as necessary for an understanding of the application of electrical services in buildings; to introduce students to the applications of these principles to electrical distribution in buildings; and to outline the principles of electric motors, transformers and switchboard design.

Outcomes
It is expected that students will gain basic knowledge of components of the electricity generating and distribution network external to and within buildings; the types and use of cables and enclosures in and around buildings; methods of assessment of loads and cable sizes; principles of operation of transformers and motors and the design of switchboards and earthing, emergency evacuation lighting and early warning information systems; and a basic understanding of data transmission via copper wire and optical fibre.

Assignments will test acquired skills in electrical load estimation and the design of simple electrical distribution systems.

An understanding of electrical services is an essential requirement for building services practitioners involved in the design professions and the construction and building management industries.

History of Building Science 3 units

34182
Emeritus Prof. Cowan
Classes lectures
Assessment 2 assignments (25 per cent each) and a choice of examination or essay (50 per cent)

Objectives
To explore the history of architecture from the constructional and scientific point of view, and to study the development of scientific methods and their effect on architectural design.

Outcomes
At the conclusion of the course eachstudent is expected to know about the development of science and technology and understand its influence on the architecture of different ages. They will have studied one particular aspect of this development in depth.

The course examines the history of architectural science and its relation to history in general and to the history of architecture and of science in particular. The core problems of architectural science are studied from the earliest structural forms up to the beginning of the era of scientific structural design. The first part of the course concentrates on the period prior to the 19th century.

The second part is an examination of the history of architectural science in relation to general history and the histories of architecture and science during the 19th and 20th centuries. Topics covered include: the invention of steel and reinforced concrete construction, the development of rigid frame theory, the mechanisation of structural design, the revival of three-dimensional structures, new building materials, and the industrialisation of architecture.

Mathematical Modelling for Designers 2 units

34278
Mr Hayman
Classes lectures and tutorials
Assessment assignment (100 per cent)

Objectives
The course will demonstrate a range of mathematical models that can be applied to the analysis of problems in architecture and architectural science, to explore the appropriateness of data collection and analysis techniques and to provide support for research programs.

Outcomes
Students should be familiar with a range of mathematical modelling techniques, be able to demonstrate the application of at least one of these techniques to a problem in design or practice and be able to utilise appropriate data collection and analysis techniques.

The assignment draws upon a research case study in either design or practice for primary data. Data description, exploration and analysis will be carried out to find appropriate techniques for the research questions posed.

This course develops some concepts of mathematics and science related to design. Models drawn from will include calculus, matrix algebra, optimisation and statistics. Additionally, emphasis will be placed on models for managerial decision making, e.g. critical path analysis. The use of computer-based tools is encouraged.

Research Methods 2 units

21030
Assoc. Prof. Purcell and guest lecturers
Classes lectures and seminars
Assessment 2 assignments (40 and 60 per cent)

Objectives
The objectives of the course are to provide:
- an overview of various research orientations and to demonstrate that, while the details of how research is conducted and written up varies widely between disciplines, there is a more abstract level at which there are significant similarities between research areas; and
- sets of more specific, key concepts in each research area that can form the starting point for the intelligent understanding of research material and assist in the conduct of student research projects.

Outcomes
Participants in the course will have an understanding of the basic requirements associated with research generally, an overview of the major research traditions, and a basic understanding of how to critically analyse a research project and how to write a research proposal.

The course consists of lectures relating to the first of the objectives given by members of the Faculty and guest lectures by staff from other departments such as Physics and History. The second objective of the course involves lectures on the design and implementation of specific research projects covering the research spectrum as it exists in design and planning and given by the individuals who carried out the research. These run concurrently with student seminars where participants have to outline the background for and

methodological approach to a particular research project selected by the student. A written description of the material presented in the seminar will form the basis for the first assignment. The second assignment will consist of a research proposal either following on from the research project discussed in the seminar or associated with the student's own work.

The various disciplines involved in a Faculty concerned with design and planning draw upon apparently very different research traditions. Further it is often the case that the research methods and techniques, the managing of research projects and the writing of research reports and publications are not taught within professionally oriented disciplines. It is also true however that a practising professional in any of these disciplines will, at some stage, be required to assess and use, in their design and planning activities, the results of research from this wide spectrum of research orientations. The correct interpretation and understanding of this material is therefore essential for a practising professional. In addition, the ability to carry out research is central to the development of the knowledge base of these disciplines.

Science and Society 2 units

32275
Mr Hayman
Classes lectures and seminars
Assessment assignment (100 per cent)

Objectives
The course aims to develop an appreciation of the history of Western science and its impact on Western thought, explore the impact of science on the practice of building and architecture, and encourage self-directed research and communication of ideas.

Outcomes
Students should be familiar with the history and philosophy of the Western scientific tradition and its impact on the practice of building and architecture. They should also be able to carry out and communicate a small-scale, self-directed, research report.

The scope covered by the lectures allows students to explore the research potential of a particular area of interest, within the domain of the course. The seminars provide students with a more public environment to communicate their ideas.

This course provides a contextual alternative to the specificity of most courses within the technical postgraduate program. It is an introduction to the study of science and covers the major philosophical developments in Western scientific thought from its Greek foundations. Topics covered include medieval science, the Enlightenment, the Darwinian revolution and 20th century critiques of science. Part of the course looks at the impact of science on the practice of building and architecture.

Statistics in Environmental Design 2 units

31274
Mr Hayman
Classes lectures
Assessment assignment (100 per cent)

Objectives
The course aims to demonstrate the range of statistical tools that can be applied to the analysis of problems in environmental design and person-environment studies, to explore the appropriateness of data collection and analysis techniques, and to provide statistical support for research programs.

Outcomes
Students should be familiar with a range of statistical tools, be able to demonstrate the application of these tools to a problem in environmental design and/or person-environment studies and be able to utilise appropriate data collection and analysis techniques.

The assignment draws upon a research case study in either environmental design or person-environment studies for primary data. Data description, exploration and analysis will be carried out to find appropriate techniques for the research questions posed.

Many problems in environmental design and person-environment studies require data collection and analysis. Many such data, especially those concerned with human response, can only be effectively analysed with statistics. This course covers data gathering, descriptive, inferential and predictive statistics as well as an introduction to multi-variate techniques. The use of computer-based tools is encouraged.

Wind Effects on Buildings 2 units

36430
Mr Forwood
Classes lectures and laboratory classes
Assessment assignment (100 per cent)

Objectives
The course will study the impact of wind upon building design and to explore techniques to evaluate the ground level wind environment in urban spaces.

Outcomes
At the conclusion of this course each student is expected to (1) have a working knowledge of the principles of fluid mechanics associated with airflow around buildings; (2) understand the causes of major wind-related problems in architectural and urban design; (3) be familiar with the range of techniques available for evaluating the impact of wind on buildings; and (4) be able to undertake, and report on, a wind tunnel investigation of the wind environment in an urban space.

The assignment requires students to undertake a supervised investigation using scale models in a wind tunnel and to report on the findings and explain them using their knowledge of fundamental principles and theories.

The course begins by identifying common wind-related problems in architectural and urban design. Sufficient fluid dynamics to understand the cause of these problems is then studied. The major component

of the course is concerned with the evaluation of the wind environment in urban spaces. Wind tunnel simulations are explored and the role of these investigations in the development approval process is discussed. The course concludes with an investigation of natural ventilation in buildings.

AREA: AUDIO

Analogue and Digital Audio 4 units

13301
MrHayman .
Prerequisite Audio Acoustics, and Electrics, Electronics and Electroacoustics 1
Classes modified lectures
Assessment written assignments (50 per cent) and practical exercises (50 per cent)

Objectives

- To give an understanding of the principles, operation and maintenance of ATRs and the principles and operation of analogue sound and noise processing equipment;
- to summarise the principles and operation of analogue disc recording;
- to examine the principles and operation of various concepts of mixers; archiving considerations and techniques; digital storage media and their characteristics, including media standards; and current synchronisation techniques;
- to review signal levels and recording/ interconnection standards; and
- to give an understanding of digital sampling theory, including error handling; the devices used in digital audio, including digital sampling, recording, editing, noise reduction and sound processing equipment; and the MIDI specification — its use and limitations.

Outcomes

By the end of the course students will be expected to be able to:

- understand the theory, operation and limitations of ATRs, and be able to operate and perform basic maintenance on them;
- use and explain the principles of operation of a range of analogue sound processing equipment and have an understanding of the various approaches to noise reduction (analogue and digital) and where they are used;
- outline the principles and limitations of analogue disk recording;
- describe the features and operation of a typical mixing console, and calibrate and use a mixer at correct operating levels;
- understand the principles of digital sampling theory, as well as ways of reducing errors;
- describe the characteristics of various digital storage media;
- operate a PC-based hard disk editing system, and describe how to use a variety of digital effects and noise reduction systems;
- describe the most common time code standards, and be able to synchronise two machines together;
- set up and use a MIDI system with at least two devices, and describe some of MIDI'S limitations; and
- describe how to archive various recording media.

Students' understanding of analogue and digital audio theory will be tested.

This course gives students knowledge and experience in both analogue and digital equipment and technologies, digital signal processing (DSP), MIDI and synchronisation. The course will examine the variety of equipment and storage media used, their limitations and capabilities.

Audio Acoustics 3 units

13312
DrFekete
Classes lectures
Assessment written assignments (4 x 25 per cent)

Objectives

This course aims to give an understanding of the properties of sound; examine the principles of acoustics, and how they influence our perception of sound; give an understanding of the transducers that generate and receive sound; examine the musical properties of sound; and familiarise students with various musical instruments and their acoustic characteristics.

Outcomes

By the end of the course students will be expected to:

- understand the properties of sound and its generation, propagation and detection;
- given the appropriate equipment, measure parameters such as sound level and reverberation time;
- appreciate the effect of a given environment on a sound field, and be able to describe ways of altering the sound field by changing the environment;
- understand factors which affect the human perception of sound; and
- be able to describe properties of transducers that generate and receive sound, and the acoustic characteristics of various families of musical instruments.

Students' understanding of the material presented will be tested after each section of the course.

Many audio practitioners have only a basic idea of what sound is, how it is created, and how it is perceived. Starting with the physics of sound, this course investigates the nature of sound as waves, acoustics and sound perception, the principles of microphones and loudspeakers, the musical properties of sound and the acoustical behaviour of various musical instrument groups.

Audio Internship 3 units

13294

Audio Practice 3 units

13286
Assoc. Prof. Fricke

Classes lectures and laboratory sessions
Assessment written test (25 per cent), laboratory assignments (3 x 25 per cent) throughout the semester

Objectives
- To give an appreciation of the need for professional audio system elements;
- to introduce the main audio system elements and their interconnection through balanced and unbalanced circuits;
- to define audio terms, measurements and expressions;
- to explain the concepts of mixing, recording and reinforcement and the basics of stereophonic and surround sound;
- to examine sources of noise, distortion and crosstalk in an audio system;
- to familiarise students with cable /connector standards and the basis of wire connection; and
- to give an understanding of basic care and maintenance of equipment and cables.

Outcomes
By the end of the course students will be expected to:
- describe the main elements of a recording/ reinforcement audio system and how they are interconnected;
- connect and calibrate an audio system, describing possible sources of noise and distortion, and how they may be remedied;
- explain various audio terms (e.g. frequency response) and how they relate to an audio system;
- describe the principles of mixing, recording and reinforcement, and how to set up and calibrate recording and reinforcement systems, including choosing appropriate equipment;
- describe cable/connector standards, and choose appropriate cables/connectors for a given audio situation;
- describe ongoing maintenance requirements for various audio system elements; and
- describe basics of stereophony and surround.

Students will work in a laboratory, investigating various properties of audio equipment and systems. Assessment will be on the basis of a student's ability to carry out tasks directly related to the outcomes.

The course introduces students to audio concepts, practices and equipment. While there will be some lecture material, students will largely work in a laboratory, learning to use test equipment, and investigating such audio properties as frequency response, noise and distortion, microphone and loudspeaker properties and stereophony. Students will also be able to propose their own experiments, and will be expected to undertake a recording using professional equipment.

Audio Production 3 units

13320
Guest lecturers
Prerequisite Analogue and Digital Audio, Electrics, Electronics and Electroacoustics 1, Audio Practice, Audio Acoustics
Classes guest lectures and project work
Assessment a project and accompanying report

Objectives
The course aims to give experience in calibration and use of equipment in studio recording/broadcast; set-up, calibration and use of equipment in live reinforcement; choice and use of equipmentinlocation recording; choice and use of software/hardware in audio computing; and calibration and use of equipment in studio post-production.

Outcomes
By the end of the course students will be expected to complete projects in at least studio recording/ broadcast or location recording or live reinforcement, and studio post-production or audio computing. They should understand the principles involved in all of the above areas.

Students will complete projects in their areas of interest, using knowledge gained during the course.

This advanced course involves students in projects which take account of all the topics covered in the prerequisite courses. It is intended that experts in various facets of audio will be guest lecturers for portions of this course. Students will complete projects in particular areas of audio, taking part in every aspect of that project, from choice of equipment to final product.

Electrics, Electronics and Electroacoustics 1 3 units

13271
Mr Scott
Prerequisite Audio Practice
Classes modified lectures and laboratory tutorials
Assessment written assignments (50 per cent) and practical tests (50 per cent)

Objectives
- To give an understanding of electronic devices and terms, measurementunits used in audio electronics, and basic DC and AC circuits;
- to demonstrate simple audio circuit characteristics (e.g. amplifier/filter characteristics), and simple construction/maintenance techniques;
- to give practice at reading schematics and circuit diagrams and using audio test equipment; and
- to examine safety aspects of using electrical/ electronic equipment.

Outcomes
By the end of the course students will be expected to:
- be able to recognise electrontic components as used in audio electronic circuits, and state their function;
- use appropriate units when discussing audio electronic concepts;
- understand the effect of frequency on various electronic devices and circuits;
- given a schematic or circuit diagram of a circuit, be able to explain its general operation, and pinpoint such elements as inputs, outputs, power supply and gain elements;
- be able to use appropriate test equipment correctly

to find a simple fault in a circuit, and to analyse sound level and frequency distribution of a sound in a given space;
- be able to construct and test a simple circuit, given a circuit diagram, and to explain and verify the circuit's operation; and
- be able to state important precautions to be taken when operating or handling audio components, and safety considerations when dealing with electrical systems.

Students will demonstrate their understanding of the theoretical component of the course by performance in the written test, and will be required to demonstrate competence in using test equipment.

This course will give students an understanding of electronics and electronic terms, and experience at using test equipment. Students will learn basic electric theory, electronic components and devices, measurement units, interpretation of schematics and circuit diagrams, use of audio test equipment, basic circuit construction and maintenance, fault-finding and safety issues.

Electrics, Electronics and Electroacoustics 2 — 3 units

13272
Mr Scott
Prerequisite Analogue and Digital Audio, Electrics, Electronics and Electroacoustics 1, Audio Acoustics
Classes modified lectures and laboratory tutorials
Assessment sound system design projects

Objectives
- To give an understanding of the factors which affect microphone placement in given situations, loudspeaker choice, configuration and placement;
- to explore the interaction of loudspeakers with given environments;
- to give an understanding of psychoacoustics, equalisation, and acoustic measurements;
- to give an appreciation of the factors that affect sound system design; and
- to explore factors which affect the intelligibility of speech, auditorium and studio acoustic behaviour.

Outcomes
By the end of the course students will be expected to be able to effectively (1) choose and place microphones to record / amplify an audio signal, taking into account all relevant factors; and (2) choose, configure and place loudspeakers to monitor/reinforce an audio signal, taking into account all relevant factors. They will design a sound system for a given application, discussing necessary acoustic measurements that would be involved, and equalisation techniques that would improve the final quality/intelligibility of the sound, within a particular environment.

Students will undertake a sound system design project which will relate directly to the outcomes above.

This course will give students knowledge and understanding in practical electroacoustics and acoustics, particularly with regard to microphones and loudspeakers and their placement. The role of acoustic measurements and psychoacoustics in sound system design is explored and case studies are presented. This course will draw on knowledge and experience gained in previous courses and give students the opportunity to undertake a project in sound system design.

Keyboard Musicianship — 2 units

13253

Music 1 — 3 units

13309
Dr Souter
Classes lectures, aural tutorials and class listenings/ discussions
Assessment tests in basic aural and theoretical skills (3 x 10 per cent), music writing exercises (5 x 10 per cent), written tests (2 x 10 per cent)

Objectives
The course aims to develop students' basic musicianship with a focus on score reading and listening skills; to give a sense of the history of Western classical music, and the ability to familiarise themselves with a musical genre by perusing scores, listening to musical excerpts and reading from secondary sources; and to give experience in writing descriptions of musical textures and critiques of performances and recordings.

Outcomes
By the end of the course students will be expected to be able to follow and comprehend a classical music score as it is played and to identify from it aspects of the music, including instrumentation, which might influence the recording process; be familiar with the major styles and forms of Western music, from medieval to modern times; and possess the musical and linguistic vocabularies which will help them to form judgements on music and musical performance and to engage in musical discussions with their colleagues in a professional situation.

Students will be assessed on their listening and analytical skills, music writing, and ability to discern musical styles.

All audio practitioners should have an understanding of musical structure and style, and possess the basic musicianship to appreciate it. Students will learn the acoustical foundations of tonal music, issues of balance, ambience, texture and tone colour, and will gain experience in score reading techniques, as well as writing and recognition of music building blocks.

Music 2 — 2 units

13310

AREA: BUILDING STRUCTURES AND MATERIALS

Appraisal of Existing Structures — 1 unit

17575
Dr Gunaratnam

Classes lectures, tutorials and seminars
Assessment assignments

Objectives
The course aims to introduce students to the different stages of the structural appraisal process and provide a methodology for implementing the appraisal process. It will provide experience in applying the structural appraisal process to specific cases.

Outcomes
At the completion of the course students are expected to have a good understanding of the different stages in the structural appraisal process and be familiar with the methodology available for implementing the structural appraisal process.

The above outcomes provide the basis for the different assessment tasks.

The course initially develops a unified framework, based on the limit state philosophy, within which the processes of structural design and structural appraisal can be considered. The purposes, procedures and responsibilities in structural appraisal, the nature of requisite information and methods of survey are then considered. It includes an appreciation of the history of construction methods and materials, assessment and modelling of the structure, structural diagnosis, functional requirements and non-destructive testing. A methodology for implementing the different stages of the appraisal process is developed and applied to specific cases.

Building Materials 1 — 1 unit

17588
Dr Gunaratnam
Classes lectures
Assessment assignments

Objectives
The course aims to familiarise students with the properties, processes and applications of materials such as glass, concrete and polymers, in the context of building design, and to introduce the different factors influencing corrosion in materials, particularly in metals, and methods of controlling corrosion in buildings.

Outcomes
At the completion of the course each student is expected to be cognisant of the properties, processes and architectural applications of materials such as glass, concrete, polymers and metals and to be able to relate performance requirements for a building to the properties and processes that characterise the above building materials.

The above course outcomes provide the basis for the different assessment tasks.

The course begins with a discussion of performance requirements in buildings and the effect of these on building material selection. The properties, production processes and applications of some common building materials are then considered. The performance requirements arising from strength, durability, corrosion, temperature and moisture effects in relation to common building materials including metals, concrete, glass, plastics and sealants, are also considered. Some new materials and their uses in buildings are finally considered.

