ARCHITECTURE ELECTIVES
2015

INTRODUCTION

The Faculty and the Discipline of Architecture offers an exciting and unique suite of research-based electives each semester and during certain intervals that interrogate architecture as a socio-political and representational tool for understanding the world. The electives are available to junior, senior and postgraduate students throughout the Faculty and University by permission. The electives fit into a long-ranging trajectory for the Faculty that positions architecture at the forefront of global debates concerning how the built environment engages with and responds to technologies of making, histories of seeing, and the crafting of intellectual histories.

Electives at all levels will respond to emerging practices in the field from a number of disciplines, perspectives, and chronologies based on the expertise of the individual staff members coordinating the units. Within this arrangement, it is hoped that all students will be able to tailor their own interests and pursuits in a far more engaged manner. While a number of current electives will remain available to all students, the new electives provide scope for pursuing specific topics and techniques that complement your ongoing work in other core and non-core units in the Faculty.

Intensives, including design-build opportunities, travel and international curatorial roles, offered during interim periods will allow students to be challenged further afield in diverse locales and conditions.
UNDERGRADUATE ELECTIVES

Semester 1

DESA3554 Architectural Detailing
*Senior Undergraduate by Application*
Michael Muir

Spending time on building sites in addition to the study of detailing and its implementation during construction on site are invaluable learning experiences for all architectural students. However, access to operative building sites is generally limited by OH&S concerns, many students have no available path to gain access to builders & architects. This studio-based elective will allow a small group of students access to a current building project to explore the role of the detail (in design and building) in guiding not only a small component of a building’s construction but also its fundamental overall character. This elective will link students to a particular architect, builder and project to study and document a series of details in the context of the whole building.

DESA3553 Architectural Drawing: Alternative Practices Through History
*Senior Undergraduate by Application/Postgraduate*
Dr Ross Anderson

In this unit students critically investigate and then imaginatively deploy in a studio project an unconventional historical drawing technique of their choosing. Close studies of the widely differing range of drawings that were produced to achieve the architecture of Ancient Egypt, Classical Greece and Rome, the Middle Ages, Renaissance and Baroque, can illuminate aesthetic sensibilities that are often profoundly different to our own, and can provide insights into the worldviews of the cultures that produced them. Drawings are a vital mediator between that which can be imagined and that which can be built, and the elective contributes to architectural historian Robin Evans’ claim that it would be possible to ‘write a history of Western architecture that would have little to do with either style or signification, concentrating instead on the manner of working.’ Students conduct textual and graphic analyses of case study drawings and buildings, but engage equally in practical experimentation in an effort to unfold and reanimate the potential of forgotten or marginalised drawing techniques to inform current architectural practice.

DESP2001 Planning for the Public Domain
Martin Payne

Students will be able to: undertake background studies to inform designing for various elements of the public domain (streets and roads, open space and public places, car parking, pedestrian networks and centres); formulate and respond to complex planning problems; prepare and present simple proposals; use basic terms, concepts and methods in practical urban design and planning situations. On successful completion of this unit, each student will be able to demonstrate their ability to: to prepare short documents, using photos, maps, drawings and other illustrations, with annotated comments and supporting text, to present planning studies and proposals; to use basic ideas (such as: vistas, viewing and over-viewing, connectivity, legibility, enclosure, uses, activities, environs, links, built form,
interest, amenity networks, nodes) in reviewing design situations and preparing site analyses and proposals; to apply a critical and reflective approach in understanding planning and design situations, and in preparing informative documents which move from planning studies to proposals with supporting arguments; to be able to prepare proposals for built form outcomes and related planning instruments, with supporting studies and arguments.
Semester 2

DAAE2008 Innovative Building Structures
Dr Francesco Fiorito

The aim of this unit is to engage students in detailed studies of innovative building structures, covering the three aspects of innovation in architectural and structural design (modelling, materials and technology). The main topics covered are: Architectural Form and Structural Function; interpretation of basic (arch, beam, column, space and spatial portal) and advanced (truss, vault, dome, shell) structural principles with an intuitive graphical method (Load Path Method - LPM). Examples of significant case studies will be shown and interpreted (works by A. Gaudi, B. Fuller, F. Otto, N. Grimshaw, S. Calatrava, N. Foster, R. Piano and others); Biomimetics; bioinspired structures as a way to increase structural efficiency. Innovative structural materials: the use of glass as structural material, innovative reinforcements for composite structures, smart and nanostructured materials; Kinetic architecture: structural movement as the 4th architectural dimension. A case study assignment will be used to assess student's competence in investigating and presenting case studies and being able to identify and evaluate issues and factors contributing to innovative structural solutions.