Computer-aided Design of Structures — 2 units

12621
Dr Gunaratnam
Classes lectures, tutorials and computer laboratory sessions
Assessment assignments

Objectives
- To introduce students to a range of the analysis and design tools presently available for the computer-aided design of skeletal, spatial and fabric structures;
- to familiarise students with the methods and techniques on which most of these tools are based and the issues relating to their implementation on the computer;
- to provide students withinformation on the various aspects of structural modelling on the computer and experience in selecting appropriate models of the structure for the computer; and
- to explore different ways of integrating the analysis and design tools into the structural decision making process.

Outcomes
At the completion of the course each student is expected to:
- have a good understanding of the capabilities and limitations of the computer-based structural analysis and design tools;
- be cognisant of the methods and techniques commonly used in the development of structural analysis and design tools;
- be able to select and generate appropriate models of the structure for the different stages in the structural design process;
- be able to take appropriate structural decisions based on information provided by the computer-based tools; and
- have a good understanding of the different stages in the computer-aided design of skeletal, spatial and fabric structures.

The above course outcomes provide the basis for the different assessment tasks.

This course provides hands-on experience in integrating computer-based design tools into the structural design process and in rapidly exploring the different structural design options. Information is also provided on the theoretical bases, structure and organisation of some of the state-of-the-art computer-based analysis and design tools. Topics covered include: introduction to stiffness, flexibility and finite element methods of structural analysis; modelling of structure (including finite element models, static and dynamic loads, and materials); pre- and post-analysis processing; and modelling guidelines (including model refinement). Assignments include applications from skeletal, planar, shell and tension structures, and case studies.

Structural Systems Synthesis 2 units

12563
DrGunaratnam
Classes lectures, tutorials and computer laboratory sessions
Assessment assignments

Objectives
- To introduce students to the models presently available for synthesis of structural systems;
- to provide students with experience in the use of these models for synthesis of structural systems and sub-systems;
- to familiarise students with AI and optimisation techniques presently available for structural synthesis;
- to provide students with experience in the use of AI and optimisation tools for the synthesis of structural systems; and
- to explore issues of structural efficiency within the structural synthesis process.

Outcomes
At the completion of the course students are expected to:
- be cognisant of the different models available for structural synthesis;
- be able to use these models to solve structural synthesis problems;
- have a good understanding of the AI and optimisation techniques presently available for structural synthesis;
- be able to use AI and optimisation tools to solve structural synthesis problems; and
- have a good understanding of how structural efficiency issues are addressed within the structural synthesis process.

The above course outcomes provide the basis for the different assessment tasks.

The course explores the models available for structural synthesis and provides experience in the use of AI and optimisation techniques within the synthesis process. Topics covered include: structural design process; models of structural synthesis; functional, constructional and behavioural requirements for structural and foundation systems and their influence on the synthesis process; approximate behaviour models (including those for tall and wide-span structures); AI and optimisation techniques for structural synthesis. Assignments include applications of AI and optimisation techniques.

AREA: BUILDING SERVICES

Air-conditioning Design 3 units

17573
Mr Rowe and specialist guest lecturers
Prerequisite nil — assumed knowledge of the core course Mechanical Services
Classes lectures
Assessment 5 assignments (20 per cent each)

Objectives
The course will provide students with skills in the design of air-conditioning systems.

Outcomes
Students should gain the ability to make rational system and component selection decisions and to have practised the design of an air-conditioning system through the set of assignment projects.

Assignments lead students through the processes of air-conditioning system selection, heat load estimation, and the design of air distribution, refrigerant and heat rejection systems.

The course extends students' ability to design basic air-conditioning systems for buildings. It covers air-conditioning system selection; design for energy efficiency; quality of indoor air; air distribution; piped services; water treatment; and air-conditiohing system components such as fans, coils, filters and heat rejection equipment.

Building Acoustics and Noise Control 2 units

17608
Assoc. Prof. Fricke
Classes lectures, laboratories and tutorials
Assessment 2 tutorial assignments (10 per cent), computer assignment (20 per cent), laboratory report (20 per cent), essay (50 per cent)

Objectives
One of the serious side-effects of our society is the noise that our activities generate. This course is primarily designed to make students aware of this and how to deal with noise. The course aims to:
- present an outline of the history of acoustics and noise control;
- outline the effects of noise on people;
- give an understanding of the theoretical basis for tackling acoustic problems and undertaking acoustic design;
- familiarise students with acoustic measurement and analysis techniques;
- give an understanding of the work acoustical engineers undertake; and
- study in detail some aspects of the control of noise in building services.

Outcomes
At the completion of the course students will be expected to:
- understand basic acoustic theory and terminology;
- be able to undertake noise assessments;
- undertake the acoustic design of enclosures, reactive and dissipative mufflers and air-conditioning systems;
- have an understanding of the mechanisms by which sound is generated and attenuated;
- be able to use sound level meters and other acoustic instrumentation;
- use some specialised software for acoustic design and/or analysis; and
- have an appreciation of the work undertaken by acoustical consultants.

The assessments allow students to apply what they have learned in lectures, give practice in the application of software to problems, use acoustic instrumentation, and to undertake a search of the literature on a topic

of interest and report on these in the way a consultant or researcher would do.

The main topics in the course are: the history and application of acoustics, theory, hearing and perception, sound measurement, simplified model, sound transmission, enclosures, and noise assessment and control.

Building Construction Technology 3 units

17555
Mr Pearce and specialist guest lecturers
Classes lectures
Assessment 4 assignments (20 per cent, 30 per cent, 25 per cent, and 25 per cent)

Objectives
- To provide students with a knowledge of the environment in which professional engineers operate in the building industry;
- to introduce an understanding of the design and construction of building elements, the fundamentals of heat transfer and effects of external conditions on indoor comfort, and the fundamentals of vertical transportation within buildings;
- to explore the requirements of the Building Code of Australia (BCA); and
- to discuss influences on the indoor environment such as services coordination and vibration.

Outcomes
It is expected that students will acquire an understanding of requirements of the BCA and statutory regulations; a knowledge of principles for the design and construction of building structural elements; space requirements for the integration of services into the building fabric; and heat transfer through the building skin including solar effects on buildings.

Assignments will test students' understanding of BCA requirements, processes of structural system selection, interactionbetween the external and internal environments, and principles of vertical transportation.

Students are provided with an appreciation of building construction technology relevant to the work of the building services engineer. The course emphasises aspects of the built environment that are of concern to the building services engineer, particularly in the early design stages.

Building Services Case Studies 1 unit

12518
Mr Rowe and specialist guest lecturers
Classes lectures and student presentations
Assessment assignment (100 per cent)

Objectives
The course provides elementary instruction in written and oral presentation techniques supported by demonstration by experienced practitioners. It gives students anopportunity to gainexperienceintheresearch, preparation and presentation to their peers of an appropriate case study from the building services field.

Outcomes
It is expected that students will emerge from the course with enhanced skills in the preparation and written and oral presentation of a substantial technical report on the subject of a case study drawn from personal experience.

The complex interaction of numerous specialists in the modern construction industry places heavy demands on the communications skills of participants. This course is intended to enhance those skills in students by example and practice in the preparation of a substantial, high-quality written report and oral presentation to the class.

Communications 2 units

17564
Mr Pearce and specialist guest lecturers
Classes lectures
Assessment 3 assignments (33 per cent, 33 per cent and 34 per cent)

Objectives
The course is intended to (1) provide an introduction to basic communications theory and the Australian telecommunications environment and tariffs; (2) instruct students in methods of determining client requirements and needs in communication; (3) provide instruction in telecommunications infrastructure, telephone traffic engineering, building cabling systems, customer premises equipment for voice and data systems; and (4) present an understanding of cable management and wireless in buildings; and to discuss private networks and 'intelligent' buildings.

Outcomes
It is expected that students will acquire knowledge in the application of the principles and practice of communications engineering.

Assignments will test ability to apply knowledge gained in lectures by practical application.

The course provides an overview of the communications environment in Australia. It develops an appreciation of voice, video and data and integrated communications systems; gives an understanding of transmission and exchange systems within and beyond buildings by cabling, fibre optic and radio; and discusses wireless telephone systems, integrated services digital networks (ISDN), error detection and correction and system redundancy.

Computer Aids for Air-conditioning Design 3 units

17577
Mr Rowe and specialist guest lecturers
Prerequisite nil — assumed knowledge of the core course Mechanical Services
Classes lectures and computer laboratory workshops
Assessment 5 assignment projects (20 per cent each)

Objectives
To demonstrate to students and provide them with hands-on experience in the use of micro-version

software for estimation of cooling and heating loads in buildings, simulation of HVAC system operation and estimation of energy consumption over time; and analysis of air flows and acoustic performance in air-conditioning ductwork systems.

Outcomes
Students will gain familiarity with the application of software programs in common use in Australia. It is expected that they will be able to apply learned skills to design applications and to evaluation of the impact on thermal flows of alternative methods and materials of construction.

Assignments will test the ability of students to apply software modelling techniques to a set of design problems typical of those encountered in applications that are directly relevant to air-conditioning design as currently practised in many professional offices in Australia.

The course extends students' ability to design basic air-conditioning systems and to appreciate the benefits and limitations of thermal control of indoor environments. Principles of design for good indoor air quality and energy conservation are discussed.

Electric Power Systems for Buildings 3 units

17562
Mr Pearce and specialist guest lecturers
Prerequisite nil — assumed knowledge of core course Electrical Services.
Classes lectures and computer laboratory
Assessment assignments (3 x 20 per cent and 1 x 40 per cent)

Objectives
The course aims to provide an understanding of requirements for the supply of electricity to buildings including supply irregularities and their effects; and to expand knowledge of principles of electric motors and transformers and the design of switchboards and electrical distribution systems.

Outcomes
Students will gain a knowledge of the design of electrical power distribution systems for buildings including requirements for metering and protection; operation, uses and selection of transformers and motors; design, installation, inspection and testing of switchboards; application of electrical services in hazardous locations and an understanding of computer-aided design of power reticulation systems.

Assignments will test the knowledge gained by students in the above areas.

Electrical services play a vital role in the operation of modern buildings. This course is designed to provide enhanced design skills and to develop the ability to solve problems that may arise in the course of design of electrical power systems for large buildings.

Electrical Services 3 units

17565
Mr Pearce and specialist guest lecturers
Classes lectures
Assessment 4 assignments (25 per cent each)

Objectives
- To present basic principles of electricity and magnetism as necessary for an understanding of the application of electrical services in buildings;
- to introduce students to the applications of these principles to electrical distribution in buildings;
- to outline the principles of electric motors, transformers and switchboard design; and
- to introduce elementary principles of illumination and daylighting.

Outcomes
It is expected that students will gain basic knowledge of components of the electricity generating and distribution network external to and within buildings; the types and use of cables and enclosures in and around buildings; methods of assessment of loads and cable sizes; principles of operation of transformers and motors and the design of switchboards and earthing, emergency evacuation lighting and early warning information systems; an introduction to the fundamental principles of lighting design for interior and exterior applications; and a basic understanding of data transmission via copper wire and optical fibre.

Assignments will test acquired skills in electrical load estimation and the design of simple electrical distribution and artificial and day lighting systems.

An understanding of electrical services is an essential requirement for building services practitioners involved in the design professions and the construction and building management industries. The course is designed to provide an introduction to these services for recent graduates or diplomates in engineering, architecture or science and for people involved at a professional level in the building industry who do not possess a background in electrical engineering.

Fire Protection Services 3 units

17796
Mr Rowe and specialist guest lecturers
Classes lectures and computer laboratory
Assessment 5 assignments (20 per cent each)

Objectives
To provide students with the knowledge and skills to design water-based fire suppression systems and fire detection systems for the more commonly encountered fire risks, and to impart an understanding of the basic principles of fire safety engineering.

Outcomes
It is expected that students will complete the course with sufficient knowledge to be able to design fire hydrant and hosereel, automatic sprinkler and fire detection systems for large buildings and that they will have a broad understanding of the principles of fire safety engineering, sufficient to enable them to consider some of the alternatives to conventional prescriptive design.

Assignments will test design skills learned during the progress of the course.

Fire safety in large modern buildings depends heavily on fire detection and suppression systems. This course explores design rules for manual and automatic water-based systems intended to extinguish fires and detection systems designed to give early warning of fire. It also introduces the fundamental principles of fire safety engineering and their application in lieu of prescriptive rules.

Hydraulics and Sanitary Services 2 units

17579
Mr Rowe and spedalist guest lecturers
Classes lectures
Assessment 4 assignment projects (25 per cent each)

Objectives
To present principles, concepts, assumptions, rules and regulations required for the analysis and design of hot and cold water supply systems, sanitary plumbing and drainage systems, stormwater drainage systems and systems for piped gases for commercial and industrial buildings.

Outcomes
It is expected that students will acquire skills in the design of water supply, sanitary plumbing and stormwater drainage systems through the set of assignment projects, and will gain an understanding of principles behind the design of systems for the reticulation of piped gases.

Assignments will test the design skills in water supply and drainage learned during the course.

The course covers assessment of demand and flow requirements, storage and pressure considerations and sizing of pipework systems for water supply, sanitary and stormwater drainage systems. It introduces design concepts for reticulation of piped gases for fuel and industrial use in buildings.

Mechanical Services 3 units

17587
Mr Rowe and specialist guest lecturers
Classes lectures, laboratory work and demonstrations
Assessment six assignments (10 per cent, 15 per cent, 20 per cent, 20 per cent, 10 per cent, 15 per cent) and a laboratory report (10 per cent)

Objectives
- To review relevant principles of thermodynamics and fluid mechanics;
- to introduce students to practical applications of these principles to the processes of heat load estimation and the distribution of fluids as heat transfer media and to the design of simple air conditioning and ventilation systems;
- to outline elementary principles of noise control in buildings; and
- to outline the basic principles of water supply, drainage and water-based fire suppression systems in buildings.

Outcomes
Students should acquire skills in estimationof building cooling and heating loads, design of simple air-conditioning systems and the design of piped systems for the circulation of water and refrigerants as heat transfer media. Students should also gain an understanding of the principles of energy and mass transfer underlying mechanical services systems and fundamentals of noise control, water supply and drainage and fire suppression systems.

Assignments will test the students' ability to apply knowledge and skills gained in lectures. They include simple applications of thermodynamics and fluid mechanics, estimation of building cooling and heating loads and the design of a piped system for water circulation, a refrigerant transport system and a simple air-conditioning system.

Mechanical services are an essential component of most modern commercial buildings with a strong influence on other services and the architecture. This course provides an introduction to these services for recent graduates or diplomates in mechanical engineering and an understanding of fundamental principles and practice for people from backgrounds other than mechanical engineering.

Project Management 3 units

17566
Mr Pearce and specialist guest lecturers
Classes lectures
Assessment 3 assignments (20 per cent, 40 per cent and 40 per cent)

Objectives
- To present an introduction to the principles of contract formation and management;
- to instruct students in the methodology of contract formation and administration;
- to provide instruction in the core skills of project management including organisation, definition of projectrequirements, programming, cost estimation and control techniques, design control and industrial relations management; and
- to introduce related topics of quality assurance, value management, project finance and professional responsibilities.

Outcomes
Students should acquire knowledge of contract administration within the legal framework; programming tools for time and cost management; the industrial relations environment of the construction industry; the organisation of projects and project management teams; sources and constraints applicable to project finance; and professional ethics and responsibilities.

Assignments will test the understanding of students of concepts of contract administration, programming, cost control and industrial relations.

Modern buildings involve the participation of many specialist professionals and contractors who each contribute a part or parts of the work within tight cost and time constraints. An understanding of project management skills is therefore an essential

requirement for successful practice by professionals and managers engaged within the building industry. The course is designed to provide an introduction to the necessary skills and the fundamental principles and practice of them.

Services Control Systems 2 units

17589
Mr Rowe and specialist guest lecturers
Prerequisite nil — assumed knowledge of the core course Mechanical Services
Classes lectures and demonstrations
Assessment 8 assignments (5 per cent, 7 per cent, 3 per cent, 5 per cent, 15 per cent, 5 per cent, 30 per cent, 30 per cent)

Objectives
The course will provide knowledge of electric control circuits and electric and pneumatic control elements as applied to the design of automatic control systems for air handling and refrigeration systems, and create an understanding of the selection and application of electronic, programmable logic and direct digital control systems.

Outcomes
It is expected that students will gain a knowledge of the capabilities and limitations of electric, electronic, pneumatic and computer-based control systems for HVAC applications with an understanding of the types of controllers available to perform automatic control functions; and that they will be able to design automatic control systems for HVAC applications and to prepare and understand control diagrams.

Assignments will test the knowledge gained by students in the above areas.

Automatic control is an essential part of all air-conditioning systems. Satisfactory performance requires not only a well-designed control system but also an air-conditioning system designed to be controllable. This course addresses practical application of automatic controls to common types of air-conditioning systems. Automatic control principles discussed are applicable to systems other than air-conditioning.

Urban Environmental Science and Services **2 units**

17695
Mr Pearce
Classes lectures
Assessment 2assignments (40 per cent, 60 per cent)

Objectives
Many people believe that to achieve sustainable development each generation has an obligation to pass onto the next a stock of quality of life assets, whether man-made or natural, which is no less than those inherited. This course is concerned with some of those assets and with designing for the health and well-being of our buildings and the people who use them. It aims to create awareness of issues and bring students to a stage where they can constructively discuss design solutions with experts in the areas covered. It also aims to provide a methodology with which to approach other environmental issues not covered in this course.

Outcomes
At the completion of the course students will be expected to:
- have an appreciation of the effects of developments on the environment;
- recognise the important environmental issues for a particular development project;
- understand and carry out basic environmental assessments;
- critically examine environmental impact statements;
- be able to apply knowledge of environmentalscience and technology to the design of the urban environment; and
- be able to show the above in written and verbal presentations.

The assignments allow students to apply what they have learned in lectures to their current design work or to the evaluation of an environmental impact statement, to search the literature on a particular topic related to urban development, and prepare a report and verbal presentation on it.

The course covers twelve areas which are important to the understanding of urban design practice and the environment in which buildings must be constructed and maintained. The subjects covered are: urban ecology; noise; sunlight, shade and reflections; lighting of external spaces; urban microclimatology; wind effects around buildings; atmospheric pollution; archaeology; water quality; storm water management; site contamination; and environmental impact statements.

Vertical Transportation Systems 2 units

17591
Mr Pearce and specialist guest lecturers
Classes lectures
Assessment 3 assignments (20 per cent, 30 per cent and 50 per cent)

Objectives
- To present an understanding of the movement of people through high-rise buildings;
- to instruct students in regulations and standards affecting the vertical transportation industry;
- to examine available types of lifts, escalators and moving walks;
- to present the methodology of lift traffic studies and manual and computer-aided lift system design;
- to develop an understanding of lift power and control systems; and
- to discuss maintenance and repair and to consider possibilities for the future in the lift industry.

Outcomes
It is expected that students will acquire a knowledge of the relationships between buildings, building populations and the lift installation; regulations and

standards affecting lift, escalator and moving walk installations in Australia; the elements and construction of vertical transportation equipment; lift power and control systems; and traffic analysis calculations.

Assignments will test the ability of students to apply the knowledge gained to the solution of practical problems in lift system design.

Many modernbuilding projects require installation of lifts or other means of moving people vertically. An understanding of the equipment used for this purpose together with associated design skills is therefore a valuable attainment for professionals and managers engaged with the building industry. This course is designed to provide thatunderstanding of underlying principles and practice.

AREA: DESIGN COMPUTING

Artificial Intelligence in Design **3 units**

17725
Prof. Gero
Classes blocks of lectures and tutorials
Assessment (1) development and implementation of a Prolog program which demonstrates symbolic reasoning in design (35 per cent); (2) development and implementation of an expert system's knowledgebase which demonstrates both the knowledge formulation and,the use of an expert system (35 per cent); (3) an essay on artificial intelligence in design (30 per cent).

Objectives
The course will provide an overview of artificial intelligence, the basis for symbolic reasoning, and the theory and implementations of expert systems in design. It will also introduce reasoning paradigms in design.

Outcomes
At the end of the course the student will have a broad understanding of the range of artificial intelligence in design; be able to formulate problems for solution as logic programs and construct the knowledge base of an expert system; have basic skills in Prolog and a rule-based programming language; and be able to identify potential applications of AI for a professional design firm.

The essay assessment relates to the first outcome and the implementation assessment relates to the remaining technical outcomes.

The course content includes: artificial intelligence and design; symbolic modelling in design; knowledge representation in design; logic programming; expert systems in design; and reasoning with knowledge in design.

CAD in Design 3 units

17714
Assoc. Prof. Maher
Classes lecture/demonstrations and tutorials
Assessment tutorial exercises (30 per cent), CAD project (50 per cent) and CAD extension (20 per cent)

Objectives
The course will develop skills in the use of AutoCAD (or equivalent industry standard CAD system) for producing 2D drawings, 3D models, the use of layers, colours, libraries, and non-graphic data representation. It will present the various issues in the use of CAD in the building and construction industry.

Outcomes
Students will acquire skills in using a broad range of AutoCAD commands for generating complex drawings, for the layout and printing of production drawings, and in the development of 3D CAD models. They will also gain a basic understanding of how CAD systems represent graphic and non-graphic data, and produce a portfolio of designs documented using a CAD system.

The three assessments lead progressively to each outcome.

The specific course content will vary depending on the CAD system the student and lecturer choose to use. The general knowledge portion of the course includes: introduction to the representation of graphics and non-graphic data in CAD systems; and presentations by visiting lecturers from professional practice on the use of CAD.

The content associated with the specific CAD system includes: demonstration and tutorial exercises for the use of commands, blocks, and 3D models to generate production drawings; instruction on the development of layers, colours, shadows, and animation of 3D models; and development of documentation for a specific building using CAD.

Computer Graphics Programming 3 units

17717
Dr Rutherford
Classes lectures and tutorials
Assessment (1) create a simple drawing package (25 per cent); (2) design and implement a prototype version of a graphic user interface for a drawing package (30 per cent); (3) develop and implement an advanced drawing package that integrates the interface design from assignment 2 with the drawing system from assignment 1 (45 per cent).

Objectives
The course will introduce the principles of software design, expose students to a structured programming environment, explore the capabilities of interface design using the X11 widget library interface, and introduce the principles of interface design using the Motif widget library.

Outcomes
At the end of the course the student will be able to:
- develop and implement graphics applications using a structured programming language;
- access and use a graphics library and widget tool set;
- design and implement a customised graphics interface;
- use compilers to build application software; and
- advise on the implications and development of

programming customised applications in a professional design firm.

The first assessment relates to the first outcome and the second and third assessments relate to all outcomes with increasing complexity in the drawing package developed.

Specific instruction in the following topics will be given: data structures including arrays, records and pointers; databases and files; use of graphics libraries, menus, dialogue boxes, etc.; the use of compilers; and interface design.

Experience in ANSI C and use of X11 graphics will be provided. Instruction in graphic interface design using the Motif Widget library and object-oriented programming techniques will also be included.

Database Management Systems for Design 3 units

13248
Assoc. Prof. Maher
Classes lectures and tutorials
Assessment (1) development of a hypertext stack of design data combining images and text (25 per cent); (2) design and implementation of a database management scheme for a design application (50 per cent); (3) extend the database developed in assignment 2 to include multimedia data (25 per cent).

Objectives
The course will:
- introduce the concept of database management through the development of a HyperCard stack;
- introduce basic programming techniques through the development of scripts in a HyperCard environment;
- introduce the theoretical basis for database management systems;
- provide methods and guidelines on the design of a database schema for design application; and
- develop skills in implementing and maintaining a database using a standard query language.

Outcomes
Students will be able to implement a database in HyperCard or equivalent, write simple scripts to navigate through the data, design and develop a database using a relational database management system (RDBMS), write SQL statements to manipulate the data in the RDBMS, extend the RDBMS to include multimedia data, and select an appropriate software tool for implementing a professional design database.

The first assessmentrelates to the first two outcomes, the database assessment relates to the third, fourth and sixth outcomes, and the multimedia assessment relates to the fifth outcome.

Areas covered by the course include: HyperCard databases and scripting languages; relational, extended relational, and object-oriented data models; database design and normalisation techniques; query languages and SQL; multimedia data management.

Design Decision Support Systems 3 units

17723
Prof.Gero
Classes lectures and tutorials
Assessment (1) develop a simulation of a design in Stella (40 per cent); (2) use ALPAL for an optimal design decision problem (20 per cent); (3) implement a dynamic programming design decision support system as a computer program (20 per cent); (4) implement a Pareto optimisation design decision support system (20 per cent).

Objectives
The course will provide:
- an understanding of mathematically-modelled design decision support systems;
- the theory of and to operationalise simulation as a design decision support system; and
- the theory of and to operationalise optimisation as a design decision support system.

Outcomes
At the end of the course the student will have a broad understanding of mathematically-based design decision support systems, be able to formulate problems for solution with a range of software packages, and be able to interpret and use the results from such systems.

The assessment relates to the outcomes where each assessment leads to all three outcomes for a specific decision support system.

Topics included in the course include: identifying and modelling the relationship between performance and structure variables for computer simulation; formulating an objective function and constraints for design optimisation; search methods for solving mathematically-based design problems; and design decision variables for formulating linear and dynamic programming approaches to decision making.

Multimedia in Design 3 units

17716
Dr Rutherford
Classes lectures and tutorials
Assessment Project work involves a series of staged exercises exploring different aspects of computer graphics and multimedia, leading up to the production of a complete multimedia system.

Objectives
The course will present students with the range of current technologies pertaining to the design of interactive, networked multimedia computer systems. These systems will be presented in the context of design.

Outcomes
Students will be equipped with the following:
- broad understanding of the capabilities of computer systems in the area of graphics and multimedia;
- skills in using simple computer graphics and multimedia systems;
- skills in comparing and evaluating different graphics systems and their suitability for different practical situations;

- critical appreciation of the role of the computer as a mass media technology; and
- material for a portfolio of work and sample systems demonstrating design and technical competence in the various areas of computer graphics and multimedia covered in the course.

The production of a multimedia system for assessment relates to each outcome.

The following material will be covered in the course: 3D modelling, paint systems, image processing, video processing, computer animation, integrated multimedia systems, the role of multimedia in design, and multimedia authoring and programming.

Theory and Practice of Design Computing 3 units

17713
Assoc. Prof. Maher
Classes lectures and demonstration/tutorials
Assessment (1) a test on computer systems (30 per cent); (2) discussion paper (2500 words) on a topic chosen by the student (40 per cent); (3) a collaborative design project using network facilities to enable collaboration, for example, the design of a newsletter to be placed on the World Wide Web (30 per cent).

Objectives
The course aims to:
- provide an overview of the scope of design computing applications and their use in practice;
- describe the use of the computing applications and network available in the design computing laboratory;
- present design computing as a network which provides an environment for collaboration; and
- present various theories of design and design computing.

Outcomes
At the end of the course the student will:
- have an understanding of the broad range of design computing in practice;
- have a basic knowledge of Macintosh and UNIX computers, applications, and file management;
- be able to find and place information on the World Wide Web, and establish a collaborative project using e-mail;
- have a general understanding of the range of design theories useful to design computing; and
- have a deep understanding of one aspect of design theory and its implications to design computing.

The three-part assessment relates to specific outcomes. The test relates to the first two outcomes, the newsletter to the third outcome and the paper to the last two outcomes.

The course covers: practice of design computing (design and CAD; computers, systems and software; computers in design practice; the role of knowledge in CAD; multimedia in design; networks, Internet, and e-mail); theory of design computing (computational models of design; knowledge-based design; research in design science).

3D Modelling and Photorealism 3 units

17722
Dr Rutherford
Classes lectures and tutorial/discussions
Assessment (1) ray tracing with complex shapes and simple colours (30 per cent); (2) ray tracing to produce a specific photorealistic image (50 per cent); (3) image processing to modify the ray traced image (20 per cent).

Objectives
This course will:
- introduce advanced systems of photorealistic computer rendering in the context of design;
- instruct students in the use of a sophisticated ray tracing package using high-end computer technology;
- demonstrate the potential and limitations of current rendering technologies;
- expose students to advanced graphics and modelling techniques such as affine transformations, constructive solid geometry, image processing and data exchange protocols; and
- consider future development opportunities for graphics and modelling in design.

Outcomes
At the end of the course the student will be able to:
- specify and generate advanced photorealistic images using ray tracing;
- describe complex 3D geometries using constructive solid geometry;
- describe affine transformations in a CAD system;
- interpret various CAD data structures;
- interpret and translate CAD models between different CAD packages using dxf and other standards;
- specify digital colour definitions and be equipped to recognise problems of colour calibration and colour perception;
- import graphic images and undertake texture mapping of complex objects;
- process digital images using graphics tools;
- generate stereo and animated sequences of photorealistic images; and
- identify and select features of 3D modelling systems that match the needs of a professional designer.

The three assessments relate to all outcomes with increasing technical proficiency.

Topics covered in this course include: introduction to graphics technologies and photorealism; the specification of 3D geometric entities within a sophisticated modelling package; assigning colour and texture information to the geometric entities; generating complex photorealistic images; and image processing and future developments in the technology.

Design Computing Elective 1 1 unit
17604

Design Computing Elective 2 2 units
17605

Design Computing Elective 3 3 units
17726

Design Computing Elective 4 — 4 units

17606

Electi ves are subject to agreement between the student and staff member concerned, and may be carried out by a combination of private study, seminars and other means.

AREA: ENERGY CONSERVATION

Architecture, Energy and Environment — 3 units

12892
Mr Forwood
Classes lectures and tutorials
Assessment 2 assignments

Objectives
This course aims to explore the environmental context of architecture at the global scale; to make students cbgnisantof the major environmentalissuesof concern to contemporary society; to explore the impact of these issues and the more general issue of ecological sustainable development (ESD) upon the design of the built environment.

Outcomes
At the conclusion of the course each student is expected to:

- have developed an understanding of, and formed opinions about the issue of ESD as it relates to the design of the built environment;
- have a working knowledge of both renewable and non-renewable energy sources in the built environment; and
- be able to debate the role that architects should play in the development of a sustainable future.

The assignments allow students the opportunity to research many of the basic issues raised in the course and develop a position in relation to them.

Major topics covered in this course include: the nature and extent of the energy and environmental crises which the world currently faces; the response of the architectural profession to these issues; the rise of passive solar and low energy architecture since the 1970s; sustainable energy sources for the built environment; an exploration of 'sustainable' architecture.

Building Climatology and Thermal Comfort — 2 units

17582
Mr Forwood
Classes by private study
Assessment 2 assignments

Objectives
To define and explore the climatic and human behavioural constraints upon low energy or sustainable building design.

Outcomes
At the conclusion of the course each student is expected to:

- understand the processes which create the planetary climate system and be able to identify the major climates of the world;
- be able to collect and analyse the climate data necessary to undertake the design of a low energy building;
- understand the physiological basis of the human thermoregulatory system and its impact on thermal sensory perception; and
- be able to define thermal comfort objectives for the design of a low energy building.

Two assignments provide students with the opportunity to prepare the data necessary to describe the climatic and thermal comfort constraints on the design of a low energy building in response to a specific brief.

The course deals with the physical processes which create the world's climates. The nature of climate change is discussed. The concept of climate at the regional and microclimatic scales is discussed at length and the data necessary to define climate at the microclimatic scale is reviewed in detail. The human thermoregulatory-system is studied in order to understand human thermal perception. Various definitions of thermal comfort are discussed and a number of comfort indices used to define comfort zones are explored.

Building Energy Analysis — 3 units

17585
Mr Forwood
Classes lectures and tutorials
Assessment 3 assignments

Objectives
To acquaint students with the range of analytical and design tools available for low energy building design; to provide the opportunity for students to become proficient at using some of these tools.

Outcomes
At the end of the course it is expected that students will:

- be aware of the importance of quantitative analysis in the design of low energy buildings;
- have an understanding of the theoretical basis of a range of analytical techniques;
- be familiar with the range of techniques available for building energy analysis;
- be able to apply many of these to design analysis;
- be familiar with the range of thermal analysis computer software available; and
- be able to use a software package to analyse the thermal performance of a typical small, scale building.

All of the assignments are designed to provide students with hands-on experience of each of the analysis tools studied.

Among the techniques and tools explored are: climate data analysis; graphical and model techniques for solar studies; steady state and dynamic heat flow analysis; simplified methods for sizing passive solar

elements; computer models of thermal performance; modelling ventilation; estimating energy consumption. Emphasis is given to tools which assist the design of the building fabric rather than building systems.

Climate Conscious Architectural Design 3 units

12946
MrForwood
Classes lectures and seminars
Assessment 3 assignments

Objectives
The course will examine the influence of climate upon architectural form and explore the principles of designing sustainable energy efficient buildings applicable to the climates of Australia and its region.

Outcomes
At the end of the course students are expected to:
- have an understanding of the energy exchanges between a building and the natural environment;
- have an understanding of the thermal behaviour of materials and constructions which influences these energy exchanges; and
- be able to develop climate conscious design strategies for heating and cooling buildings in a range of climates relevant to Australia and the Southeast Asia and Southern Pacific regions.

The assignments provide the opportunity to study the design implications of various climates; undertake a case study of a particular building responding to a particular climate and develop a set of strategies relevant to a particular climate.

Topics covered include: climate as an architectural form determinant; energy exchanges between buildings and the environment; design strategies for major climate types; sustainable cooling strategies; sustainable heating strategies; daylighting strategies.

Energy Conservation Research Project 4 units

13145
Mr Forwood
Classes tutorials and seminars
Assessment project (100 per cent)

Objectives
The course will provide students with the opportunity to undertake supervised research on a topic related to the subject matter of the Energy Conservation area.

Outcomes
At the conclusion of the course each studentis expected to be able to devise, develop and execute a small piece of research under direct supervision, and to be able to document the research undertaken in a major project report.

The assessment is in the form of a written research report and a verbal presentation of the major issues in a seminar.

The course provides students with an opportunity to develop their interests in a particular issue or aspect of low energy building design. The research project may take many forms including state of the art reviews, case studies, modelling and simulation, monitoring exercises or a position paper on a particular issue. Students undertaking a dissertation for a Master's degree could use this course to explore and develop potential topics.

Energy Conservative Design Workshop 4 units

13201
MrForwood
Classes tutorials
Assessment project (100 per cent)

Objectives
The course provides an opportunity for applying the principles enunciated in the course Climate Conscious Architectural Design and the tools explored in Building Energy Analysis to a particular design project.

Outcomes
At the conclusion of this course students are expected to be able to respond to the requirements of a design brief by providing a design proposal which can be demonstrated to be climate conscious and sustainable.

The major project requires students to document a design solution and demonstrate through assignment and analysis that it satisfies the requirements of sustainability.

Energy Management in Buildings 2 units

17612
Ms Godfrey and guest lecturers
Classes lectures and seminars
Assessment essay (30 per cent), assignment (50 per cent), class presentation (20 per cent)

Objectives
The course aims to provide students with an understanding of the ecological issues as the context of the management of active energy systems in buildings and the experience of conducting an energy audit and presenting the results before a group.

Outcomes
On completion of the course students will be able to conduct a Building Energy Audit and understand the implications of that audit for active and passive energy management systems and the ecological context of the building.

This course explores the effectiveness of energy conservation techniques in existing and proposed buildings which rely upon behavioural or management actions by the users and owners of buildings. Topics include: basic principles of energy management; community-scale energy management strategies and role of governments; energy managementin the commercial building sector; energy management in institutional buildings; and energy management in the domestic sector.

Solar Energy and Passive Design 2 units

36463
Mr Forwood
Classes lectures, tutorials and seminars
Assessment 2 assignments

Objectives
The course aims to provide the opportunity to study solar energy as an energy source for buildings and to explore, in depth, the principles and practice of passive solar building design.

Outcomes
At the end of the course students are expected to have a working knowledge of the physics of radiation energy transfer; have an understanding of the use of solar energy in active and passive technologies in building; and have studied, in depth, some aspect of the impact of solar energy in buildings. Students should be able to determine the preliminary sizing of the major elements of a passive solar building.

One assignment provides the opportunity for students to present the findings of their in-depth study and the other is a design analysis exercise.

Topics covered in the course include: solar energy as a source of power; the physics of radiant energy transfer; active solar systems; principles of passive solar design; sizing of passive solar elements; case studies.

AREA: FACILITIES MANAGEMENT

Facilities Management 1 3 units

17708
Ms Godfrey and guest lecturers
Classes lectures
Assessment 4 assignments: strategic planning (20 per cent), facilities management and human resource management (40-per cent), land economics (20 per cent), occupational health and safety (20 per cent)

Objectives
The course aims to provide students with a conceptual framework and knowledge of the context of facilities management, including statutes and regulations, occupational health and safety, location and the property market, location and the product cycle, human resource management, facility design and planning/and strategic planning. Students will gain a working knowledge of the business of consultants and contractors which the facilities manager must manage: maintenance managers; project managers and builders; architects, interior designers and facilities planners; property managers and real estate agents; electrical, fire, hydraulic and lift engineers and contractors.

Outcomes
At the end of the course students should understand the role of the facilities manager, be able to prepare a Strategic Facilities Plan, and have a working knowledge of the consultants and contractors — architects, engineers, human resource managers, leasing agents, property portfolio managers, occupational health and safety officers — with whom they must liaise.

The course comprises three major components.

Facilities management theory and practice: what is facilities management?, the demand for, and practice of facilities management, outsourcing, benchmarking, the role of professional organisations, and the development of strategic facility plans.

The context of facilities management: land economy, property cycle, valuation and leasing; statutes and regulations; occupational health and safety; and the relationship between facilities management and human resource management, property, portfolio management and architecture and interior design.

Facility design: the history of corporate office facilities design and space management.

Facilities Management 2 3 units

17709
Ms Godfrey and guest lecturers
Classes lectures
Assessment Life cycle costing assignment (20 per cent), preparation of a Strategic Facilities Plan (60 per cent) and presentation of the plan to the class and a jury panel (20 per cent)

Objectives
The course aims to provide students with an understandingof the methodologies, tools, techniques and information management for assessing the operational performance of facilities: maintenance management methodologies, life-cycle analysis, benchmarking, property indices, relocation logistics, building automation systems, energy management systems, asset management systems, total quality management, and computer-aided facilities management.

Outcomes
On completion of the course students should be able to apply methods and relevant information technology for facilities management information control and performance and measurement. These skills will be used and presented within the framework of a Strategic Facilities Plan.

Students will be required to demonstrate, through the case study analysis, use of the various methodologies, maintenance management, life-cycle costing, and an understanding of the application of computer-aided facilities management. Using knowledge of strategic planning, property portfolio management, leasing, facilities management consultants and contractors, students are required to make a decision supported by operational data, and to develop and produce reports. Workingin groups they will need to demonstrate team-building skills and, through a formal presentation, the skills required to make executive presentations.

Students will be exposed to the role of the facilities manager within an organisation, the working environment, organisational behaviour, interior

design tools, lease administration, building codes and legal requirements, project management, construction management and documentation and maintenance operations.