DESP2002 Planning for the Built Environment
Martin Payne

Students will be able to: undertake background studies to inform designing for various elements of the public domain (streets and roads, open space and public places, car parking, pedestrian networks and centres); formulate and respond to complex planning problems; prepare and present simple proposals; use basic terms, concepts and methods in practical urban design and planning situations. On satisfactory completion of this unit each student will demonstrate capability: to prepare short documents, using photos, maps, drawings and other illustrations, with annotated comments and supporting text, to present planning studies and proposals; to use basic ideas (such as: vistas, viewing and over-viewing, connectivity, legibility, enclosure, uses, activities, environs, links, built form, interest, amenity networks, nodes) in reviewing design situations and preparing site analyses and proposals; to apply a critical and reflective approach in understanding planning and design situations, and in preparing informative documents which move from planning studies to proposals with supporting arguments; to be able to prepare proposals for built form outcomes and related planning instruments, with supporting studies and arguments.
POSTGRADUATE ELECTIVES

Semester 1

ARCH9085 Architectural Drawing: Alternative Practices Through History
Senior Undergraduate by Application/Postgraduate
Dr Ross Anderson

In this unit students critically investigate and thenimaginatively deploy in a studio project an unconventional historical drawing technique of their choosing. Close studies of the widely differing range of drawings that were produced to achieve the architecture of Ancient Egypt, Classical Greece and Rome, the Middle Ages, Renaissance and Baroque, can illuminate aesthetic sensibilities that are often profoundly different to our own, and can provide insights into the worldviews of the cultures that produced them. Drawings are a vital mediator between that which can be imagined and that which can be built, and the elective contributes to architectural historian Robin Evans’ claim that it would be possible to ‘write a history of Western architecture that would have little to do with either style or signification, concentrating instead on the manner of working.’ Students conduct textual and graphic analyses of case study drawings and buildings, but engage equally in practical experimentation in an effort to unfold and reanimate the potential of forgotten or marginalised drawing techniques to inform current architectural practice.

ARCH9074 Principles of Heritage Conservation
Dr Cameron Logan

This unit will introduce students to key controversies, theoretical propositions and practical innovations that have driven the historical development of heritage conservation. The unit covers ideas and examples from the ancient world until the present, with the main focus being on the period from 1850 until today. The aim of the unit is to help students to arrive at a clear understanding of the concepts and practices that define the field and to promote a strong historical perspective on it. You will consider, for example, the meaning of, and differences between, conservation, restoration and reconstruction; the function of conservation protocols such as The Venice Charter, Burra Charter and Hoi Ann Protocols; the role of statutory lists, statements of significance and conservation management plans; the importance of advocacy and activism; the growth of world heritage and its relationship to human rights and cultural rights; and the ideas of cultural landscape and historic urban landscape. The unit will also challenge you to think about areas of practice and theory that challenge traditional approaches and knowledge such as indigenous heritage and the conservation of modernism.

ARCH9075 New Design in Old Settings
Dr Cameron Logan

This unit will cover one of the most fundamental aspects of heritage conservation. Designing infill and additions to historic buildings and precincts are the common practice of architecture throughout time in all cultures. From a multi-disciplinary background this course will aim to develop skills in the assessment of the cultural significance of existing buildings, the impact of new works to the heritage significance of historic buildings in
existing contexts, visual and spatial literacy in the design of new fabric in old settings. The course will provide a wide range of examples, including wide international perspective. The aims of the unit are to develop an understanding of the history of designing and building new buildings in old settings; to develop an understanding of the major theoretical and practical issues of designing new buildings in old settings; to develop an ability to critically assess the appropriateness of the design of the new in the context of the accordingly accepted current conservation practice in Australia. By the end of the course the student will be able to produce, at a professional level a Heritage Impact Statement as defined by the NSW Heritage Branch.

**MARC6102 3D Computer Design Modelling**  
Dr Dagmar Reinhardt

This unit of study consolidates students' knowledge of advanced concepts in digital modelling and visualization media available for architectural design. The unit develops conceptual understanding and practical application of these techniques, using commercial modelling and rendering packages. It will help students: generate sophisticated 3D modelling through pre-packaged techniques and scripting processes, assign colour and texture information, generate complex photorealistic images and develop transferable conceptual skills that apply across different 3D packages and for different contexts such as modelling, animation, games assets, and photorealistic rendering. At the conclusion of this unit students should be conversant with 3D modelling and photorealistic rendering and have the ability to produce sophisticated digital models and photorealistic images. Class preparation: 3 hours/week, assessment preparation 8 hours/semester.