Financial Reporting 3 units

17793
Prof. Walter (Graduate School of Business)
Classes lectures
Assessment 2 assignments (25 per cent), test (25 per cent), final examination (50 per cent and must be passed)

Objectives
The course aims to provide students with the ability to understand, analyse and interpret the products of the financial reporting process, to understand the usefulness of accounting information in corporate and public decision models, and to gain an awareness of the functions of accounting information in corporate and public regulation.

The course is designed as a broad introduction to financial reporting with emphasis placed on the ability to understand, analyse and interpret accounting reports. Accountingisoftenreferred to as the language of business and for this reason it is a profitable area of study not only for the future producers of the accounting information (accountants), but also for the intended users of the information produced by the accounting systems managers, executives, administrators, financial analysts and facilities managers.

Organisational Analysis and Behaviour 3 units

17712
Dr Brewer or Dr Laffin (Graduate School of Business)
Classes lectures
"*Assessment* Dr Brewer: case studies, group work and final examination. Dr Laffin: case study (20 per cent) and either an organisational change report (80 per cent) or two theoretical papers (40 per cent each).

Objectives
The course will emphasise processes of implementing organisational change and reflect a humanistic concern for people within the goal of organisational effectiveness.

Outcomes
At the end of the course students should be able to manage more effectively by identifying and analysing problems and forces for change in organisations and implement decisions. Students should understand the function of management and managers in work organisations.

As a field of study organisational behaviour is primarily concerned with the causes of individual and group behaviour, and the application of this knowledge to influence individual and group performance and satisfaction within an organisation.

The focus of Dr Brewer's presentation is on people and their interrelationships in work organisations. The focus of Dr Laffin's is on the problems of organisational change against the background of rapid economic, technological and political change.

Topics covered include work motivation, empowerment, job design, new technology and work (including teleworking), individual and group decision making, leadership, power and conflict resolution, group dynamics, total quality management.

Project Management 3 units

17566

(For description, see *Area: Building Services)*

AREA: ILLUMINATION

Light Sources and Luminaires 2 units

17676
Prof. Julian, Mr Hayman and external specialists
Prerequisite Photometric and Colorirnetric Concepts and Mensuration
Classes lectures and demonstrations
Assessment 3 assignments (equally weighted) and examination (30 per cent)

Objectives
To understand the major light source families; the performance properties of lamps; the various methods of light control; and the design, testing and manufacture of luminaires.

Outcomes
The student will know the bases of light production and the characteristics of practical lamps, how luminaires operate, how to design reflector systems and relevant safety and other standards.

Students will discover some of the outcomes through laboratory exercises and will demonstrate them in the assignments and examination.

The various methods employed in the production of light and the performance criteria applied to the sources are discussed. Topics covered include: a historical outline of the development of sources; the practical requirements of light sources; black-body radiation; the sun; the sky; gaseous discharges; electro-luminescence; chemiluminescence; incandescent lamps; the halogen cycle; fluorescence; tubular fluorescent lamps; various high pressure and low pressure discharge lamps. Practical lamps are discussed in terms of luminous efficacy, spectral output, colour rendering, life, supply requirements, control gear, cost, etc.

The design, mariufactur
of data on luminaires are discussed. Topics covered include: the requirements of luminaires; methods of light control; the properties of optical systems; refractors; reflectors and diffusers; luminance control techniques; manufacture of luminaires and auxiliaries; codes and provision of photometric data for indoor and outdoor luminaires; the calculation of utilisation factors; luminaire luminances; computerised testing; machine readable photometric data.

Laboratory exercises will demonstrate some lamp

characteristics and luminaires are photometered and photometric data calculated.

Lighting Design 4 units

17413
Prof. Julian, Dr Fisher and external specialists
Prerequisite Vision and Visual Perception, The Visual Field and Human Factors, Photometric and Colorimetric Concepts and Mensuration and Light Sources and Luminaires
Classes lectures and studio
Assessment 5 assignments (3 x 16.7 per cent and 2 x 25 per cent)

Objectives
To develop the basic skills needed in the design of interior and exterior lighting.

Outcomes
The student will be able to design simple and complex interior lighting using manual and computer-aided methods. The experience will include designfor effect and atmosphere. The student will also be able to design exterior lighting for roads, sport and floodlighting.

The outcomes will be demonstrated through individual design assignments.

This course brings together the material of the four basic lighting courses to develop the concepts and methodologies of interior lighting design. Topics covered include: the perception of colour, form, pattern and space, and issues relating to the perception and comprehension of the large-scale environment; aesthetics, perception and emotion; the limited quantitative procedures available for use in achieving the foregoing; the practical methods available for predicting illuminances from daylight and uniform arrays of luminaires; the prediction of discomfort; appraisals; codes of practice; economics; maintenance; integration of daylight and electric light.

More advanced methods of interior lighting design follow, including: design appearance techniques; lighting systems; colour and atmosphere-creating; task analysis; choices of sources and luminaires; practical considerations of various lighting situations (e.g. domestic, offices, factories, hospitals, schools, etc.); special applications (stage, television, merchandising, agriculture, etc.).

The requirements for various exterior lighting applications are discussed. Some topics are treated in greater depth (e.g. various floodlighting techniques) than others (e.g. road, runnel, aircraft and navigation Hghting). Topics covered indude: general floodlighting requirements; floodlighting equipment; light distributions; calculation methods; area floodlighting; building floodlighting; road lighting; pedestrian lighting; tunnel lighting; vehicle lighting; traffic signals, airport lighting; navigation lighting; display lighting; advertising.

Various computer-aided design methods are discussed and demonstrated. Assignments based on computer-aided design are used as part of the assessment.

Photometric and Colorimetric Concepts and Mensuration 2 units

17682
Dr Fisher, Mr Powell (coordinator Prof. Julian)
Classes lectures and laboratory classes
Assessment 2 assignments (equally weighted), 2 laboratory work exercises, examination (30 per cent)

Objectives
To understand the basic photometric and colorimetric terms, quantities and relationships and be able to apply these in practical and theoretical situations.

Outcomes
The student will know the basic photometric and colorimetric systems used in Australian and other national and international standards.

Students will discover some of the outcomes through laboratory exercises and will demonstrate them in the assignments and examination.

This course introduces the rational system of measurement of lighting qualities and provides the bases for photometric and colorimetric calculations. Topics include: the development of the system of measurement of luminous flux; luminous intensity; illuminance; luminance; reflectance; luminance factor; transmittance; mention of refraction, diffraction and reflection laws; relationships between luminous qualities; basic calculations involved with diffuse surfaces; inverse square law; cosine law; interreflections; Munsell Colour System; CIE Colour System; graphical representation of photometric data; measuring instruments; accuracy; repeatability; colorimetric calculations (chromaticity coordinates Yxy, L*A*B*, Luv, correlated colour temperature, colour rendering indices); the integrating sphere; goniophotometry; distribution photometry. Various measurement and calculation techniques are applied in the laboratory exercises which support the course.

The Visual Field and Human Factors 2 units

17698
Prof. Julian, Dr Fisher
Prerequisite Vision and Visual Perception
Classes lectures and laboratory exercises
Assessment 2 assignments (equally weighted), 2 laboratory reports, examination (30 per cent)

Objectives
To show the basis for the standards and practices used in Ughting analysis and design.

Outcomes
The student will know the bases of the light-technical recommendations in Australian and other national and international standards. They will discover some through laboratory exercises and will demonstrate them in the assignments and examination.

Development of material dealt with in the course Vision and Visual Perception to examine full-field vision and the human factors involved in lighting the visual field. Topics covered include: the definition of

the visual field withregard to size, luminance, contrast and time; the extension of threshold studies to practical task situations; the evaluation of visual tasks with regard to difficulty and complexity; the development of measures of discomfort and disability glare; the illuminance and glare scales used in practical standards; methods for the assessment of tasks and environments; experimental techniques of evaluation, such as multi-dimensional scaling. Laboratory exercises on the assessment of environments in physical and psychophysical terms are used to support the lectures and demonstrations.

Vision and Visual Perception 2 units

17697
Prof. Julian, Assoc. Prof. Purcell
Classes lectures
Assessment 3 assignments of equal value

Objectives
To introduce the student to the processes involved in seeing and the perception and appreciation of the luminous environment.

Outcomes
At the conclusion of the course the student will have a knowledge of the anatomy, physiology and neurology of the visual system related to sight, including anomalies and age-related effects; the processes involved in vision; the distinguishing features of seeing; the physical, psychological and psychophysical processes involved in image detection, figure-ground, colour, form, texture and appreciation.

The assignments will allow the student to demonstrate the achievement of this knowledge — some of the work is related to their private environments.

An introduction to the science and art of illumination, examining how individuals maintain contact with and gather information about their environment via their sensory systems, and how this information is dealt with by the brain to create complex perception and awareness of the environment. After abrief general overview of human sensory systems the physiological and psychological processes in seeing are discussed. Topics covered are: the dual nature of light; the physiology of the eye and its musculature; light detection; the visual anomalies; contrast sensitivity; colour vision; adaptation; brightness and lightness. The processes involved in image detection and recognition are discussed including: edge detection; lightness determination; the association of the characteristics of patterns; camouflage; stereopsis; the importance of the visual attributes of tasks, such as alphabets; expectation. Some of the characteristics of seeing are explored in the laboratory, particularly the size-contrast-lurninance relationship.

DEPARTMENT OF ARCHITECTURE

The Department of Architecture offers postgraduate courses leading to the award of the:
Master of Heritage Conservation MHeritCons
Graduate Diploma in Heritage Conservation GradDipHeritCons

The Heritage Conservation postgraduate program aims to develop both a national and international perspective on heritage issues through theoretical investigation, and aninterdisciplinary approach. This interrelation of heritage philosophy and the areas of architecture, urban planning and landscape architecture is explored. Although the course has a strong cultural theory base, it also emphasises the importance of management issues together with a practical understanding of mechanisms and statutory authorities, both international and local, which control and affect heritage conservation and development.

Thebroadeducationalobjectivesof the MHeritCons and the GradDipHeritCons courses, are to:

- develop skills in interpretation, development of conservation plans and management of cultural properties, especially buildings sites and, landscapes;
- evaluate the relevance of places and sites within the heritage agenda;
- develop working skills in a team situation with applied professionals in heritage conservation and planning;
- develop professional strategies and policies for balancing the relevance of heritage conservation with development;
- acquire skills in areas of implementation of heritage conservation programs and conservation policy development, including specific building and landscape conservation techniques.

A professional placement provides a link between the academic core of the program and the discipline and methods of practice.

Application for entry to the program is open to those with first degrees in architecture, landscape architecture, planning, the liberal arts or related disciplines.

The program is offered on both a full- and part-time basis although students are encouraged to enrol full-time where possible. This will require enrolment for one academic year for either the degree or diploma, with master's degree candidates being required to complete a research report.

Course outlines

Mandatory Courses

Conservation Methods and Practices 4 units

13526
Mr Howells, Ms Morris
Classes lectures and site visits
Assessment 3 assignments (equally weighted)

Objectives
The aims of this course are to develop practical skills in the methods and practices of conservation at an accepted professional level, and to interpret and apply the theory of practice taught in the mandatory core of the course in practical, on-site projects.

Outcomes
At the end of the course the student will successfully demonstrate:

- an understanding of the Australia ICOMOS Burra Charter and the ability to prepare, in accordance with current accepted professional practice, a conservation plan of a place or places of cultural significance;
- skill in methods and techniques of analysis, assessment and documentation of cultural significance; and
- the ability to develop relevant policies and strategies for the conservation of a variety places of cultural significance.

The intended outcomes are achieved through inquiry, individual study and research and are demonstrated by each student upon the successful completion of set assignments. The assignments are constructed to allow each student to demonstrate his or her level of understanding of the accepted professional methodology and practice in the preparation and presentation of a conservation plan. Assessment criteria based on course outcomes are used for the examination of the assignments.

The course focuses on culturally significant structures and cultural landscapes and includes: methods of survey and documentation (locating, describing and recording components with possible heritage value; identifying and reading historic fabric; historic and archival research methods; thematic history methods; pattern recognition; natural systems; settlements; cultural mapping; aesthetic analysis; material and stylistic analysis); evaluationmethodology (assigning heritage significance); assessment methodology (establishing conservation priorities); and appropriate conservation actions (conservation and management plans, policies and strategies).

Interpretation of Cultural Environments
2 units

13378
Dr Lamb
Classes lectures and seminars
Assessment 3 essays (30 per cent each) and 1 seminar presentation (10 per cent)

Objectives
The course will examine the changing perceptions of interpretation of cultural significance and the relationship between culture, values and conservation methods; introduce the cultural landscape as an emerging paradigm in conservation; and present interpretation from an interdisciplinary perspective.

Outcomes
Students will:
- demonstrate knowledge at the intermediate level of the historic base of conservation;
- critically evaluate and relate the theoretical issues of conservation to conservation practice;
- demonstrate knowledge of contemporary thought in interpretation of cultural environments to the public; and
- be capable of applying the "above to developing methods for interpretation of cultural environments.

Students are assessed on their knowledge of the historic base of heritage interpretation, their ability to interpret the cultural significance of buildings, landscapes and places and their ability to demonstrate an understanding of the theoretical base of interpretation.

The course covers the historic basis of conservation, and the traditions of object-based conservation. It addresses the theoretical relationship between cultural values, conservation methods, perceptions and history, focusing on the cultural landscape as the context for conservation. The evaluation of cultural significance is considered, as are the use of the Burra Charter and the basis of conservation planning in detail.

Principles of Conservation Management
2 units

13474
Dr Conner
Classes lectures and tutorials
Assessment equally weighted written assignments

Objectives
The course will introduce students to the literature and concepts relating to conservation management, planning and the relationships and roles of conservation planning institutions, and develop skills at a professional level in conservation management, planning, and the conduct of accepted heritage conservation practice.

Outcomes
At the successful completion of the course students will:
- understand the management principles and professional practice issues dealt with and be familiar with the key elements of the literature;
- know the structure and purpose of organisations concerned with conservation, both nationally and internationally;
- have developed a personal ethical stance on conservation issues; and
- be capable of developing feasible policy and management documents, working through conflict situations and working with the community. .

The forms of assessment will be an initial role play exercise on conflict resolution, followed by two essays supported by class workshops. Assessment of performance in the course and the various assignments will relate to the following:
- demonstrated knowledge and skills in the area of heritage conservation management, professional practice and the related literature, and organisational issues concerned with heritage conservation;
- demonstrated development of the student's own ethical stance with respect to heritage conservation as evidenced by class discussions, role play and case study material presented;
- demonstrated high-level skills and expertise in the development of heritage conservation policy; and
- competence in conflict resolution techniques.

The course will cover material related to four themes: professional practice including heritage law and

conflict management; policy formulation and conservation in the public domain; institutional aspects at both the national and international levels; and ethical principles.

Professional Placement 4 units

13580
Assessment 5000 word (minimum) report

Objectives
The course will allow students the opportunity to experience aspects of professional conservation practice, develop a critical appreciation of the interaction between theoretical concepts and their practical application in the practice of heritage conservation, and identify potential research topics as a consequence of placement.

Outcomes
At the successful completion of the course the student will demonstrate a critical appraisal of the role of theoretical concepts applied to professional practice and identify potential research topics.

The intended outcomes, achieved through inquiry, individual study, research and practical work experience, will be demonstrated by each student upon the successful completion of the report. The assignment has been constructed to allow the student to demonstrate an understanding of the theoretical content of degree coursework as applied to aspects of professional practice. Assessment criteria based on course outcomes are used for the examination of the assignment.

The course has no structured content but rather assistance is provided by the department in finding a suitable placement. It is anticipated that professional placement will extend from 4 to 6 weeks' full-time engagement with one or two organisations. Non-placement alternative: should it not be possible for either the department or the student to arrange a suitable professional placement then, after consultation, an alternative study program will be devised which meets the academic objectives of this course. This alternative also applies to students with previous experience.

Research Report 6 units

13808
Dr Lamb
Assessment 10 000 (maximum) word report (90 per cent), research proposal (10 per cent). Students attend an 8-hour module in research methods. Each student has an academic supervisor for the research report.

Objectives
- To provide opportunities for students to pursue and demonstrate research skills in conservation themes of special relevance to their cultural and professional backgrounds;
- to enable students to develop innovative research approaches to the conservation of places, landscapes and buildings under expert supervision; and
- to extend the research base of heritage conservation in the faculty and professions.

Outcomes
Students will demonstrate the ability to research and write critically in an area of knowledge relevant to conservation of cultural environments and will develop skills in report writing at an academic and professional level.

Students are assessed on their ability to carry out independent research and communicate the results in a conventional way which is appropriate for publication.

The research report is not necessarily a piece of original research, but is primarily designed to extend the knowledge of individual students and assist them in developing relevant skills.

Transformation of Cultural Environments 2 units

13421
Prof. Domicelj
Classes lectures and seminars
Assessment essay (30 per cent), position paper (20 per cent), seminar presentation (25 per cent) and participation in class discussion (25 per cent)

Objectives
This course will examine the rapid change in traditional settlements, cultural values and the relation of tradition to modernisation; analyse the rehabilitation of historic areas; assess the impacts of cultural exchanges and visitation in historic urban places; and facilitate the incorporation of cultural factors in planning urban developments.

Outcomes
Students will have the ability to identify changes in traditional settlements and critical aspects of cultural continuity portrayed in the use and fabric of traditional places; identify the social exchanges and impacts observed in such places when subject to intense visitation and conflict; and define strategies for rehabilitation of traditional settlements.

Students are assessed on their demonstrated ability to present seminars on the identification of cultural continuity in traditional settlements and develop programs to foster the development of strategies for rehabilitation of places subject to tourism pressure and development conflicts.

The course covers four main areas: cultural development (cultural identity and continuity in urban places and their relationship to heritage conservation); cultural transformation (trends in the cross-cultural occupation, use and rehabilitation of places in historic settlements; change in habitats and the resilience of local communities in urban places); dual urban structures (Asian and European morphologies in colonial and post-colonial settlements); cultural tourism (cultural heritage, tourism and cultural exchange, visitation trends and cultural rush; carrying capacity of historic places and resources).

Elective Courses

Aesthetic Assessment of Heritage Landscapes 2 units

14371
Dr Lamb
Classes lectures and seminar
Assessment major project (50 per cent), minor assignments (30 per cent) seminar (20 per cent) and fieldwork

Objectives
This course will develop skills in the visual and aesthetic assessment of landscapes, and expertise in developing innovative methods for the assessment of the aesthetic qualities of historic landscapes, the commonplace and vernacular.

Outcomes
Students will develop skill in the application of methods of assessment of landscapes and be able to demonstrate the acquisition of an understanding, at the intermediate level, of research methods and findings in areas relevant to landscape assessment.

Students are assessed by means of seminars which test their knowledge of the literature and techniques of landscape assessment and field assignments which demonstrate their ability to develop methods of assessment of aesthetics which are relevant to the practice of heritage conservation.

The four main areas considered in this course are:
- principles of environmental perception: levels of aesthetic experience, perception, memory, emotion and affect; the structuring of visual experience; problems with individual difference;
- traditional methods of assessment: elite, professional and intuitive methods; scenic quality and character; problems with the picturesque;
- psychophysical and quantitative methods: visual quality assessment and parametric approaches; problems with consensus;
- innovative methods of particular relevance to conservation: structural and compositional analysis; the aesthetic interpretation of the past; problems with the aesthetics of ugly heritage, the vernacular and the commonplace.

Conservation of Finishes and Introduction of Modern Services 2 units

13911
Mr Howells
Note It is recommended that this course be taken with the elective course Traditional Building Methods and Conservation of Materials.
Classes lectures and site visits
Assessment assignment (50 per cent) and seminar: presentation (25 per cent), report (25 per cent)

Objectives
The course will develop an understanding of traditional decorative finishes and their conservation, and of the requirements of modern services in historic structures and how they may be appropriately inserted.

Outcomes
At the conclusion of the course the student will successfully demonstrate a detailed knowledge of the appropriate techniques of investigation, methods of conservation of traditional finishes, and an understanding of the needs of various modern services systems and the techniques of insertion of modern services.

The intended outcomes, achieved through inquiry, individual and group study and research, will be demonstrated by each student upon the successful completion of the set assignments. The course surveys the knowledge in the identified fields and focuses on the major forms of traditional finishes and modern services in historic structures. The assignment has been constructed to allow the student to demonstrate a detailed understanding of a selected finish and the methods of its traditional use as well as the techniques for inserting services. Assessment criteria based on course outcomes are used for the examination of the assignment.

The course will consist of the following: conservation of traditional finishes (plasterwork, painted surfaces, stencilling, wallpapers, embossed papers and materials, and other composite materials) and introduction of modern services (including electrical, communication systems, ventilation, hydraulic installations (water, gas and other liquids), mechanical systems (lifts, escalators) and lighting).

History of Landscape Design post 1700 **2 units**

37805

Consult the BSc(Arch) section of this handbook for course description.

Local Heritage in Community Development **2 units**

14062
Prof. Domicelj
Classes lectures and seminars
Assessment written and oral presentations and a project with community groups — project (40 per cent), assignment (25 per cent), seminar (25 per cent) and participation in class discussion (10 per cent). Aspects to be evaluated will be the development of skills and the ability to engage and contribute to community development.

Objectives
The course will:
- develop and test skills in the definition of local heritage values and resources and their incorporation in community planning processes;
- relate cultural values to socioeconomic and technological trends prevalent in community development processes; and
- identify and interpret, in particular local communities, those cultural values which have the potential to enhance cultural continuity in development.

Outcomes
On completion of the course students will be able to:

- assess the value of local heritage as well as living and work cultures and promote their continuity and adaptation during community development processes;
- identify the gaps between cultural values and local planning proposals and devise mechanisms for appropriate bridging policy and action;
- identify opportunities for incorporating cultural values in formal and informal development processes and secure their coordination by appropriate policy; and
- develop skills in the interpretation and deployment of cultural resources in public programs of cultural animation.

Students are assessed by means of performance in a project aimed at the identification of opportunities for cultural continuity and their application in local heritage planning, and a seminar and an assignment which test students' knowledge of the literature, particularly in the assessment of local heritage values.

The course analyses the interaction between community development and heritage as perceived in popular culture. The main areas are:

The social make-up and public use of common places, residents and visitors; the arts and the creative city; local and universal cultures and the culture of marginality.

National and international claims toward the commonplace; legibility and empowerment, 'Common Ground', 'Green Bans' and other local movements towards control over place.

Urbanplaces and information technology; historical authenticity and technical replacement, urban upgrading for economic and/or cultural purposes, the 'wired city', intelligent buildings, places and local heritage.

Significance of Place in World Regions 2 units

14322
Prof. Domicelj
Classes lectures and seminars
Assessment written and oral presentations—project (40 per cent), 2 position papers (30 per cent), seminar (20 per cent) and participation in class discussion (10 per cent). Aspects to be assessed will be the development of skills and the ability to interpret multicultural evaluation practices.

Objectives
The course will:
'analyse regional trends in the assessment of the cultural significance of places in historic towns and settlements;
- examine Australian trends in the evaluation of place, with reference to criteria adopted in state and national charters and registers of the national and cultural estates; and
- analyse the assessment criteria for inclusion of places on the UNESCO World Heritage List, their application and effectiveness.

Outcomes
On completion of the course the student will:
- understand some of the global forces affecting the cultural assessment of place in various regions of the world;
- identify trends in the assessment and management of culturally significant places affected by national and local policy;
- be capable of assessing places of outstanding universal value in accordance with current international evaluation practice; and
- be capable of formulating cultural management strategies which are appropriate for specific places in different world regions.

Students are assessed by means of a project which tests students' abilities to identify heritage values in world regions, and papers and a seminar aimed at the assessment of places of outstanding universal value.

The course will address the following main areas:

Asia: Economic growth and tradition in cities, segregation or integration?; heritage and technology in urban spaces, urban conservation and National Plans.

Americas: The reinterpretation of local history and national identity; the re-use of buildings and urban places; interrelations between economic and socio/ cultural factors in national development.

Europe: The reinterpretation of history and the reuse of urban places; the fit between urban residents and building stock; new urban image and the protection of the collective intelligence.

Traditional Building Methods and Conservation of Materials 2 units

13850
MrHowells
Note It is recommended that students take this elective course and course Conservation of Finishes and Introduction of Modern Services together.
Classes lectures and site visits
Assessment assignment (50 per cent) and seminar: presentation (25 per cent), report (25 per cent)

Objectives
This course gives students the opportunity to acquire a thorough understanding and appreciation of traditional building methods and to develop an understanding and knowledge of current and appropriate methods of materials conservation.

Outcomes
At the conclusion of the course the student will successfully demonstrate"(1) an understanding of traditional methods of building materials and their attendant techniques, (2) an appreciation of the implica tions of the employment of traditional crafts in the current building environment, and (3) knowledge of appropriate methods of repair and conservation of traditional materials.

The intended outcomes, achieved through inquiry, individual and group study and research, will be demonstrated by each student upon the successful completion of the set assignments. The course surveys

the knowledge in the field and focuses on the major forms of traditional construction and materials. The assignment has been constructed to allow the student to demonstrate a detailed understanding of a selected material and the methods of its traditional use. Assessment criteria based on course outcomes are used for the examination of the assignment.

The course will consist of the following: traditional methods of construction (stone and brick masonry, vernacular and primitive building methods, timber construction, use of glass, glazed and unglazed tiles, cast iron, lead copper, corrugated iron); and the conservation of materials (stone, brick, pise, timber, terracotta, glazed ceramic tiles, cast and corrugated iron, lead, copper and pressed metal).

POSTGRADUATE COURSES IN URBAN DESIGN

Graduate Diploma in Urban Design (GradDipUrbDes)

Master of Urban Design (MUrbDes)

Urban design students are engaged in the creative yet informed generation and discussion of leadingdesign concepts for urban areas, and developing the design and policy skills needed to effect useful and sustainable urban change. A wide range of related disciplines and viewpoints is introduced to nurture a deep understanding of the conception, shaping and implementation of urban design projects, programs and policies.

The broad educational objectives of the MUrbDes and the GradDipUrbDes programs are to develop the skills to:

- define and analyse current urban design issues;
- develop vital and sustainable urban design concepts, programs, policies and plans;
- develop successful strategies for the implementation of urban design initiatives;
- judge the performance of urban design projects, policies and processes; and
- work successfully with communities and public and private planning institutions.

The MUrbDes program has the additional aim of developing research skills and enhancing knowledge in the field in innovative ways.

All three departments of the Faculty contribute to the urban design curriculum. The studio project is its core.

Applications for entry to the programs is open to those with first degrees in architecture, landscape architecture and other disciplines such as engineering and planning who can demonstrate through a folio of work and practical experience that they possess the necessary foundation to successfully complete the courses of study.

The program is offered on both a full- and part-time basis although students are encouraged to enrol full-time where possible. Full-time candidature requires enrolment for one academic year,with master's degree candidates being required to complete in addition a research study which could be completed in approximately four months full-time or one year part-time.

The requirements for the GradDipUrbDes and MUrbDes are shown in the resolutions of the Senate and the Faculty (pages 105-111) and the Table of Courses (page ,114).

Course outlines

The following subjects constitute the program core. A range of electives is available, to be selected with advisory assistance, and may include such areas as the arts, culture, development, heritage conservation, economics, planning, politics and social science. Students should consult the table of credits and substitutions for postgraduate courses on page 109.

Administrative and Legal Framework 2 units

15862
Dr Conner
Classes lectures and tutorials
Assessment equally weighted written assignments

Objectives

The course aims to impart a thorough and generic understanding of urban design and planning administration in its legal context by:

- motivating students to learn for themselves and from each other by creating an enjoyable learning environment within which to explore ideas, skill development and concepts;
- providing students withknowledge and a reference framework for the legal and administrative policy aspects of planning and development in order to practice urban design in the State of N.S.W.;
- providing students with essential skills in applying legal and administrative policy frameworks towards the implementation of urban design; and
- developing skills in implementing urban design policy, through participation, policy arguments and negotiation.

Outcomes

At the successful completion of the course students will have demonstrated:

- an ability to find relevant material and to order and present it cogently in context;
- a basic knowledge of the components of the Environmental Planning and Assessment Act and related legislation;
- skills in analysis, integration and application of administrative and legal constructs in urban design constructs;
- understanding of the principles and application of policy through participation and negotiation; and
- an ability to think of legal and administrative contexts creatively as a means of influencing the quality of the urban environment.

The assessment of the course is designed to gauge the degree of understanding achieved and its practical application to real life urban design issues, as well as ability to deploy policy and legal innovations within the constraints of due process and precedent.

Assessment criteria based on course outcomes are used for assessing student submissions.

The processes of government and their impact on urban design policy and practice will be explored, based on Australian and New South Wales law and application. Legal and administrative arrangements pose important policy constraints and opportunities in the achievement of better urban design outcomes. Consequently, the course focuses on policy ideas and the process of their formulation and implementation as well as basic principles guiding key legislative instruments and the analysis and review of key government structures.

Development Finance 2 units

15863
Various members of the Faculty staff
Classes lectures and tutorials
Assessment applied and reflective exercises (equally weighted)

Objectives
The course aims to impart a thorough and general understanding of development finance as it affects and is affected by the aims of urban and architectural design quality.

Outcomes
Students will acquire the ability to operate fluidly, intuitively and creatively in designing in the context of both pragmatic and creative finance.

Paper assessments are designed to measure the ability of participants to both design in financially constrained contexts and develop finance strategies that meet high levels of design ambition.

The course focuses on the economics of property development in the public and private sectors in ways that squarely address design quality. It explains the nature of real property and its markets, optimum financing models, principles of private versus public finance, property valuation, design scope and feasibility studies, as well as joint venturing, public-private partnerships and other innovatively financed design and development schemes.

History of Urban Design 2 units

15855
Prof. Webber and other Faculty staff
Classes lectures and discourse sessions
Assessment applied and reflective written exercises, as well as historically informed design explorations (equally weighted)

Objectives
This course aims to develop a good and well grounded sense of contemporary urban design's historical dimensions, in ways that allow the tracing of key theoretical and critical roots.

Outcomes
Students will have an ability to engage in historically informed and critical design discourse.

Paper assessments are designed to measure the ability of participants to understand fundamental directions in urban design history, theory and criticism.

The course explores the evolution of ideas and principles of urban design, by centring on the relationship between societal change and the formal organisation of the urban environment. Historical, theoretical and critical lines of argument will be pursued by examining urban places and spaces in their making, use and change, ranging from early civilisations to the present.

Landscape Principles and Practice 2 units

15857
Various members of the Faculty staff
Classes lectures and field visits
Assessment applied and reflective exercises, including design evaluations (equally weighted)

Objectives
The course aims to develop a good understanding of public open space and landscape design issues in current urban design.

Outcomes
Students will acquire an enhanced ability to design in urban development contexts.

Assessments gauge the participants' growing understanding of urban design challenges from a landscape and open space perspective.

This course engages landscape design and site planning in application to public areas — roads and streets, squares and parks, residential areas, industrial districts and town centres. Participants will come to better understand the nexus between urban design, architecture and landscape design in ways that respond to principles of ecologically sustainable development.

Physical Planning 2 units

15860
Assoc. Prof. Toon and other Faculty staff
Classes lectures
Assessment paper and design exercises (equally weighted)

Objectives
The course aims to develop a background in land use, transport and other basic physical planning aspects in their relation to urban design.

Outcomes
At the completion of this course students will have an enhanced ability to design in urban development contexts.

Assessments gauge the participants' growing understanding of urban design challenges from a planning perspective.

The course examines the interaction between types and intensities of land use, transportation and broader dynamics of change in the physical environment. In doing so, it imparts a working knowledge of tools and conventions in physical urban planning in the Australian context.

Theory and Methods in Urban Design 2 units

15856
Prof. Droege and other Faculty staff
Note It is recommended that this course be taken in conjunction with Urban Design Studio A
Classes lectures, field work and exercises
Assessment equally weighted papers and analytical design projects

Objectives
The course will provide structured opportunities in exploring fundamental methods of inquiry and design research, and their theoretical bases.

Outcomes
Students will gain skills in designing and conducting basic environmental performance inquiries.

Assessments both develop and evaluate the participants' abilities of conducting urban design inquiry and research.

The course conveys concepts and methods of inquiry tha t are useful for urban design discourse and reflective practice, aiming at better environmental programming and design. Departing from intuitive reasoning and environmental psychology concepts, ways of telling, sensing, noting, inquiring, conceiving, de/briefing and guiding in urban design are explored. Work is done in association with the introductory urban design studio. Finally, a one-month module focuses on research methods.

Traffic and Access 1 unit

15861
Various members of the Faculty staff
Classes lectures
Assessment several papers throughout the semester (equally weighted)

Objectives
The course will provide a critical and technical understanding of traffic design and management opportunities for better urban design.

Outcomes
Students will improve their urban design capabilities.

Assessments evaluate the participants' ability to make informed and environmentally sound traffic design choices.

The course presents both fundamental and advanced traffic and personal/public transport strategies for better urban design. Besides basic engineering and design principles for roads and streets, the course explores transport policy and planning choices at the local scale in relation to multi-modal optimisation programs and projects. Emphasis is on the full integration of local transport parameters into urban design, as well as on comprehensive stra tegies towards environmental innovation.

Urban Design Studio A 6 units

11225

Urban Design Studio B 6 units

11226
Prof. Droege and other Faculty staff
Note It is recommended that course Theory and Methods in Urban Design is taken concurrently with Urban Design Studio A
Urban Design Studio A should be taken before Urban Design Studio B
Classes studio work, presentations and critiques
Assessment ongoing, equally weighted evaluation of progressive studio tasks ranging from one to four weeks in duration

Objectives
The course will provide structured opportunities to understand urban design inits comprehensive nature, and to develop design, decision-making and communication skills.

Outcomes
Students will gain a comprehensively structured range of advanced urban design skills.

Assessments evaluate the participants' ability to intelligently assess needs and conditions, produce and interpret design briefs, generate creative design visions and develop comprehensive institutional strategies to achieve the desired outcomes.

The studios are central to the program experience. In intensive work on real-life urban design challenges both practical skills and critical thinking are developed. The studios emulate the comprehensive nature of today's urban design challenges and test participants' growing ability to invent practical solutions of social, environmental, cultural, aesthetic and intellectual relevance. Design concepts will flow throughout the year along a 'cities within' theme, focusing on institutional, communal and corporate domains within large metropolitan areas.

Urban Environmental Sciences and Services 2 units

17695

Consult the course description under Department of Architectural and Design Science *{Area: Building Services).*

Research Study or Research Project Report 8 units

15864
Prof. Droege and other Faculty staff
Classes no formal classes, but each student is expected to structure regular work sessions with her or his supervisor and, where applicable, advisory group
Assessment research study or project report

Objectives
The advanced study is meant to synthesise studies or projects in a way that betrays a comprehensive understanding of the overall program content. The course aims to provide a critical and technical understanding for traffic design and management opportunities for better urban design.

Outcomes
Students will have made a research or design contribution to the field of urban design, as well as

demonstrated competence and confidence in producing a substantial analytic or creative project.

Assessment of the student's performance is based on key aspects of the final report, such as its originality, significance, structure, substance and lucidity.

The advanced study or project develops inquisitiveness, discipline, insight, and creative as well as communicative skills, The planning and executing of an independent, in-depth study of a significant urban design subject will be guided by supervisors and advisers. Possible topics and modes of inquiry range from urban form research to empirical, design and policy studies.

Senate resolutions

Master's degrees, postgraduate diplomas and certificates

Master's degrees

1. A candidate for the degree of Master of Urban Design (MUrbDes), Master of Urban and Regional Planning (MURP) or Master of Heritage Conservation (MHeritCons) shall proceed by coursework, and a candidate for the degree of Master of Science (Architecture) (MSc(Arch)), Master of Urban Studies (MUrbStud) or Master of Architecture (MArch) shall proceed by research and submission of a thesis. A candidate for the degree of Master of Design Science (MDesSc) shall proceed by coursework or by research and submission of a thesis.

2. (1) A candidate for the degree of MURP or MUrbStud shall proceed to the degree in the Department of Urban and Regional Planning.
(2) A candidate for the degree of MDesSc shall proceed to the degree in the Department of Architectural and Design Science.
(3) A candidate for the degree of MHerit Cons shall proceed to the degree in the Department of Architecture.
(4) A candidate for the degree of MUrbDes, MSc(Arch) or MArch shall proceed to the degree in any of the departments of the Faculty.

Graduate Diplomas

3. A candidate for the Graduate Diploma in Urban Design (GradDipUrbDes), Graduate Diploma in Design Science (GradDipDesSc), Graduate Diploma in Urban and Regional Planning (GradDipURP) or Graduate Diploma in Heritage Conservation (GradDipHeritCons) shall proceed by coursework.

4. (1) A candidate for the GradDipURP shall proceed to the diploma in the Department of Urban and Regional Planning.
(2) A candidate for the GradDipDesSc shall proceed to the diploma in the Department of Architectural and Design Science.
(3) A candidate for the GradDipUrbDes shall proceed to the diploma in any of the departments of the Faculty.
(4) A candidate for the GradDipHeritCons shall proceed to the diploma in the Department of Architecture.

Graduate Certificates

5. A candidate for the Graduate Certificate in Design Science (GradCertDesSc) shall proceed by coursework.

6. A candidate for the GradCertDesSc shall proceed to the certificate in the Department of Architectural and Design Science.

Admission to candidature

7. (1) The Faculty may admit to candidature for the degree of master or a graduate diploma or a graduate certificate in the Faculty a graduate of the University of Sydney who has completed courses acceptable to the Faculty.
(2) The Faculty may admit to candidature in accordance with Chapter 10 of the by-laws a person who has, in the opinion of the Faculty, qualifications equivalent to those required of a graduate of the University of Sydney.
(3) The Faculty may admit to candidature for the degree of MDesSc, the GradDipDesSc or GradCertDesSc a person with:
(a) a qualification in architecture registrable by the Board of Architects N.S.W., or
(b) a Diploma in Engineering from the Sydney Technical College or such other similar qualification as is approved by the Faculty and the Academic Board, or
(c) a qualification making them eligible for membership of the Institution of Engineers, Australia or the Chartered Institution of Building Services Engineers, or
(d) (i) for the Graduate Diploma in Design Science a person qualified for the award of the Graduate Certificate in Design Science who has achieved a weighted average mark of at least 65 in therequired courses, or
(ii) for specialisation in Audio, a person who has completed a course in audio engineeringrecognisedby the Vocational Education and Training Accreditation Board (N.S.W.).
(4) The Faculty may admit to candidature for the GradDipURP a person with one of the following qualifications:
(a) the Diploma in Civil Engineering or in Local Government Engineering of the Sydney Technical College or other technical college of similar standing approved by the Faculty of Architecture and the Academic Board, or
(b) the Municipal Engineers' Certificate issued by the Department of Local Government of New South Wales or such other similar qualifications as are approved by the Faculty of Architecture and the Academic Board, or
(c) aqualificationinArchitectureregistrable by the Board of Architects of New South Wales, or
(d) the licence or certificate of registration issued by the Board of Surveyors of New

South Wales or such other similar qualifications as are approved by the Faculty of Architecture and the Academic Board, or

(e) the Associate Membership of the Australian Institute of Valuers or such other similar qualifications as are approved by the Faculty of Architecture and the Academic Board.