**Semester 2**

**ARCH9039 Code to Production**  
*Postgraduate preferred / Senior Undergraduate by Application*  
Dr Dagmar Reinhardt

The Faculty has one of the most extensive facilities for digital fabrication in the Southern Hemisphere, if not the world. This will be the first of a sequence of rigorous digital studio-based electives that allow students a hands-on exploration of innovative processes for thinking about and responding to contemporary architectural design. Students will be introduced to new software including basic coding and sequencing in Grasshopper and then apply these techniques to digital fabrication and representational systems through a series of projects of varying scales and intensities.

**ARCH9063 Urban Morphology**  
Associate Professor Roderick Simpson

The unit outlines the nature of urban morphology, and its rise as an area of study, and explores the evolution of city forms with an emphasis upon urban structure and typology. Most designed components of our cities conform in their general characteristics to identifiable types; they reflect the functions of cities, cultural values and the technological, economic and social circumstances of their times. These have been laid down over particular landforms and previous built forms and landscapes to result in usually complex, and often distinct, local characteristics. The ability to recognize, investigate and respond to these forms and relationships
lies at the heart of good urban design. The development of an historical knowledge, and of sensibilities and skills in the recording and interpretation of urban pattern and form for design purposes is the unit’s primary aim. It will develop abilities to make more informed ‘readings’ of the urban landscape, and judgments about structure and form in contemporary urban design: retention, modification, replacement, etc. On completion, a student will be better able to: recognize structures and patterns, and key building and spatial typologies that contribute to overall city morphology; record and describe these, investigate and explain their origins, and discuss informatively their place in urban change and contemporary design.

It complements the Urban Design - Ideas and Methods unit (ARCH9062) which emphasises the theories and models underpinning the forms that are covered in this unit. It is a core unit that supports the Urban Design Studios in the Urban Design programs and an informative elective for students enrolled in or intending to enrol in the Urban Architecture Research Studio.

MARC6102 3D Computer Design Modelling
Dr Dagmar Reinhardt

This unit of study consolidates students’ knowledge of advanced concepts in digital modelling and visualization media available for architectural design. The unit develops conceptual understanding and practical application of these techniques, using commercial modelling and rendering packages. It will help students: generate sophisticated 3D modelling through pre-packaged techniques and scripting processes, assign colour and texture information, generate complex photorealistic images and develop transferable conceptual skills that apply across different 3D packages and for different contexts such as modelling, animation, games assets, and photorealistic rendering. At the conclusion of this unit students should be conversant with 3D modelling and photo-rendering terminology and have the ability to produce sophisticated digital models and photorealistic images. Class preparation: 3 hours/week, assessment preparation 8 hours/semester.

MARC6204 Graduate Exhibition

This unit of study enables students to engage in a collaborative project to research, design and produce a high-profile public exhibition and accompanying yearbook of 2012 graduating work from the BDESARC and MARC programs. The project will exercise and extend design skills and knowledge required to produce a plausible concept for the exhibition and yearbook and to implement the necessary logistical, technical and practical means to realize it. The project integrates multiple activities which exercise different skill sets including research and precedent studies of exhibition, curation and potential venues; developing a critical, plausible and achievable concept for the event; fundraising; budgeting and financial management; marketing and communication; exhibition design; graphic design; construction and installation of the exhibition; production of the yearbook; consultation and engagement with staff and students and event management and implementation. Students will extend their research, design and implementation skills through a real project with a concrete outcome to real-time deadlines and resource limitations.
ART PROCESSES

The following unit descriptions and titles will be used to identify the current offering of Art Workshop electives throughout 2015.

Semester 1

AWSS1001 Architectural Sketching and Drawing
Various Staff

Most creative acts begin with picking up a pen or pencil and sketching on a piece of paper. Architectural Drawing and Sketching teaches drawing as an experimental tool that frees up the ability to dream, imagine and create. This elective will explore spatial dimensions, forms, shadows, perspective and line to develop student’s confidence with, and enjoyment of, drawing as a creative tool.

AWSS2015 Generative Drawing
Melody Willis

This module explores a variety of drawing skills with an emphasis on materials and techniques as tools for generative and process-based work related to drawing as a fundamental medium and method in design. Drawing is approached as a system for critical analysis, research and design speculation. The focus is on the formal aspects of composition and perspective while the material nature of drawing is explored as a balance between chance and control. Students use a wide variety of mark-making methods to render line, tonal value and texture. Students are provided with the opportunity to combine observational skills with experimental techniques in order to encourage a personal vision and a commitment to the practice of drawing in design. Each technique and approach will be presented against a background of Architecture and Art history and theory.