(5) The Faculty may admit to candidature for the GradCertDesSc a person who from evidence of recognised prior learning is considered to have the knowledge and aptitude required to undertake the courses of study.

8. The Faculty may require a person admitted to candidature to serve a period of probation of not more than one year and to complete such work as it may prescribe during the period. At the completion of the period the Faculty shall review the candidature and may confirm or terminate the candidature. If the Faculty confirms the candidature it will be deemed to have commenced at the beginning of the period of probation.

Periods of candidature

9. Except with the permission of the Faculty on the recommendation of the relevant head of department:

(1) The minimum period of full-time candidature for a master's degree by research shall be two years except that this may be reduced to a period of not less than one year for candidates with the equivalent of first or second class honours in their qualifying bachelor's degree or for candidates who have completed a higher degree with a major research component.

(2) The maximum period of full-time candidature for all master's degrees and diplomas in the Faculty shall be three years.

(3) The periods of candidature for part-time students shall be twice those indicated in (1) and (2) above for full-time candidates.

(4) The Faculty may deem time spent on another research degree of the University of Sydney as time spent on a research master's in the Faculty and may reduce the minimum and maximum periods accordingly.

(5) The Faculty may deem time spent on another diploma of the University of Sydney as time spent on a coursework master's degree or diploma in the Faculty and may reduce the minimum and maximum periods accordingly.

Appointment of supervisor

10. The Faculty shall appoint a member of the full-time or fractional academic or research staff of the department of the Faculty in which the candidate is proceeding towards a master's degree to act as supervisor of the candidate. The Faculty may also appoint an associate supervisor or co-supervisor who may be a member of the academic or research staff of the University, an Honorary Associate or a person with appropriate qualifications in another institution or organisation.

Coursework to be completed

11. (1) A candidate progressing by coursework shall complete the courses* prescribed by the Faculty for the relevant degree, diploma or certificate satisfying all requirements with regard to mandatory courses and areas of study.

(2) Coursework shall consist of lectures and seminars together withsuchtutorialinstruction, essays, exercises, practical work and assignments as maybe prescribed by the Faculty on the recommendation of the relevant head of department.

(3) A candidate who does not satisfy the coursework requirements in (2) above may be refused permission to present for examination in that coursework.

(4) Credit is granted for coursework on the basis of units being gained for successfully completing courses. One unit is equivalent to one hour of contact time per week for one semester together with any appropriate practical work.

(5) Courses are in some cases designated as options and may include prerequisites, corequisites and may be grouped to form areas of study.

(6) A candidate may, in satisfying the requirements of (1) above:

(a) receive credit for courses previously completed or may enrol in substitute courses for those prescribed;

(b) apply to have credit granted on the basis of non-credentialled learning or experience, that is equivalent to a course or courses in the Table of Postgraduate Courses. The Faculty will determine the method for demonstrating the achievement of the equivalent academic standard.

The Faculty has resolved for the various coursework degrees the limitations on credit and substitution. Where necessary, the Faculty will determine the unit value of any credits and/or substitutions.

(7) The limitations referred to in (6) above do not apply in the case of a transfer of candidature from a postgraduate program in the Faculty for which the candidate has not been awarded the qualification of the previous candidature. In this case the Faculty may, on the recommendation of the relevant head of department, grant full credit for the work previously completed.

Progress

12. (1) Candidates shall report regularly to the Faculty on their progress towards completing the requirements for the degree, diploma or certificate.

(2) The Faculty shall consider the report of the candidate and the recommendations of the supervisor and the relevant head of department and may, if the candidate has not made

satisfactory progress towards completing the requirements of the degree or diploma, terminate the candidature.

(3) The Faculty may accept the candidate's results in coursework examinations in place of reports from the candidate.

Thesis requirements (master's degrees)

13. Not earlier than the minimum period of candidature, candidates proceeding by research shall:

(a) lodge with the Registrar three copies of a thesis embodying the results of an original investigation carried out by the candidate;

(b) state in the thesis, generally in the preface and specifically in the notes, the sources from which the information was derived, the extent to which the candidature has made use of the work of others and the portion of the thesis which is claimed to be original, and

(c) not lodge as the candidate's work any work previously submitted for a degree of the University of Sydney or any other university, but may incorporate such work in the thesis, provided that the candidate indicates the work so incorporated.

14. The thesis shall be accompanied by a certificate from the candidate's supervisor stating, whether in the supervisor's opinion, the form of presentation of the thesis is satisfactory.

Examination of a thesis (master's degrees)

15. The Faculty shall appoint two examiners, at least one of whom shall be external. The examiners shall report to the Faculty.

16. The Faculty shall determine the result of the candidature after it has considered:

(a) the reports of the examiners of the thesis and/or the results of examinations completed by the candidate, and

(b) the recommendation on the result of the candidature from the head of department in which the candidature is proceeding.

Award of the MDesSc, GradDipDesSc and GradCertDesSc

17. The degree of Master of Design Science, the Graduate Diploma in Design Science and the Graduate Certificate in Design Science may be awarded in the following subject areas and the testamur for the degree, diploma or certificate shall specify the subject area:

(a) audio

(b) building

(c) building services

(d) computing

(e) energy conservation

(f) facilities management

(g) illumination

or in the case of the Master of Design Science

(h) research

The degree of Master of Design Science, undertaken in one of the subject areas (a) to (g) above, may be awarded with honours in accordance with criteria determined by the Faculty.

Transition arrangements

18. Candidates who were enrolled prior to 1 January 1991 may apply to the Faculty for permission to transfer their candidatures with credit for courses completed:

(a) from the Master of Building Science or the Master of Design Computing to the Master of Design Science;

(b) from the Graduate Diploma in Building Science, Graduate Diploma in Building Science (Energy-Conservative Design), Graduate Diplomain Design Computing or Graduate Diploma in Illumination Design to the Graduate Diploma in Design Science.

Faculty resolutions

Postgraduate study (other than doctorates)

Eligibility for admission

1. In addition to the requirements of the resolutions of Senate regarding the master's degrees, diplomas and certificates of the Faculty, an applicant for admission to the Master of Architecture shall be a Bachelor of Architecture of the University of Sydney, or, as provided in Chapter 10, possess equivalent architectural qualifications.

2. A research topic which is satisfactory in terms of research interests, resources and availability of supervision within the department must be agreed upon between the applicant and the relevant head of department before candidature for a research degree is other than probationary.

3. Applicants may be required to demonstrate to the satisfaction of the Faculty a proficiency in the English language adequate to undertake the proposed candidature.

Availability

4. The number of students admitted and the programs and the courses available may be limited and will be determined by:

(a) the availability of resources, including space, library, equipment and computing facilities;

(b) availability of adequate and appropriate supervision, and

(c) availability of staff resources for the conduct of courses.

Part-time candidature by research

5. (1) Candidates admitted to research degrees within the Faculty are expected to devote a minimum of 20 hours per week (or equivalent) to their candidature and are expected to spend a minimum of one day per week (or equivalent) in attendance at the University under the direction of their supervisor.

(2) The Faculty may, on the recommendation of the relevant head of department, permit

part-time candidature by a person who is employed away from the University under conditions other than in (1) above provided that adequate supervision can be maintained. Such a case would be where an associate supervisor is in the same location as the candidate.

Coursework to be completed

6. A candidate proceeding by coursework or coursework and dissertation shall complete the coursework requirements set out below:

(1) Graduate Diploma in Urban and Regional Planning: 40 units which shall include at least 16 units of courses listed as specialisations, to be selected from the Table of Postgraduate Courses of the Department of Urban and Regional Planning.

(2) Master of Urban and Regional Planning: 48 units which shall include 8 units for a dissertation and 16 units of courses listed as specialisations, to be selected from the Table of Postgraduate Courses of the Department of Urban and Regional Planning.

(3) Graduate Diploma in Design Science: 24 units selected from the Table of Postgraduate Courses of the Department of Architectural and Design Science. Specialisation is possible in the following areas of study, in which case at least 18 units comprising all core courses and a selection of option courses indicated in the Table of Postgraduate Courses must be completed:

Audio
Building
Building Services
Computing
Energy Conservation
Facilities Management
Illumination

(4) Master of Design Science: 36 units selected from the Table of Postgraduate Courses of the Department of Architectural and Design Science. The 36 units may consist of coursework alone or a combination of coursework and dissertation. Specialisation is possible in the following areas of study, in which case at least 24 units comprising all core courses and a selection of option courses indicated in the Table of Postgraduate Courses must be completed:

Audio
Building
Building Services
Computing
Energy Conservation
Facilities Management
Illumination

The Master of Design Science may be awarded at Honours level to a candidate who completes a dissertation and gains a weighted average mark of at least 65 in the degree.

(5) Graduate Certificate in Design Science: 12units selected from the Table of Postgraduate Courses of the Department of Architectural and Design Science as indicated in the following areas of study:

Audio (core courses)
Building (any courses)
Building Services (core courses)
Computing (core courses)
Energy Conservation (core courses)
Facilities Management (core courses)
Illumination (core courses)

(6) Graduate Diploma in Urban Design: 30 units selected from the Table of Postgraduate Courses for the MUrbDes and the GradDipUrbDes.

(7) Master of Urban Design: 38 units, including 8 from the area Advanced Study in the Table of Postgraduate Courses for the MUrbDes and the GradDipUrbDes.

(8) Master of Heritage Conservation: 26 units, including all mandatory courses in the Table of Courses for the MHeritCons and GradDipHeritCons.

(9) Graduate Diploma in Heritage Conservation: 20 units, including all mandatory courses except Research Report, in the Table of Courses for the MHeritCons and GradDipHeritCons.

Credit in postgraduate coursework programs

7. On the recommendation of the relevant head of department the Faculty has resolved that

(1) candidates may receive credit for coursework previously completed in relevant fields of study and/or on the basis of non-cr edentialled learning or experience to the limits shownin the Table of Credits and Substitutions for postgraduate courses provided that the credit is specified as equivalent to existing courses in the Table of Postgraduate Courses for the degree or graduate diploma;

(2) candidates may substitute courses from outside the relevant Table of Postgraduate Courses to the limits shown;

(3) all applications for credit must be made on the form available from the Faculty and must include sufficient information to allow the assessment of the claim and in the case of subsection (1) the candidate must be available, as required, for assessment by the relevant course coordinator.

Table of credits and substitutions for postgraduate courses

Degree/diploma	*Maximum credit permitted*	*Maximum substitution permitted*
Graduate Diploma in Urban and Regional Planning	12	8
Master of Urban and Regional Planning	12	8
Graduate Diploma in Design Science	9*	6
Master of Design Science	9*	6
Graduate Diploma in Urban Design	12.	6
Master of Urban Design	12	6
Graduate Diploma in Heritage Conservation	4	6
Master of Heritage Conservation	4	6

*Not more than 6 units of which can be credited towards the core and option unit requirement. Credit cannot be granted for coursework completed more than 9 years previously.

Form of a thesis or dissertation

8. (1) A thesis or dissertation may be bound in either a temporary or permanent form.

(2) Temporary binding must be able to withstand ordinary handling and postage. The preferred form ofbindingis the'PerfectBinding' system; spring back, ring-back or spiral binding is not permitted.

(3) The cover of a temporarily bound thesis or dissertation must have a label showing the candidate's name, name of the degree, title of the thesis and the year of submission.

(4) The requirements for permanent binding are given in the University's *Statutes and Regulations,* under the statutes governing the degree of Doctor of Philosophy.

(5) Following examination and emendation if necessary, at least one copy (the Library copy) of the thesis or dissertation, on acid-free paper, must be bound in a permanent form.

(6) If emendations are required, all copies of the thesis or dissertation which are to remain available within the University must be amended.

Result of candidature

9. (1) The Board of Postgraduate Studies awards or, for the PhD recommends the award of, the degree or diploma whenever:

(a) the examiners have recommended without reservation that the degree be awarded and the relevant head of department concurs; or

(b) all of the examiners have recommended the degree be awarded or awarded subject to emendations to all copies of the thesis or dissertation which are to remain available in the University and the relevant head of department concurs; or

(c) the Board unanimously accepts the recommendation of the relevant head of department that the degree be awarded subject to emendations despite reservations expressed by one or more examiners; and/or

(d) the coursework results are satisfactory and the relevant head of department recommends the award of the degree or diploma.

(2) The Board of Postgraduate Studies may permit an unsuccessful candidate to prepare for re-examination if, in its opinion, the candidate's work is of sufficient merit and the relevant head of department has so recommended.

Satisfactory progress

10. In addition to the resolutions of the Senate regarding satisfactory progress the Faculty may require a candidate proceeding by coursework:

(1) to show good cause why he or she should be allowed to re-enrol in a course which has been failed twice;

(2) to show good cause why he or she should be allowed to re-enrol in the Faculty of Architecture if in any two successive years of attendance he or she fails to gain at least 50 per cent of the units attempted.

Suspensions of candidature

11. A candidate for a research degree in the Faculty may suspend candidature for periods totalling no more than the equivalent of one year full-time.

Preliminary requirements

12. When an applicant is not qualified for admission to a master's degree by research, the Faculty may require satisfactory completion of a preliminary examination before admission to candidature can be granted. In such case a candidate may be enrolled in a master's preliminary program which shall consist of such coursework or other requirements as the Faculty may determine.

Delegation

13. (1) In these resolutions the Faculty delegates its responsibility to the Board of Postgraduate Studies.

(2) The Board of Postgraduate Studies delegates the following responsibilities to the Dean, who in turn, may delegate them to the Associate Dean (Postgraduate):

(a) approval of examiners;

(b) admission to candidature;

(c) supervisory arrangements;
(d) variations of candidature;
(e) extension of candidature;
(f) completion of candidature away from the University;
(g) supervision of candidature, and
(h) approval of continuance following receipt of annual progress reports;

subject to these matters being reported to the Board.

(3) In these resolutions the Urban Design programs are interdisciplinary and references to the relevant head of department shall refer, in the case of course recommendations, to the Urban Design Committee and, in the case of administration, to the Professor of Urban Design or, in the absence of the professor, the Dean.

Master of Urban Design and Graduate Diploma in Urban Design

1. Pursuant to sections 5 (1) and 5 (2) of the resolutions of the Senate relating to the master's degrees and postgraduate diplomas, the Faculty has prescribed that an admissions committee be set up to select candidates from the applicants to enter the degree or diploma.

2. The composition of the Admissions Committee shall be the Professor of Urban Design and one representative from each of the Departments in the Faculty nominated by the Heads of Departments.

3. Selection of the candidates may be based on consideration of academic qualifications, work experience, folio of design work and other supporting material submitted and referees reports.

Master of Urban and Regional Planning and Graduate Diploma in Urban and Regional Planning

1. Where a course for the degree is no longer available a candidate shall be required to complete such other course or courses as the Faculty may prescribe on the recommendation of the Head of the Department of Urban and Regional Planning.

2. A candidate who commenced candidature for the degree or diploma before 1 January 1990 shall elect either:

(1) to complete the requirements for the degree or diploma no later than 31 December 1991 for full-time students or 31 December 1994 for part-time students in accordance with resolutions of the Senate and Faculty in force at the time of commencement, or

(2) to complete the requirements for the degree in accordance with these resolutions. The Faculty may grant credit for any courses completed towards the degree.

3. A candidate who commenced candidature for the Diploma in Urban and Regional Planning or the Diploma in Town and Country Planning before 1 January 1990 may, with the permission of the Head of the Department of Urban and Regional Planning, undertake a dissertation (8 units).

4. A candidate who commenced candidature for the degree or diploma before 1 January 1992 shall elect either:

(1) to complete the requirements for the degree or diploma no later than 31 December 1993 for full-time students or 31 December 1996 for part-time students in accordance with by-laws and resolutions of the Senate and Faculty in force at the time of commencement, or

(2) to complete the requirements for the degree in accordance with these resolutions. The Faculty may grant credit for any courses completed towards the degree.

Master of Urban Studies

A candidate for the degree of Master of Urban Studies may be required, on the recommendation of the Head of the Department of Urban and Regional Planning, to complete some or all of the following courses from the Table of Postgraduate Courses of the Department of Urban and Regional Planning:

Urban Perspectives
Planning Methods
Housing Policy and Practice *or* Economic and Community Development
Contemporary Urban Issues

Master of Design Science (Computing) and Graduate Diploma of Design Science (Computing)

A candidate who commenced candidature for the degree of Master of Design Science or the Graduate Diploma of Design Science specialising in computing before 1 January 1993 shall elect either:

1. to complete the requirements for the degree or diploma no later than 31 December 1994 for full-time students or 31 December 1997 for part-time students in accordance with resolutions of the Senate and the Faculty in force at the time of commencement, or

2. to complete the requirements for the degree or diploma in accordance with the 1993 resolutions. The Faculty may grant credit for any courses completed towards the degree or diploma.

Master of Design Science (Research)

A candidate for the degree of Master of Design Science (Research) is permitted to enrol in a maximum of 9 units of coursework.

Part-time PhD in the Faculty of Architecture

Consultation with candidate

1. The head of the department and proposed supervisor shall discuss with the candidate the advisability of carrying out the PhD program on a part-time'basis, considering the candidate's research background, the nature and the topic, and the facilities and time likely to be available.

Availability of time

2. (a) The candidate should be able to spend a

minimum of 20 hours per week on the candidature.

(b) The candidate should be free to attend the University on a sufficient number of occasions, and at suitable times, to consult with the supervisor, and to attend seminars and other departmental activities including a regular seminar to outline progress in their research.

(c) The candidate should be able to attend the University for the equivalent of one day per week. This may be achieved by satisfying (b) above and also attending for blocks of time at appropriate stages of the candidature.

(d) There should be a reasonable expectation that the conditions described above will continue throughout the candidature.

Supervision arrangements

3. The work towards the degree shall be planned and undertaken so that the supervisor will be able to certify that the work is the candidate's own work.

Adequacy of facilities, resources and supervision

4. In recommending a candidature, the head of department shall certify that the department has, and that there is a reasonable expectation that it will continue to have throughout the period of the candidature, adequate facilities, resources and a supervisor.

Progress

5. Candidates shall be required to submit annual progress reports, and the Faculty shall be advised in any case where either the annual report is not submitted on time, or the comments of the supervisor or head of department indicate that progress is less than satisfactory.

The Faculty shall also be informed, either by annual progress report or at other times during the year, when there is any substantive change in any of the details of the candidature or of the candidate's employment or circumstances relating to availability of time or supervision. In such cases, the Faculty may suspend or terminate the candidature if it is not satisfied that the new circumstances are adequate for its continuation.

Table of Postgraduate Courses — Department of Urban and Regional Planning

Course title	Unit value	Prerequisite
Mandatory courses		
Economic Applications in Planning	**2**	
Physical and Transportation Planning	**4**	
Planning Law and Procedures	**4**	
Planning Methods	**6**	
Planning Theory and Practice	**4**	
Regional Planning: Theory and Analysis	**2**	
Urban Perspectives	**2**	
For master's degree		
Dissertation	**8**	Satisfactory completion of the mandatory coursework
Specialisations		
Economic and Community Development	**8**	
Housing Policy and Practice	**8**	Satisfactory completion of the mandatory
Land Use and Infrastructure Planning	**8**	coursework
Urban Design and Development Control	**8**	
General		
Contemporary Urban Issues	**2**	
Case Studies A	**2**	
Case Studies B	**2**	
Case Studies C	**2**	
Study Report 1	**2**	
Study Report 2	**2**	

Table of Postgraduate Courses — Department of Architectural and Design Science

Course title	Unit value	Audio	Building	Building Services	Computing	Energy Conservation	Facilities Management	Illumination
Area: General								
Architectural Acoustics 1	2	Opt						Opt
Architectural Acoustics 2	3	Opt						Opt
Cognitive Processes in Design 1	2							
Cognitive Processes in Design 2	2							
Electricity in Buildings	2							Opt
History of Building Science	3							
Mathematical Modelling for Designers	2							
Research Methods	2	Opt		Opt	Opt	Opt	Opt	Opt
Science and Society	2							
Statistics in Environmental Design	2							
Wind Effects on Buildings	2							
Dissertation	12	Opt		Opt	Opt	Opt	Opt	Opt
Elective A	3							
Elective B	3							
Elective C	2							
Elective D	2							
Elective E	1							
Elective F	1							
Area: Audio								
Analogue and Digital Audio	4	Core						
Audio Acoustics	3	Core						
Audio Internship	3	Opt						
Audio Practice	3	Core						
Audio Production	2	Opt						
Electrics, Electronics and Electroacoustics 1	3	Core						
Electrics, Electronics and Electroacoustics 2	3	Core						
Keyboard Musicianship	2	Opt						
Music 1	3	Core						
Music 2	2	Opt						
Area: Building Structures and Materials								
Appraisal of Existing Structures	1							
Building Materials 1	1						Opt	
Computer-aided Design of Structures	2				Opt			
Structural Systems Synthesis	2							
Area: Building Services								
Air-conditioning Design	3			Opt		Opt		
Building Acoustics and Noise Control	2			Opt				
Building Construction Technology	3			Core			Opt	Opt
Building Services Case Studies	1			Opt				

Course title	Unit value	Audio	Building	Building Services	Computing	Energy Conservation	Facilities Management	Illumination
Communications	2			Opt				Opt
Computer Aids for Air-conditioning Design	3			Opt		Opt		
Electric Power Systems for Buildings	3	Opt		Opt		Opt		Opt
Electrical Services	3			Core			Opt	
Fire Protection Services	3			Opt				
Hydraulic and Sanitary Services	2			Opt				
Mechanical Services	3	Opt		Core			Opt	
Project Management	3	Opt		Core			Core	Opt
Services Control Systems	2			Opt		Opt	Opt	Opt
Urban Environmental Sciences and Services	2			Opt		Opt		Opt
Vertical Transportation Systems	2			Opt				
Area: Design Computing								
Artificial Intelligence in Design	3				Core			
CAD in Design	3				Core			
Computer Graphics Programming	3				Core			
Database Management Systems for Design	3				Core		Opt	
Design Decision Support Systems	3				Core		Opt	
Multimedia in Design	3	Opt			Core		Opt	
Theory and Practice of Design Computing	3	Opt			Core	Opt		Opt
3D Modelling and Photorealism	3	Opt			Core			
Design Computing Elective 1	1							
Design Computing Elective 2	2							
Design Computing Elective 3	3							
Design Computing Elective 4	4							
Area: Energy Conservation								
Architecture, Energy and Environment	3					Core	Opt	Opt
Building Climatology and Thermal Comfort	2					Opt		Opt
Building Energy Analysis	3			Opt		Core	Opt	Opt
Climate Conscious Architectural Design	3					Core	Opt	
Energy Conservation Research Project	4					Core		
Energy Conservative Design Workshop	4					Core		
Energy Management in Buildings	2			Opt		Opt	Opt	Opt
Solar Energy and Passive Design	2					Opt		Opt
Area: Facilities Management								
Facilities	3			Opt			Core	Opt

Course title	Unit value	Audio	Building	Building Services	Computing	Energy Conservation	Facilities Management	Illumination
Management 1								
Facilities Management 2	3			Opt			Core	
Financial Reporting	3						Core	
Organisational Analysis and Behaviour	3						Core	
Project Management*	3						Core	Opt
Area: Illumination								
Light Sources and Luminaires	2			Opt		Opt		Core
Lighting Design	4			Opt		Opt	Opt	Core
Photometric and Colorimerric Concepts and Mensuration	2			Opt				Core
The Visual Field and Human Factors	2			Opt				Core
Vision and Visual Perception	2			Opt				Core

**This course is also core for Building Services stream*

Table of courses for the MUrbDes and GradDipUrbDes

Course title	Unit value
Administrative and Legal Framework	**2**
Development Finance	**2**
History of Urban Design	**2**
Landscape Principles and Practice	**2**
Physical Planning	**2**
Theory and Methods in Urban Design	**3**
Traffic and Access	**1**
Urban Design Studio A	**6**
Urban Design Studio B	**6**
Urban Environmental Sciences and Services	**2**
Elective: 2 units selected from existing courses within the Faculty	**2**
Sub total	**30**
Advanced Study (for master's only)	
Research Study or Research Project Report	**8**
Total units	**38**

Table of courses for the MHeritCons and GradDipHeritCons

Area	Course title	Unit value
Mandatory courses	Conservation Methods and Practices	4
	Interpretation of Cultural Environments	2
	Principles of Conservation Management	2
	Professional Placement	4
	Transformation of Cultural Environments	2
	Research Report (master's only)	6
Electives	Aesthetic Assessment of Heritage Landscapes	2
	Conservation of Finishes and Introduction of Modern Services	2
	History of Landscape Design post 1700	2
	Local Heritage in Community Development	2
	Significance of Place in World Regions	2
	Traditional Building Methods and Conservation of Materials	2

4 Other Faculty information

INFORMATION SPECIFIC TO THE FACULTY

Enrolment

In determining the academic direction of their degree courses, students face a complex task when enrolling as course structures allow wide choice. They must ensure that their yearly program of study not only meets their own requirements but also complies with those of the unit system, the prerequisite structure, the provisions for mandatory courses and the structure of the timetable. They must also ensure that their enrolment each year gives them a workload evenly balanced over the full academic year, bearing in mind that some courses run for one semester only and others for the full year. Staff of the Faculty will be available to assist students with the task of enrolment. Listed below are major points that must be borne in mind during enrolment and whenever variation of enrolment is contemplated:

- completion of mandatory courses;
- completion of prerequisites for courses in which enrolment is intended;
- compliance with total unit requirements for each degree;
- completion of prerequisites for the Bachelor of Architecture degree course;
- structuring of an even workload over the two semesters of the academic year;
- avoidance of timetable clashes;
- observance of the limit of 40 units total for all courses taken in the BSc(Arch) and 34 units total in the BArch in any one year.

Photographs and registration of first year students

With the enrolment of each new group of students in first year, associating names with faces is a difficult task. To assist the staff a photograph will be taken of each student. Students will be notified of the time and place for this.

Suspension of candidature

Candidates may apply for suspension of their candidature due to work pressures, illness, transfers from Sydney, etc. Such applications should be lodged with the Faculty office as soon as possible giving full details of the reasons for suspension and the period of the suspension requested. The Faculty normally considers suspensions one year at a time. *It is important that once the period of suspension is over candidates either formally re-enrol or apply for a further period of suspension.*

Attendance

Students are required to attend all lectures and other classes. A student who has been absent without leave for more than ten per cent of the classes in a particular course in any one semester may be required to show cause why she or he should not be deemed to have failed to complete that course.

Assessment methods and posting of results

Bachelor of Science (Architecture) and Bachelor of Architecture

A system of continuous assessment is applied in most courses. In some courses assignments are set during and at the end of the course. Assessment by examination at the end of the course is carried out for some courses.

Supplementary work may be given to provide a student with a second chance to pass a course. The opportunity to do supplementary work is granted only if the student's original work demonstrates that he or she has potential to perform satisfactorily (or has been seriously ill or had some other misfortune).

Students may be awarded the grades of High Distinction, Distinction or Credit for achieving a high standard in a course. These grades provide the means of assessment for awarding scholarships and prizes, the selection of students who may enrol for the BSc(Arch) honours degree and the award of honours in the BArch degree.

Final results for courses are discussed by staff at a number of examiners' meetings, where extenuating circumstances (illness, etc.) are taken into account. The general results for the year are usually posted on the university noticeboards in the Main Quadrangle during the week before Christmas. The Registrar writes to each student notifying him or her of the results in each course.

Faculty Late Submission Policy

In the interests of equity, the Faculty requires students to submit all assignments by the due dates, which are notified in the formal written information given to students for each course.

This policy applies to all undergraduate' and postgraduate coursework students in the Faculty. The heads of the departments are responsible for ensuring that this policy is applied consistently by all staff to all courses (and their components).

1. Extensions

An extension to a submission date may be granted to a student in the event of illness or misadventure, or for a part-time postgraduate student because of unexpected employer demands.

To request an extension, the student must complete a student request form available from the Faculty office, as soon as practical after the illness or misadventure. A postgraduate student requesting an extension based on employer demands should do so as soon as he or she becomes aware of the change in circumstances.

The student:

(a) returns the completed request form with original copies of any documentary evidence to

the Faculty office;

(b) contacts and provides copies of the form and evidence to each course coordinator involved.

The course coordinator will:

(a) inform the student whether he or she has been granted an extension and if so, the revised due date;

(b) keep a record of all requests received for special consideration (including extensions) including the date received, and the date of and response to the student.

2. Late submissions without permission

Where a student has not received an extension to the due date, the following will apply to each late submission (includes separate components of a course's assessment, BSc(Arch) honours theses, ASRs and dissertations):

Submissions of assignments will be accepted up to 14 days late with the following penalties applied

- Up to 7 days late: the mark awarded is reduced by, 10 per cent
- Up to 14 days late: the mark awarded is reduced by 30 per cent
- More than 14 days late: not accepted.

Surryville Times

The *Surryville Times* is a spontaneous four-page weekly internal news sheet published during semester within the Faculty. Contributions come from any interested student or member of staff.

Professional qualifications

Graduates who hold the degree of Bachelor of Architecture will be entitled to registration as architects under the New South Wales Architects Act 1921, as amended, subject to obtaining two years of approved practical experience, at least twelve months of which must be subsequent to graduation, and passing an architectural practice examination before registration. Application for registration may be made to the Board of Architects of New South Wales, Tusculum', 3 Manning Street, Potts Point, 2011.

Students are eligible for student membership of the Royal Australian Institute of Architects ('Tusculum', 3 Manning Street, Potts Point, 2011). Studentmembers receive each issue of *Architecture Australia,* the New South Wales Chapter Bulletin, and the RAIA News. They may also attend Institute functions.

Admission to Associate Membership of the Royal Australian Institute of Architects is based on two years' approved practical experience.

Mathematics Learning Centre

The Mathematics Learning Centre offers help to students who enter the University with insufficient preparation in mathematics to enable them to cope with the mathematical requirements of their course.

For the BSc(Arch) degree, a knowledge of the HSC 2 unit mathematics course is assumed. Certain postgraduate courses also have mathematics components which may be mandatory. If you are doubtful whether you are well enough prepared for any of these courses, you should contact the Mathematics Learning Centre for advice.

At the Centre staff canhelp you decide which topics need extra work. There are resources for individual study, with guidance from tutors, and small tutorials can be arranged for students who are having difficulties. Introductory and bridging courses are organised during the summer and throughout the year.

The Centre is located on the fourth floor of the Carslaw Building in Eastern Avenue. Any student seeking assistance should call at the Centre, or phone 3514061.

Learning Assistance Centre

The Learning Assistance Centre offers a wide range of workshops and other activities for students to help develop the learning and language skills needed for academic study. The Centre's workshops are free to all enrolled students of the University throughout the calendar year.

You may choose to participate in a range of workshops, varying in length from 3 to 12 hours, some of them being repeated throughout the year. The purpose of the workshops is both to teach particular skills and to provide an opportunity for practising those skills in a systematic way. There are also self-directed learning resources including some specially designed resources for practising reading, writing, speaking and listening skills. Workshops are offered on topics such as essay and assignment writing, oral communication skills, studying at university, and conducting research.

For further information and to register for workshops, please telephone 351 3853, or call at the Centre which is located on level 7 of the Education Building.

Scholarships and prizes

A large number of scholarships and prizes for the Faculty of Architecture are awarded automatically by the Faculty on the basis of academic merit. The following are other awards for which application must be made. Full details of all scholarships may be obtained from the Scholarships Office in the Holme Building.

Prize or scholarship	Value $	Closing date	Qualification
Undergraduate			
Robert Campbell	200 p.a.		Students in financial need and of sufficient merit. Applications for Year I students at any time.
Council of Education	400 p.a.		Children of teachers or officers in the Department of Education of at least three years' standing. Certificate of eligibility required.
A.P. Elkin Fund	varies	—	Students of Aboriginal descent.
Freemasons' (2)	300 p.a.	—	Sons of Freemasons of 5 years' standing; certificate of eligibility required.
James Robinson Orange Memorial Prize	700	—	Children or grandchildren of member of the Loyal Orange Institution; certificate of eligibility required.
Universities Credit Union	500		Undergraduates who are members of Universities Credit Union.
Postgraduate			
Restricted to Architecture graduates			
Hezlet Bequest	9000	as advertised	BArch graduate for postgraduate study overseas in Architecture.
Mirvac	600	—	Postgraduate study in Urban Design.
David Noel Murray	13 504	as advertised	BArch graduate for higher degree in Faculty of Architecture.
Denis Winston	2000		Postgraduate study in Urban and Regional Planning.
Other awards open to Architecture graduates			
Tenable at the University of Sydney			
Australian Postgraduate Awards	14 961	31 October	Open to permanent residents of Australia enrolling for higher degree.
A.E. and F.A.Q. Stephens Postgraduate Research	17 427	as advertised	Open to graduates of any university for higher degree study.
Travelling Scholarships			
Baillieu	500	31 May	Graduates in Medicine, Law, Economics and Architecture (travel grant).
Herbert Johnson Grants	up to 1000	31 May	Graduates who hold travelling scholarships.
James King of Irrawang	1000	31 May	Graduates in any faculty (travel grant).
University of Sydney Postgraduate Research Travelling	9000	31 October	Graduates in any faculty.
J.B. Watt-	9000	as advertised	Graduates in any faculty.
Eleanor Sophia Wood	15 000	as advertised	Graduates with three years' postgraduate experience at University of Sydney.

GENERAL UNIVERSITY INFORMATION

Publications

- *University of Sydney Diary* — giving details of the University's organisation, examinations, assistance for disabled students, child care facilities, housing, health, counselling, financial assistance, careers advice and a range of other matters—available free from the Student Centre or from University of Sydney Union outlets.
- *Map Guide,* including maps of the University, off campus centres and local bus routes.
- *Where to find that room*—showing the location of all Main Campus rooms used for examinations, and named rooms in the Main Quadrangle area.
- Faculty Handbooks.
- *Statutes and Regulations.*
- *Postgraduate Studies Prospectus.*
- *Postgraduate Studies Handbook.*

Confirmation of enrolment

All the informationprovided when you enrolis added to the University's computerised student record system. This includes your degree, academic year and the subjects you are taking. It is important that this

information be recorded correctly at the beginning of the year, and amended should a change occur in any of the details during the year. With the introduction of the Higher Education Contribution Scheme (HECS), any subject enrolment has a financial implication.

To enable you to see what enrolment data has been recorded, you will be sent a HECS assessment notice every semester. You should check this carefully. If the information is correct you should keep the notice as a record of your current enrolment. Should the notice be incorrect in any detail, you should advise the Faculty office promptly to have your record amended. A new notice will then be prepared and sent to you.

If you wish to—

change a subject in which you are enrolled
discontinue a subject
discontinue enrolment totally

you should apply at your faculty office to obtain the appropriate approval. Your record at the University will not be correct unless you do this and in some cases you could incur a financial liability under HECS. *It* ***is not sufficient for instance to tell the lecturer or associate lecturer that you discontinued a*** *subject.*

Assessment and examinations

All faculties (except Medicine)
There are three formal examination periods in each year.

Period	when held	approximate duration
First semester	June	2-3 weeks
Second semester	November	3-4 weeks
Supplementary	January	1 week

In addition individual faculties and departments may examine at other times and by various methods of assessment, such as essays, assignments, *viva voce,* practical work, etc. Some departments do not examine during the first semester.

Supplementary examinations, which are held in January, may be granted by some faculties:

(a) to candidates who have been prevented by duly certified illness or misadventure from completing an examination; or
(b) to candidates who have failed in any examination, but whose work is deemed sufficient to warrant the concession of a further test.

Supplementary examinations should be regarded as- distinct privileges, not as rights.

Examination timetables. Draft timetables are displayed in the Main Quadrangle, approximately 3-4 weeks before the commencement of examinations. Notice will be given in the *News* and on departmental noticeboards. Enquiries about these may be made at the Student Centre.

Printed copies of the final timetables are available from the Student Centre, Law School, United Dental Hospital, University Farms, Economics, Nursing, Education and Engineering faculty offices and the Carslaw foyer on Level 2.

Study vacation. A period after lectures at the end of each semester is set aside for study and preparation.

Notification of examination results. The results of annual examinations are displayed on noticeboards in the Main Quadrangle and posted directly to you at the end of the year.

Disclosure of examination marks. Final marks will appear on your annual result notice. Marks may also be obtained from your department for the major components of assessment which make up the final marks. You are entitled to information about any details of the assessment procedures used to determine the final result.

Your examination scripts and any other assessment material may be retrieved within a reasonable time after the completion of assessment in each course. This does not apply to examination papers which involve the repeated use of the same material in successive examinations.

Examination grades. Each course taken will be allotted one of the following grades at the annual examinations:

Grade	per cent
High Distinction	85-100
Distinction	75-84
Credit	65-74
Pass	50-64
Fail	below 50

The Faculties of Agriculture, Engineering and Science also allot one or more of the following grades of Pass: Terminating, Concessional; and Terminating-Optional Supplementary.

Award of examination grades. It is important to note that the University does not use a set formula for determining the number of specific examination grades to be awarded in particular subjects. However there is a policy of the Academic Board on trying to achieve equity between faculties on the number of went grades to be awarded in subjects. This policy is printed below.

'The following proportions of merit grades to be awarded in each subject are provided to examiners as indicative only. *They are certainly not to be considered as quotas.* The proportions have been refined over the years to provide a basis for equity of examination results between faculties, particularly the 'generalist' faculties of Arts, Economics and Science. Equity of examination results is important in its own right, but is crucial when Honours students are being considered for the award of AustralianPostgraduate Scholarships. Please note that the proportions are cumulative and are based on the number of students who gain a Pass or better in the particular subject.

	% High **Distinction**	% **Distinction** +	% **Credit** +
First year courses	3	14	42
Second year courses	3	16	46
Third year courses	4	18	50

The proportions of merit grades may vary from course to course and from year to year, reflecting different capabilities of different groups. Any variations will be compared with previous years and the proportions will continue to be refined in the light of experience.'

Illness or misadventure. You may apply in writing for special consideration of your examination performance on grounds of illness or misadventure. In the case of *illness* a medical certificate should be provided. The minimum requirements of a medical certificate are that it:

(a) be submitted and signed by your own medical practitioner and indicate the date on which you sought attention;
(b) certify unambiguously to a specified illness or medical disability for a definite period;
(c) indicate the degree of your incapacity, and express a professional opinion as to the effect of your illness on your ability to take an examination.

Certificates in connection with annual or supplementary examinations should be submitted prior to the examinations, unless the illness or misadventure takes place during the examinations, in which case the evidence must be forwarded as soon as practicable, and in any case before the close of the examination period. There is a special form available at the Student Centre and at the University Health Service for submission with medical certificates.

For special consideration on the ground of *misadventure,* your application must include a full statement of circumstances and any available supporting evidence.