Semester 2

AWSS2010 / DESA9014 Architecture & Design Ceramic Processes
Majella Beck

This unit explores ceramic media and processes. Students will investigate different fabrication techniques such as slip-casting, ceramic rapid prototyping and laser cut porcelain. There will be an emphasis on ceramics as a modelling medium in design and architecture. Students will use the digital modelling & fabrication lab within the faculty to investigate possibilities for ceramic production. This exploration will be in relation to historic and contemporary architectural frameworks. Set projects will enable students to explore expression and design in an architectural form and materiality context.

AWSS2020 / DESA9008 Object Design
Edward Horne

In this unit students develop and inter-relate manufacturing and artisan skills with research, analysis and design development. It aims to develop a critical awareness of the nature of all objects which surround us, exploring cultural, contextual and symbolic aspects of object design as well as functional and aesthetic qualities. Sustainability and social issues relating to their
manufacture, use and disposal are also discussed. The unit aims to increase appreciation of the materiality of objects focusing on timber as an example and introduces students to the diversity of timber species, environmental and ethical issues associated with their selection, and also emerging alternative materials. Through a series of exercises and production of their major project, students develop knowledge of construction techniques and skills in using wood/plastics tools and machinery and in so doing, build an awareness of industrial and craft practices and how they impact on the design process and outcome.

AWSS2026 / DESA9012 2D Print Processes in Design
Andrew Hurle

This studio-based unit introduces a variety of traditional and experimental techniques that will enable students to design and print a series of 2D works both within and around the context of design and Architecture. It will provide students with the knowledge and skills to design and print on paper through a range of techniques and creative exercises that can be developed into an edition or a series of experimental printed works. Students will also explore the historical roots of print and print as an element in design and architecture. Techniques covered include: photo, wax emulsion and paper stencils, ink technology, registration and print set-up for multi-coloured prints. Through studio practice, set exercises, illustrated talks, gallery visits and library research, students will develop an understanding of their creative process and ability to interpret ideas through the medium of printing and with particular focus on design and architecture applications.

AWSS2027 / DESA9013 Architecture & Design Material Processes

This studio-based unit introduces fundamental knowledge and technical skills for students to produce a series of 3D works extending their understanding and experience of material processes in design and architecture. Students will work with a broad range of traditional and experimental materials; emphasis is placed on developing students' material and spatial awareness of three-dimensional forms in a design context and investigating their conceptual meanings and applications. Students will be required to design, plan and produce a series of sculptural works, utilizing mediums and techniques explored throughout the semester. Additionally, students are required to independently research and discuss in class historical precedents and contemporary practices that inform their projects and relate them to the contextual framework of design and architecture.
DESIGN INTENSIVES

Every academic year, during certain intervals, the Faculty and Discipline will offer design-based intensives in Australia and abroad allowing students significant hands-on experiences in diverse locations determined in part by the coordinators’ research interests.

Hezlet Bequest International Studio

The Hezlet Bequest funds scholarships covering travel and accommodation costs for a limited number of Master of Architecture students participating in the annual Hezlet Bequest International Studio. Students are awarded scholarships by the studio coordinator on the basis of academic merit. Studio projects and timing vary from year to year.

Winter Interval

ARCH9085  Broken Hill
Professor Michael Tawa

The Faculty is one of a few architecture programs invited to propose and implement designs for a set of new buildings in the town of Broken Hill. Students will engage with, understand and integrate indigenous practices from their inception through the design process into a completed building project.

ARCH9086  Design and Construct
Michael Muir

Working with sustainable design-build practices, this unique studio will introduce students to ongoing projects focusing on renewable resources and techniques in building design and construction.
SYDNEY COLLEGE OF THE ARTS ELECTIVES

In 2015, the following Sydney College of the Arts electives will be available to both undergraduate and postgraduate students, at the SCA’s Rozelle Campus.

SEMESTER 1

CAEL2039  Screen Arts: An Introduction
CAEL2041  The Art of Sound and Noise
CAEL2042  Photography and the Darkroom
CAEL2047  Animation
CAEL2048  Investigating Clay
CAEL2049  Vessel as Concept: Hot Glass Intro
CAEL2053  Screen Printing: an Introduction
CAEL2054  Silversmithing: Exoskeleton Extension
CAEL2056  Critical Bodies

SEMESTER 2

CAEL2039  Screen Arts: An Introduction
CAEL2040  Drawing: The Medium of Translation
CAEL2042  Photography and the Darkroom
CAEL2043  Image/Object in Photomedia
CAEL2044  Radical Rock Video
CAEL2049  Vessel as Concept: Hot Glass Intro
CAEL2051  Posters to Paste-ups
CAEL2052  Introduction to Digital Publishing
CAEL2053  Screen Printing: an Introduction