The need to seek early advice. Many students in need of advice fail to make full use of the assistance available to them. If you believe that your performance during a course, or your preparation for your examinations, has been adversely affected by medical, psychological or family circumstances, you should seek advice as early as possible. Members of the teaching staff, of the University Counselling Service, and of the University Health Service, are all available for consultation and can give advice on appropriate action to take.

Exclusion

Restriction upon re-enrolment

There are certain circumstances in which you could be asked to show good cause why you should be permitted to repeat any previously attempted study. In the Faculty of Architecture the two most common circumstances are:

(i) if you fail to maintain a weighted average mark of at least 50 per cent; and
(ii) if you fail or discontinue any course more than once.

The resolutions of the Senate restricting re-enrolment may be found in the University's *Statutes and Regulations,* indexed under 'Re-enrolment'. If you are in any doubt about your liability for exclusion following academic failure or discontinuation of courses you should seek advice from the Faculty Office.

It is not possible to define in advance all the reasons that constitute 'good cause' but serious ill health, or misadventure properly attested, will be considered. In addition your general record, for example in other courses, would be taken into account. In particular if you were transferring from ano ther faculty your record in your previous faculty would be considered. Not usually acceptable as good cause are such matters as demands of employers, pressure of employment, time devoted to non-university activities and so on, except as they may be relevant to any serious ill health or misadventure.

Appeals

Many decisions about academic and non-academic issues are made in the University each year, and in some cases the by-laws or resolutions of the Senate provide for a right of appeal against decisions. This is the case, for example, in the resolutions of the Senate relating to exclusion of students after failure. However, there are many other situations without such specific provision for appeal where you might wish to have a decision reviewed or to draw attention to additional information relevant to your case. As a general rule in these circumstances you are invited to address a request of this nature in writing, or to discuss the matter with, the relevant organisation (for example, the SRC or SUPRA) or University department (for example, Examinations, Scholarships, Financial Assistance). Advice may also be sought from the Faculty Office.

Participation in University government

There is provision for the election of students, by and from the student body, to membership of the Senate, the Academic Board and the faculties and boards of studies. Student members are also to be found on other committees of the University, including faculty and departmental committees and boards.

The term of office is generally one year, from January to December, except the Senate which is from 1 December one year to 30 November the next. Elections are held by postal vote in October and notices calling for nominations are sent out in August/September. Details of the elections are placed on the noticeboards in the Science Road tunnel and published in the *University of Sydney News* and the *Administrative Bulletin.* Election announcements are also made available to *Honi Soit* and the *Union Recorder* for publication and are available from the Student Centre and faculty/ college offices. Before any election the appropriate ballot papers and instructions, as well as Information about the candidates, are sent to all students concerned.

The *Senate* is the overall governing body of the University; the *Academic Board* coordinates the work of the faculties and boards of studies and advises the Senate on academic matters; the *faculties* and *boards of studies* are concerned with the teaching and examining of their subjects and with research in the various departments and schools.

The important contribution that students can make to the governance of the University is recognised

through student membership of its governing bodies. As a student you are urged to take an active part in the selection of student members by nominating candidates and by voting in each election that concerns you. By participatingin these elections you can become more familiar with the functioning of the University and can help ensure that your interests are taken into consideration in decisions that affect your work at the University.

Membership of the Senate is provided for in the University of Sydney Act 1989, Section9. Membership of the Academic Board, of the faculties and boards of studies and of the school and departmental boards, is specified.in Chapter 8 of the by-laws and in resolutions of the Senate following that chapter. For details see the *Statutes and Regulations.*

Discrimination

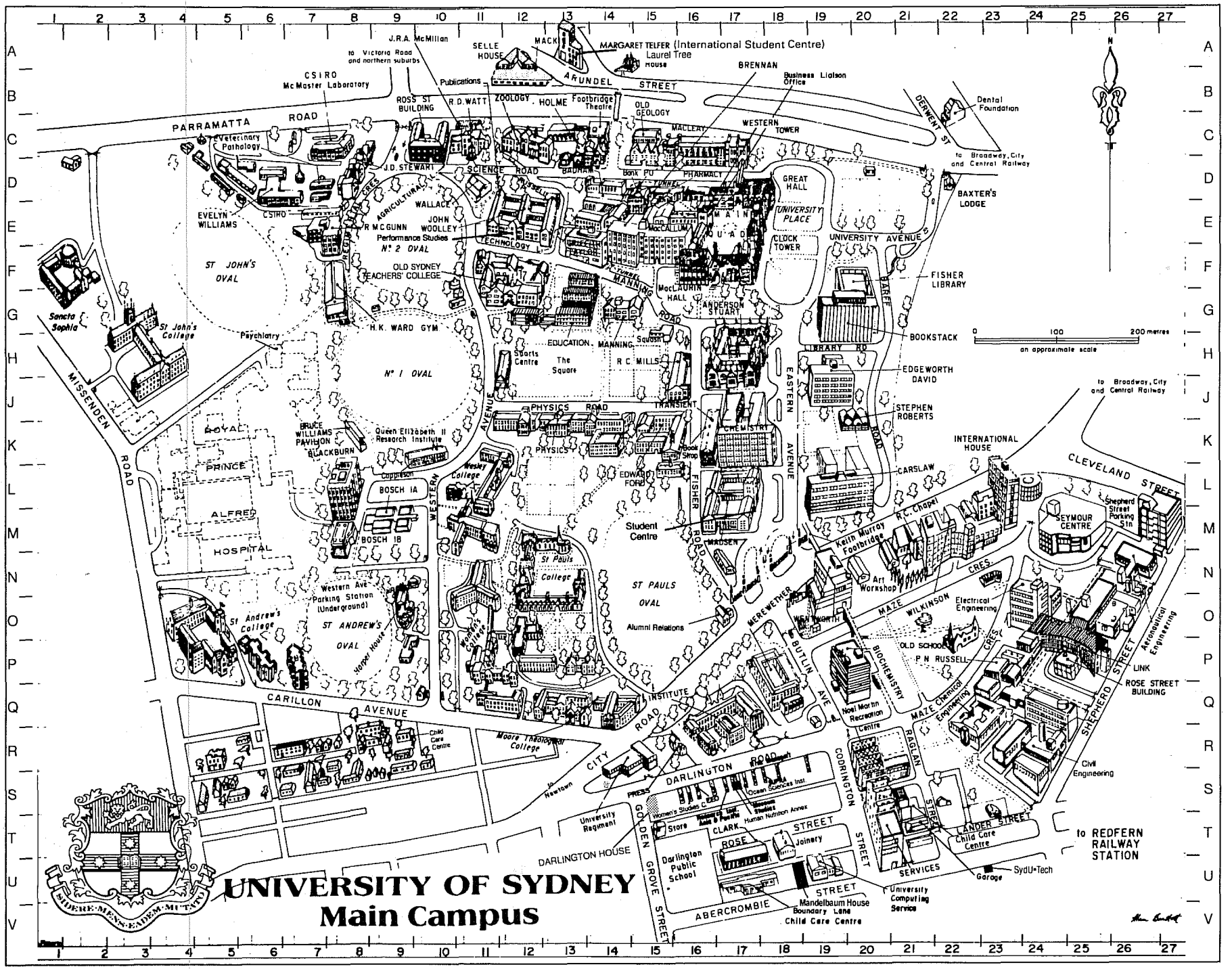
The University is opposed to all forms of discrimination, including those based on sex, race, marital status, sexual preference, political or religious beliefs and physical impairment. State and Federal legislation supports this.view. Discrimination can occur in various ways, including verbal and physical harassment. The Vice-Chancellor has appointed Discrimination Advisers to hear complaints fromstaff and students who suspect or believe that they are being discriminated against.

The Discrimination Advisers are available to discuss problems in confidence and to provide advice and assistance if the complainant wishes.

For a list of current advisers contact the Equal Employment Opportunity Unit, tel. 351 2212.

Buildings, departments and operations (main campus)

13G Accommodation Service A35
16S Accounting H51
16E Admin. Policy & Strategic Planning Division A14
17D Admin. Support Services Division AL4
17D Admissions A14
26N Aeronautical Engineering J07
11C Agricultural Annexe A07
IOC Agricultural Chemistry & Soil Science A03
11C Agricultural Economics A04
11C Agricultural Glasshouses A06
lie Agriculture Faculty Office A05
23 N Alma Street Glasshouse G07
170 Alumni Relations F18
17H Anderson Stuart Building F13
17H Anatomy & Histology F13
7E Animal Science Bl9
16F Anthropology A14
16S ANZAAS H44
16F Archaeology, Classics & Ancient History A14
22M Architectural & Design Science G04 ■
22M Architecture, Dept & Faculty Office G04
20G Archives F04
20N Art Workshop G03
16E Arts Faculty Office A14
14F Asian Studies A18
170 Attendant's Lodge F18
14D Badham Building & Library A16
Banks
19N Advance G01
13C Commonwealth A09
19N Commonwealth G01
15D National Australia A15
19N National Australia G01
22D Baxter's Lodge F02
8L Behav. Sciences in Medicine D06
20P Biochemistry GOB
12C Biological Sciences, Zoology A08
16C Biological Science, Botany A12
8L Blackburn Building D06
16K Bookshop F12
8L Bookshop, Medical D06
19N Bookshop SRC Secondhand G01
8M Bosch Building D05
9M Bosch Lecture Theatres D04
16C Botany A12
14F Brennan, C, Building A18
17H Burkitt Library F13
17E Business Liaison Office A14 .
12A Careers & Appts Service KOI
6C Caretaker's Cottage (Vet. area) B03
19L Carslaw Building F07
16D Cashier A14
15E Celtic Studies A17
21S Central Stores G12
19L Centre for Teach & Learning F07
17D Chancellor's Committee Shop A14
10G Chaplains, University Dll
23Q Chemical Engineering J01
21S Chemical Store Gil
17K Chemistry Fll
Child Care
17U Boundary Lane
9R Carillon Avenue
14A Laurel Tree House (Glebe) K05
21S Union (Darlington) G10
24R Civil Engineering J05
17T Clark Building H12
17E Clock Tower A14
17L Computer Science, Basser Dept F09
12A Continuing Education KOI
9K Coppleson Postgrad. Med. Inst. D02
13G Counselling Service, University A35
14C Credit Union A09
12E Crop Sciences A20
11C Agricultural Entomology A04
11C Agricultural Genetics & Plant Breeding A04
12E Agronomy A20
Biometry A03
we
12E Horticulture A20
lie Plant Pathology A04
7C CSIRO McMaster Laboratory B02
7E —, Annexe B14
22B Dental H. Educ. & Res. Fndn K03
16K Dentistry Faculty Office A27
18Q Econometrics H04
18Q Economic History H04
18P Economics H04
18P Economics Faculty Office H04
19J Edgeworth David Building F05
13G Education A35
15K Edward Ford Building A27
24P Electrical Engineering J03
17L Electron Microscope Unit F09
23Q Engineering Faculty Office J02
24S Engineering Workshop J06
12E English A20
16S Equal Employment Opportunity H47
6D Evelyn Williams Building BIO
8L Experimental Medicine D06
17D External Relations Division A14
17D Financial Services Division A14
16H Fine Arts A26
20F Fisher Library F03
14C Footbridge Theatre A09
14E Found Property A19
14F French Studies A18
21T Garage, University G13
17Q Geography H03
19J Geology & Geophysics F05
14F Germanic Studies A18
18Q Govt & Public Admin H04
8K Grandstand No. 1 Oval D01
18D Great Hall A14
17E Greek—Ancient A14
13F Greek—Modern A19
13F Griffith Taylor Building A19
7E Gunn, R.M.C., Building B19
Health Service, University
13C Holme Building A09
19N Wentworth Building G01
1SF History A17
19L History & Philosophy of Science Fll
13C Holme Building A09
SD Horse Stables B09
20P Human Nutrition Unit G08
17Q Industrial Relations H03
8L Infectious Diseases D06
19U Information Services H08
17Q Institute Building H03
17Q Internal Auditor H03
13D International Education Office K07
23L International House G06
4D Isolation Block—large animal bull pen B05
16H Italian Studies A26
18T Joinery G12
12F Koori Centre A22
13F Language Centre A19
17E Latin AM
13G Learning Assistance Centre A35
16K Linguistics F12
Z50 Link Building J13
12A Mackie Building KOI
16F MacLaurin Hall A14
16C Macleay Building A12
16C Macleay Museum A12
7C McMaster Laboratory CSIRO B02
11C McMillan, J.R.A., Building A05
17L Madsen Building F09
ISC Mail Room (Internal) All
17E Main Building A14
14G Manning House A23
18U Mandelbaum House
13A Margaret Telfer Building K07
19L Mathematics Learning Centre F12
19L Mathematics & Statistics F07
26N Mechan. & Aero. Eng Bdg J07
250 Mechanical Engineering J07
15K Medicine Faculty Office A27
8L Med., Paraclinical & Clinical D06
17H Medicine, Preclinical F13
18P Merewether Building H04
20P Microbiology G08
16H Mills, R.C., Building A26
14Q Moore Theological College 1
15F Mungo MacCailum Building A17
17S Museum Studies H36
24M Music J09
16F Nicholson Museum A14
10K Obstetrics & Gynaecology D02
17S Ocean Sciences Institute H34
15C Old Geology Building All
220 Old School Building G15
12F Old Teachers' College Building A22
8L Pathology & Path Museum D06
12E Performance Studies A20
13A Personnel Services K07
8L Pharmacology D06
15D Pharmacy A15
17F Philosophy A14
16K Phonetics Laboratory F12
21T Photowise Imaging G12
13K Physics A28
17H Physiology F13
10K Postgraduate C'ttee in Medicine D02
15D Post Office A15
16R Press Building H02
21T Printing Service G12
16E Professorial Board Room A14
13A Properties Office K07
6H Psychiatry D06
15F Psychology Al 7
U D Publications A20
15K Public Health A27
17E Quadrangle A14
10K Queen Elizabeth II Res. Inst. D02
16D Records A14
15R Regiment, University HOI
13F Religion, School of Studies in A19
17S Research Institute for Asia & the Pacific H40
18S Risk Management H31
25P Rose Street Building J04
IOC Ross Street Building A03
7D Round House Bll
23P Russell, Peter Nicol, Building J02
16K SAUT F12
5P St Andrew's College 2
3H St John's College 3
21M St Michael's College
12N St Paul's College 4
IF Sancta Sophin College 5
4C Sand roll shed B04
19L Science Faculty Office F07
14E Security A19
12A Selle House K02
18E Semitic Studies A14
18E Senate Room A14
Z1T Services Building G12
2SM Seymour Theatre Centre J09
5D Sheep Building & Pens B07
17H Shellshear Museum F13
21S Shepherd Centre G10
27M Shepherd St Parking Station J10
16H Social Work A26
Sports
20R Noel Martin Recreation Centre, Darlington G09
12H Sports Centre Western Ave A30
7F Sports Union D08
7F Ward, H.K., Gymnasium DOS
20J Stephen Roberts Theatre F06
8D Stewart, J.D., Building B01
17L Student Centre F09
19N SRC G01
21T Supply Department G12
IU8S SUPRA H28
8L Surgery D06
20R Swimming Pool G09
20D Tennis pav. & women's courts FOI
14E Traffic Office A19
16K Transient Building F12
19N Union, University of Sydney G01
15F University of Sydney Club A17
22M Urban & Regional Planning G04
8D Vet. Anatomy B01
6D Vet. Clinic, hospital, surgery BIO
6D Vet. Clinical Sciences BIO
7D Vet. Operating theatre & animal house B13
7D Vet. Pathology B12
7E Vet. Physiology B19
8D Vet. Science, Faculty Office B01
16E Vice-Chancellor A14
U D Wallace Theatre A21
17D War Memorial Gallery A14
250 Warren Centre for Adv. Engin. J07
11C Watt, R.D., Building A04
17L Welfare Association F09
19N Wentworth Building G01
11L Wesley College 6
8N Western Avenue Underground Parking Station D07
16E Western Tower A14
22M Wilkinson Building G04
17H Wilson (Anatomy) Museum F13
110 Women's College 7
12H Women's Sports Association
16S Women's Studies Centre H53
12E Woolley Building A20
17D Yeoman Bedell A14
12C Zoology AOS


UNIVERSITY OF SYDNEY
Main Campus
SUDERE·MENS·EADEM·MUTATO
PARRAMATTA ROAD
ARUNDEL STREET
SCIENCE ROAD
CARILLON AVENUE
CITY ROAD
DARLINGTON ROAD
MISSENDEN ROAD
EASTERN AVENUE
WESTERN AVENUE
UNIVERSITY AVENUE
CLEVELAND STREET
GOLDEN GROVE STREET
ABERCROMBIE STREET
DARLINGTON HOUSE
MARGARET TELFER (International Student Centre)
Laurel Tree
BRENNAN
Business Liaison Office
Dental Foundation
BAXTER'S LODGE
FISHER LIBRARY
BOOKSTACK
EDGEWORTH DAVID
STEPHEN ROBERTS
INTERNATIONAL HOUSE
CARSLAW
SEYMOUR CENTRE
Shepherd Street Parking Stn
Keith Murray Footbridge
R.C. Chapel
Art Workshop
Electrical Engineering
Aeronautical Engineering
ROSE STREET BUILDING
LINK
Civil Engineering
MAZE CRES
WILKINSON
OLD SCHOOL
P.N. RUSSELL
BIOCHEMISTRY
Noel Martin Recreation Centre
MEREWETHER
BUTLIN AVE
RAGLAN STREET
CODRINGTON STREET
LANDER STREET
Child Care Centre
SERVICES
Garage
SydU+Tech
to REDFERN RAILWAY STATION
University Computing Service
Mandelbaum House
Boundary Lane
Child Care Centre
Darlington Public School
ROSE STREET
CLARK STREET
Joinery
Store
Women's Studies
Human Nutrition Annex
Ocean Sciences Inst.
University Regiment
Moore Theological College
Child Care Centre
Western Ave Parking Station (Underground)
ST ANDREW'S OVAL
St Andrew's College
Upper House
ST PAULS OVAL
St Paul's College
Wesley College
Alumni Relations
Student Centre
MADSEN
EDWARD FORD
TRANSIENT
CHEMISTRY
PHYSICS
Queen Elizabeth II Research Institute
BRUCE WILLIAMS PAVILION
BLACKBURN
Coppleson
BOSCH 1A
BOSCH 1B
ALFRED HOSPITAL
PRINCE ROYAL
Wesley College
Psychiatry
H.K. WARD GYM
N° 1 OVAL
ST JOHN'S OVAL
St John's College
Sancta Sophia
OLD SYDNEY TEACHERS' COLLEGE
N° 2 OVAL
Performance Studies
R.M. CGUNN
JOHN WOOLLEY
EVELYN WILLIAMS
CSIRO
Veterinary Pathology
CSIRO McMaster Laboratory
to Victoria Road and northern suburbs
J.R.A. McMillan
SELLE HOUSE
MACK
Publications
ROSS ST BUILDING
R.D. WATT
ZOOLOGY
HOLME
Footbridge Theatre
OLD GEOLOGY
MALLEY
WESTERN TOWER
Bank PO
PHARMACY
J.D. STEWART
WALLACE
AGRICULTURAL
TECHNOLOGY
MANNING
MacCALLUM
MacAURIN HALL
ANDERSON STUART
R.C. MILLS
The Square
Starts Centre
EDUCATION
GREAT HALL
UNIVERSITY PLACE
CLOCK TOWER
MAIN QUAD
LIBRARY RD
DERWENT ST
to Broadway, City and Central Railway
0 100 200 metres
an approximate scale
N